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- 13 Chapter 5. Enforcement and Remedies
- 14 Section 501. Enforcement orders and duty to comply.
- 15 Section 502. Restraining violations.
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- 22 Section 509. Relation to permit.
- 23 Section 510. Certification actions.
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- 26 Section 601. Definitions.
- 27 Section 602. Emergency medical personnel.
- 28 Section 603. Regulations for training and certification.
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1 Section 606. Regulations.
2 Section 607. Certification.
3 Section 608. Liability.
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5 Chapter 7. Safety Zones
6 Section 701. Establishment.
7 Section 702. Written authorization.
8 Section 703. Pillar recovery.
9 Section 704. Proof of rock cover.
10 Section 705. Verification.
11 Section 706. Approval or disapproval of plans.
12 Section 707. Notice.
13 Section 708. Entombed workmen.
14 Chapter 31. Miscellaneous Provisions
15 Section 3101. Repeals.
16 Section 3102. Effective date.

17 The General Assembly of the Commonwealth of Pennsylvania
18 hereby enacts as follows:

19 CHAPTER 1

20 PRELIMINARY PROVISIONS

21 Section 101. Short title.

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

24 Section 102. Application.

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

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

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

30 (3) All individuals at underground bituminous coal

1 mines.

2 Section 103. Findings and purpose.

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

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

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

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

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

28 (5) The Commonwealth must maintain a strong, independent
29 mine safety program.

30 (6) The operators at underground bituminous coal mines,

1 with the assistance of certified miners and mine officials
2 have the primary responsibility to prevent the existence of
3 unsafe and unhealthful conditions at underground bituminous
4 coal mines.

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

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

15 (9) Mine safety is enhanced through a rigorous program
16 for training and certifying individuals to work at mines in
17 this Commonwealth.

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

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

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

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

30 (2) To establish and promulgate improved mandatory

1 health and safety standards to protect the health and safety
2 of miners and others in and about underground coal mines in
3 this Commonwealth.

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

9 (4) To require that operators at underground bituminous
10 coal mines and every individual at every mine comply with
11 these standards.

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

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

19 Section 104. Definitions.

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

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

25 "Accident." An unanticipated event, including any of the
26 following:

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

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

30 (3) An entrapment of an individual at a mine which has a

1 reasonable potential to cause death or serious injury.

2 (4) An unplanned inundation of a mine by a liquid or
3 gas.

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

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

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

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

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

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

16 (11) An unstable condition at an impoundment or refuse
17 pile which does any of the following:

18 (i) Requires emergency action in order to prevent
19 failure.

20 (ii) Causes individuals to evacuate an area.

21 (12) Failure of an impoundment or refuse pile ~~or~~. ←

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

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

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

30 "Advisory committee." The Technical Advisory Committee on

1 Diesel-Powered Equipment.

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

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

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

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

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

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

29 "Coal-producing shift." A shift primarily intended for coal
30 production rather than for purposes of construction, maintenance

1 and housekeeping even though some coal production may be
2 incident to such purposes.

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

5 "DPEP." Diesel-powered equipment package.

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

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

10 "INDIVIDUAL." ANY NATURAL PERSON, PARTNERSHIP, ASSOCIATION, <—
11 CORPORATION, FIRM, SUBSIDIARY OF A CORPORATION OR OTHER
12 ORGANIZATION.

13 "Interim mandatory safety standards." The safety standards
14 under Chapters 2 and 3.

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

24 "Lost-time injury." When an individual is unable to report
25 for work at the individual's regularly scheduled job on the
26 individual's next regularly scheduled work shift due to a work-
27 related injury.

28 "Mine." The shafts, slopes or drifts of an underground
29 bituminous coal mine, either under construction, in use or
30 abandoned, connected with excavations penetrating or intended to

1 penetrate coal stratum or strata, which excavations are or were
2 ventilated by air currents and connected by a method of
3 transportation over which coal may be or was delivered to one or
4 more points outside the mine. The term shall not include any
5 surface coal mine.

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

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

11 (1) The inside workings of a mine.

12 (2) An individual in a mine.

13 (3) A visitor to the inside of a mine, except for
14 Federal and State Government representatives, mine inspectors
15 and other representatives.

16 "Mine official." Any of the following:

17 (1) Superintendent.

18 (2) Mine foreman.

19 (3) Assistant mine foreman.

20 (4) Mine examiner.

21 (5) Mine electrician.

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

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

26 "NIOSH." The National Institute for Occupational Safety and
27 Health within the United States Department of Health and Human
28 Services.

29 "Operator." An owner, lessee or other ~~person~~ INDIVIDUAL who <—
30 operates, controls or supervises a coal mine.

1 "Permissible explosives." Explosives approved for use in
2 mines by the Mine Safety and Health Administration, the National
3 Institute for Occupational Safety and Health or their
4 predecessor agencies, notwithstanding the date of the approval.

5 "Permit boundary." The limits of the mine as established by
6 the coal mine activity permit issued under the act of April 27,
7 1966 (1st Sp. Sess., P.L.31, No.1), known as The Bituminous Mine
8 Subsidence and Land Conservation Act.

9 ~~"Person." Any individual, partnership, association,~~ ←
10 ~~corporation, firm, subsidiary of a corporation or other~~
11 ~~organization.~~

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

17 "Representative of the miners." A miner employed at the mine
18 who is authorized by a vote of two or more miners working at the
19 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 "SHIFT." THE SCHEDULED PERIOD OF WORK ASSIGNED TO FOUR OR
5 MORE MINERS BY THE OPERATOR. ←

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

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

10 "Superintendent." An individual appointed by an operator to
11 manage a mine.

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

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

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

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

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

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

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

1 "Year of experience." For the purposes of issuing
2 certifications under this act, the term shall mean working 240
3 eight-hour days or the hourly equivalent within a 12-month
4 period beginning with the first day of employment in a mine.

5 Section 105. Powers and duties of department.

6 The department shall have the power and duty to administer a
7 mine safety program for individuals employed at mines. The
8 department has the power and duty to do all of the following:

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

15 (2) Conduct investigations and interviews of individuals
16 at a mine or elsewhere.

17 (3) Issue orders to implement and enforce the provisions
18 of this act.

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

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

25 (6) Determine whether an individual is qualified to
26 carry out a particular function or duty at a mine and to
27 issue appropriate certification.

28 (7) Disqualify an individual whose conduct poses a
29 threat to the health and safety of those who work at mines or
30 who interfere with the safe operation of any mine.

1 (8) Review and take appropriate action concerning safety
2 of miners and individuals in and about mines on all permit
3 applications submitted to the department.

4 (9) Receive and act upon complaints.

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

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

10 (12) Approve, on a mine-specific basis, the use of new
11 technology, methods, materials, machinery, equipment,
12 systems, tools, devices, processes and plans different from
13 those required or authorized under the provisions of this act
14 or the regulations promulgated under this act. The department
15 may only make approvals under this paragraph, if the approval
16 meets or exceeds the protections afforded under this act or
17 the regulations promulgated under this act. Approvals under
18 this paragraph shall have no precedent effect. All approvals
19 in effect as of the effective date of this paragraph shall
20 remain in effect unless suspended, modified or revoked by the
21 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:~~ <—

18 ~~(1) Proposed amendments to the interim mandatory safety~~
19 ~~standards.~~

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

23 ~~(3) Other regulations as specifically authorized under~~
24 ~~this act.~~

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

28 (1) Three members who represent the viewpoint of the
29 coal mine operators in this Commonwealth.

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

1 working miners in this Commonwealth.

2 (c) Terms.--All appointments shall be subject to the
3 following:

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

11 (2) Members shall be eligible for reappointment.

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

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

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

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

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

28 (2) The members appointed under subsection (b)(2) shall
29 be selected from a list containing three nominees submitted
30 by the highest-ranking official within the major labor

1 organization representing coal miners in this Commonwealth.

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

4 (g) Service.--Members shall serve at the pleasure of the
5 Governor.

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

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

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

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

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

30 (1) In the case of an appointment to fill a vacancy, a

1 list of nominees under subsection (e) shall be requested by
2 and submitted to the Governor within 30 days after the
3 vacancy occurs by the major trade association or major labor
4 organization which nominated the individual whose seat on the
5 board is vacant.

6 (2) The vacancy shall be filled by the Governor within
7 30 days of the receipt of the list of nominees.

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

11 Section 106.1. Rulemaking.

12 (a) Authority.--The board shall have the authority to
13 promulgate regulations that are necessary or appropriate to
14 implement the requirements of this act and to protect the
15 health, safety and welfare of miners and other individuals in
16 and about mines.

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

19 (1) Existing as of the effective date of this section
20 and that are not included in interim mandatory safety
21 standards.

22 (2) New standards, except for standards concerning
23 diesel equipment, promulgated after the effective date of
24 this section.

25 (c) Regulations.--Within 250 days of the effective date of
26 this section, the board shall begin to consider the standards
27 under subsection (b)(1) for promulgation as regulations. If
28 final regulations are not promulgated by the board within three
29 years of the effective date of this section, the department may
30 promulgate final regulations consistent with Federal standards.

1 (d) New standards.--Within 70 days of the effective date of
2 new mine safety standards under subsection (b)(2), the board
3 shall begin to consider standards for promulgation as
4 regulations. If the regulations are not promulgated as final by
5 the board within three years of the effective date of the
6 promulgation of the new standards, the department may promulgate
7 final regulations consistent with Federal standards.

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

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

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

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

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

24 (4) The establishment of fees for services in amounts
25 sufficient to cover the department's costs of administering
26 this act. The fees established by the board may be increased
27 each year after implementation by the percentage, if any, by
28 which the Consumer Price Index for the most recent calendar
29 year exceeds the Consumer Price Index for the calendar year
30 1989. For the purposes of this paragraph, the Consumer Price

1 Index for any calendar year shall mean the average of the
2 Consumer Price Index for All Urban Consumers, published by
3 the United States Department of Labor, as of the close of the
4 12-month period ending on August 31 of each calendar year.

5 (g) Safety.--No regulation promulgated by the board shall
6 reduce or compromise the level of safety or protection afforded
7 mine workers under this act. The department may disapprove a
8 final regulation approved by the board which the department
9 determines would reduce or compromise the level of safety or
10 protection afforded mine workers under this act if the
11 department describes the basis for the disapproval.

12 (h) Miner Act.--With regard to the adoption of Federal
13 standards established pursuant to the Mine Improvement and New
14 Emergency Response Act of 2006 (Public Law 109-236, 120 Stat.
15 493), the following shall apply:

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

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

21 (3) If MSHA fails to promulgate regulations regarding
22 emergency shelters and chambers, the board shall promulgate
23 regulations.

24 (4) Regulations shall be no less stringent than the
25 Federal mine safety standards

26 (i) Action.--The board shall take action on the tests and
27 evaluations performed by the mining industry under section
28 334(b) and (c).

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

1 Section 106.2. Emergency shelters and chambers.

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

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

8 (2) Be capable of surviving an initial event with a peak
9 over pressure of 15 pounds per square inch for three seconds
10 and a flash fire, as defined by National Fire Protection
11 Association standard NFPA-2113, of 300 degrees Fahrenheit for
12 three seconds.

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

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

19 (5) Provide for carbon monoxide below 50 parts per
20 million and an apparent-temperature of 95 degrees Fahrenheit.

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

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

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

27 (9) Provide a minimum of eight quarts of water per
28 miner.

29 (10) Provide a minimum of 4,000 calories of food per
30 miner.

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

3 (12) Provide a first aid kit.

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

6 (14) Contain manufacturer-recommended repair materials.

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

10 (16) Provide provisions for communication to the
11 surface.

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

14 Section 106.3. Notice to operators and miners.

15 The department shall send a copy in writing or electronically
16 of every proposed regulation and final regulation, at the time
17 of publication in the Pennsylvania Bulletin, to the operator of
18 each mine and, where applicable, the representative of the
19 miners at the mine, and the copy shall be immediately posted on
20 the bulletin board of the mine by the operator or the operator's
21 agent. Failure to receive the notice shall not invalidate the
22 final regulation or relieve anyone of the obligation to comply
23 with final regulation.

24 Section 106.4. Standards for surface facilities.

25 The department shall use the applicable standards contained
26 in 30 CFR Part 77 (relating to mandatory safety standards,
27 surface coal mines and surface work areas of underground coal
28 mines) regarding the sinking of shafts and slopes and surface
29 facilities that are part of mines, pending promulgation of
30 regulations by the board regarding those activities and

1 facilities.

2 Section 107. Safety issues.

3 The department shall consider the safety of miners in
4 reviewing and acting on applications for permits issued to and
5 for mines and shall include conditions addressing safety in
6 issuing the permits. If the department determines that any
7 aspect of the contemplated activity at an existing or proposed
8 mine might constitute a threat to the health and safety of
9 miners or individuals in and about mines, the department shall
10 require the applicant or operator to eliminate the threat. If
11 the applicant or operator does not eliminate the threat to the
12 department's satisfaction, the department shall deny the
13 application or applications or shall unilaterally modify the
14 terms of the permit or suspend or revoke the permit.

15 Section 108. Inspections.

16 (A) FREQUENCY AND PURPOSE.--The department shall make ←
17 frequent inspections of mines. Each mine shall be inspected at
18 least semiannually for electrical purposes and at least
19 quarterly for general purposes. Inspections shall be conducted
20 more frequently when the department determines that more
21 frequent inspections are necessary or desirable. Inspections
22 shall be conducted for the purposes of:

23 (1) Obtaining, utilizing and disseminating information
24 relating to health and safety conditions, the causes of
25 accidents and the causes of diseases and physical impairments
26 originating in mines.

27 (2) Gathering information with respect to health or
28 safety standards established or regulations promulgated under
29 this act.

30 (3) Determining whether a danger exists.

1 (4) Determining whether the mine is in compliance with
2 the provisions of this act, the mine safety regulations and
3 any order, permit or decision issued by the department under
4 this act.

5 (B) ACCOMPANIMENT.--A REPRESENTATIVE OF THE OPERATOR AND A <—
6 REPRESENTATIVE OF THE MINERS SHALL BE GIVEN THE OPPORTUNITY TO
7 ACCOMPANY THE DEPARTMENT DURING THE PHYSICAL INSPECTION OF ANY
8 COAL MINE OR COAL FACILITY, INCLUDING PREPARATION PLANTS, SHOPS,
9 COAL HANDLING FACILITIES AND ALL OTHER AREAS ASSOCIATED WITH THE
10 COAL MINING OPERATION, MADE PURSUANT TO THIS ACT. THE PURPOSE OF
11 THIS ACCOMPANIMENT IS TO AID THE INSPECTION AND TO PARTICIPATE
12 IN ALL PREINSPECTION AND POST-INSPECTION CLOSEOUTS AND
13 CONFERENCES AND OTHER ACTIVITIES REQUIRED OF THE DEPARTMENT
14 UNDER THIS ACT. THE REPRESENTATIVE OF THE MINERS SHALL SUFFER NO
15 LOSS OF PAY DURING THE PERIOD OF PARTICIPATION IN THE
16 INSPECTION. WHERE THERE IS NO AUTHORIZED REPRESENTATIVE OF THE
17 MINERS, THE DEPARTMENT SHALL MEET WITH NO FEWER THAN TWO MINERS
18 CONCERNING HEALTH AND SAFETY AT THE MINE. TO THE EXTENT THE
19 DEPARTMENT DETERMINES MORE THAN ONE REPRESENTATIVE FROM EACH
20 PARTY WOULD FURTHER AID THE INSPECTION, THE DEPARTMENT MAY
21 PERMIT EACH PARTY TO HAVE AN EQUAL NUMBER OF ADDITIONAL
22 REPRESENTATIVES. FOR PURPOSES OF THIS SUBSECTION, THE
23 DESIGNATION OF THE REPRESENTATIVE OF MINERS SHALL BE MADE IN
24 ACCORDANCE WITH 30 CFR PT. 40 (RELATING TO REPRESENTATIVE OF
25 MINERS).

26 Section 109. Accidents.

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

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

1 (2) Take appropriate measures to prevent the destruction
2 of evidence which would assist in investigating the cause of
3 the accident. Unless granted permission by the department, no
4 operator may alter an accident site or an accident-related
5 area until completion of all investigations pertaining to the
6 accident, except to rescue any individual and prevent
7 destruction of mine equipment.

8 (3) Obtain the approval of the department for any plan
9 to recover an individual in the mine, to recover the coal
10 mine or to return the affected areas of the mine to normal
11 operations.

12 (4) Conduct its own investigation of the accident and
13 develop a written report of the investigation. The report
14 shall include all of the following:

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

16 (ii) The date the investigation began.

17 (iii) The names of the individuals participating in
18 the investigation.

19 (iv) A description of the accident site.

20 (v) An explanation of the accident or injury,
21 including a description of any equipment involved and
22 relevant events before and after the accident.

23 (vi) An explanation of the cause of the accident.

24 (vii) An explanation of the cause of any injury
25 sustained due to the accident.

26 (viii) The name, occupation and experience of any
27 miner involved in the accident.

28 (ix) A sketch depicting the accident, including
29 dimensions where pertinent.

30 (x) A description of steps taken to prevent a

1 similar accident in the future.

2 (b) Duties of department.--In the event of an accident
3 occurring at a mine, the department shall do all of the
4 following:

5 (1) Take whatever action it deems appropriate, including
6 the issuance of orders, to protect the life, health or safety
7 of an individual, including coordinating and assisting rescue
8 and recovery activities in the mine.

9 (2) Promptly decide whether to conduct an investigation
10 of the accident and inform the operator and the
11 representative of the miners of its decision.

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

14 (1) The operator shall report within ten working days of
15 the accident or lost-time injury. An operator may meet the
16 requirements of this paragraph by submitting a copy of the
17 MSHA Mine Accident, Injury and Illness Report Form 7000-1
18 required by 30 CFR § 50.20 (relating to preparation and
19 submission of MSHA Report Form 7000-1--Mine Accident, Injury,
20 and Illness Report) in use on the date of the accident.

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

25 Section 110. Mine officials' certification.

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

29 (b) Committee.--

30 (1) The department shall appoint a committee to annually

1 review and update the department's database of examination
2 questions and answers. The committee shall be made up of an
3 equal number of persons representing the viewpoints of the
4 department, operators and miners.

5 (2) Members of the committee shall be compensated in the
6 same manner as members of the board under section 106(h). An
7 individual committee member may waive the right to all or
8 part of the compensation under this paragraph.

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

12 We, the undersigned, do solemnly swear that we will
13 perform the duties of members of this committee, and we
14 will not divulge or make known to an individual any
15 question prepared for the mine officials, or in any
16 manner assist any applicant to pass the examination.

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

21 Section 111. Classification of mines as gassy.

22 Notwithstanding any other provision of law, the distinction
23 between gassy and nongassy mines is eliminated, and all
24 underground bituminous mines shall comply with the requirements
25 for gassy mines.

26 Section 112. Reports.

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

30 (1) Prior to the commencement of any work for the

1 purpose of opening of a new underground mine or reopening an
2 underground mine that has closed.

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

5 (a.1) Notice.--Upon discontinuance of the operation of an
6 underground mine, the operator shall immediately notify the
7 department.

8 (b) Quarterly reports.--

9 (1) Each operator of an active mine shall submit
10 quarterly reports within 15 days after the end of each
11 quarter. The report shall contain information reflecting the
12 activities of the previous quarter and shall include all of
13 the following:

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

15 (ii) Identification of the mine superintendent and
16 mine foreman.

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

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

21 (2) An operator may meet the requirements of paragraph
22 (1) by submitting a copy of the MSHA Quarterly Employment and
23 Coal Production Report in use on the date of the quarterly
24 report.

25 (c) Corrections.--By February 15 of each year, an operator
26 must submit any corrections to the quarterly reports submitted
27 during the prior year and must certify the accuracy of the
28 corrected quarterly reports.

29 (d) Additional duties.--In addition to any records required
30 under this act, a mine operator shall establish and maintain

1 records, make reports and provide information as the department
2 may require from time to time. The department is authorized to
3 compile, analyze and publish, either in summary or detail form,
4 the reports or information obtained. All records, information,
5 reports, findings, notices, orders or decisions required or
6 issued pursuant to or under this act may be published from time
7 to time, may be released to any interested person and shall
8 constitute a public record under the act of June 21, 1957
9 (P.L.390, No.212), referred to as the Right-to-Know Law.

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

14 Section 113. Mine rescue program.

15 (a) Establishment.--The department is authorized to
16 establish and administer a mine rescue program for mines not
17 able to provide a mine rescue crew for themselves. The
18 department shall establish a program to do the following:

19 (1) Instruct mine employees how to care for individuals
20 injured in and about the mines.

21 (2) Train mine employees who may voluntarily seek
22 training in the use of self-contained breathing apparatus,
23 gas masks, first aid to the injured and other things or
24 practices essential to the safe and efficient conduct of the
25 work of first aid and mine rescue.

26 (b) Equipment.--The department shall purchase and maintain
27 adequate quantities of emergency response vehicles, specialized
28 equipment, supplies and services necessary to assure rapid and
29 effective response to mine emergencies, including mine fires,
30 mine explosions, mine inundations, entrapments and mine recovery

1 operations.

2 (c) Contracts.--In the event of an emergency response, the
3 department may use the emergency contracting provisions of 62
4 Pa.C.S. § 516 (relating to emergency procurement) to lease
5 additional services or equipment as is needed to respond to a
6 mine emergency. The department, with the consent of the
7 Governor, may use funds available to the Commonwealth for the
8 purpose of responding to a mine emergency.

9 Section 114. Direction of mine rescue work.

10 The department shall coordinate and assist in all responses
11 to a mine emergency conducted in this Commonwealth. The extent
12 of coordination and assistance shall depend on the nature of the
13 mine emergency and the operator's ability to respond to the mine
14 emergency. This authority shall include directing responses to
15 mine emergencies and assigning mine rescue crews and mine rescue
16 and recovery work to mine inspectors or other qualified
17 employees of the department.

18 Section 115. Recovery of funds.

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

22 Section 116. Mine Safety Fund.

23 There is created a special fund known as the Mine Safety
24 Fund. All moneys received by the department under this act and
25 all moneys recovered from operators for expenses incurred in
26 responding to a mine emergency shall be deposited by the State
27 Treasurer into the Mine Safety Fund. All moneys deposited in the
28 fund are hereby appropriated, upon approval of the Governor, to
29 the department for mine safety activities and the administration
30 of this act.

1 Section 117. Bituminous mine inspector.

2 Notwithstanding the act of August 5, 1941 (P.L.752, No.286),
3 known as the Civil Service Act, in order to become eligible for
4 employment as a bituminous mine inspector, an individual must,
5 at a minimum, meet the following qualifications:

6 (1) Be a resident of this Commonwealth.

7 (2) Be an individual of good moral character and known
8 temperate habits.

9 (3) Be physically capable of entering and inspecting a
10 coal mine.

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

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

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

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

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

20 Section 118. Bituminous mine electrical 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 electrical inspector, an
24 individual must meet at least the following qualifications:

25 (1) Be a resident of this Commonwealth.

26 (2) Be an individual of good moral character and known
27 temperate habits.

28 (3) Be physically capable of entering and inspecting a
29 coal mine.

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

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

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

4 (7) Hold a current, valid certificate as a bituminous
5 mine electrician.

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

10 Section 119. Availability of mine maps.

11 (a) Authorization.--The department is authorized and
12 directed to obtain and copy all maps of mining conducted in this
13 Commonwealth.

14 (b) Inspection and copying.--An individual who has
15 possession of a mine map shall make the map available to the
16 department for inspection and copying. The map shall be returned
17 to its owner within 30 days.

18 (c) Liability.--No individual shall, solely on the basis of
19 supplying a mine map to the department, be attributed or
20 divested of liability.

21 Section 120. Mine map repository.

22 The department shall develop and maintain a repository of all
23 mine maps it has obtained or has had an opportunity to copy. The
24 department shall organize and catalog the mine maps in the
25 repository to enable the department, other government agencies,
26 mine operators and the general public to review the mine maps
27 and to determine the location of mine workings. All mine maps
28 and copies of mine maps held by the department shall be open for
29 public inspection and made available for review upon request
30 during the department's normal business hours.

1 Section 121. Applicability.

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

4 CHAPTER 2

5 GENERAL REQUIREMENTS FOR UNDERGROUND BITUMINOUS MINES

6 Section 201. General safety requirements.

7 The following are general safety requirements:

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

9 (2) All equipment must be maintained in safe operating
10 condition.

11 (3) No individual shall be employed as a mine foreman,
12 assistant mine foreman, mine examiner, mine electrician,
13 mining machine operator, shot-firer or miner unless that
14 individual holds a current, valid certification from the
15 department to work in that capacity. An individual who holds
16 a current, valid certification to be a mine foreman may also
17 work as an assistant mine foreman or mine examiner. Only a
18 mine official shall direct the work force in matters
19 involving the safety of employees. An individual who holds a
20 current, valid certification as an assistant mine foreman may
21 also work as a mine examiner.

22 (4) It shall be the duty of the operator and all mine
23 officials to comply with and see that others comply with the
24 provisions of this act, the regulations promulgated pursuant
25 to this act, all orders and approvals and the safety
26 conditions in permits issued to the mine. It shall also be
27 the duty of the operator and all mine officials to cooperate
28 with the department in implementing the provisions of this
29 act and effectuating the purposes of this act.

30 (5) The operator and all mine officials shall comply

1 with and follow all mining plans, approvals and orders issued
2 by the department, rules and regulations of the operator, all
3 provisions of law that are in harmony with this act and all
4 other applicable laws. The operator is responsible for
5 assuring that all activities in and around the mine,
6 including those conducted by contractors, are conducted in
7 compliance with this act, regulations promulgated under this
8 act, approvals and orders issued by the department and any
9 safety conditions included in permits.

10 (6) During coal production, an assistant mine foreman
11 shall be assigned to only one working section. The assistant
12 mine foreman shall supervise individuals engaged in the coal-
13 cutting operation. The assistant mine foreman may perform
14 additional duties provided that he spends a majority of his
15 time supervising individuals engaged in the coal-cutting
16 operation.

17 (7) Every superintendent, mine foreman, assistant mine
18 foreman, mine electrician and mine examiner shall represent
19 the Commonwealth in the mine in which he is employed and
20 shall be deemed an officer of the Commonwealth in enforcing
21 the provisions of this act and performing the mine official's
22 duties under this act. The superintendent, mine foreman,
23 assistant mine foreman, mine electrician or mine examiner
24 shall perform these duties during such times as the mine is
25 in operation and at such other times as the department deems
26 to be necessary or appropriate to make the mine safe and to
27 protect the health and safety of those who work in and around
28 the mine.

29 Section 202. Qualifications for certification.

30 ~~(a) General requirements.~~

←

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

4 ~~(i) An applicant must demonstrate the following~~
5 ~~levels of work experience in an underground bituminous~~
6 ~~coal mine:~~

7 ~~(A) Mine foreman or mine electrician, five~~
8 ~~years.~~

9 ~~(B) Assistant mine foreman, four years.~~

10 ~~(C) Mine examiner, three years.~~

11 ~~(ii) For each certification category in subparagraph~~
12 ~~(i), a minimum of two years' experience must have been in~~
13 ~~a working section.~~

14 ~~(2) If an applicant holds a bachelor's degree in mining~~
15 ~~engineering or an associate degree in mining technology from~~
16 ~~a recognized institution of higher education in the case of a~~
17 ~~mine foreman, assistant mine foreman or mine examiner, or a~~
18 ~~bachelor's degree in electrical engineering or an associate~~
19 ~~degree in electrical technology from a recognized institution~~
20 ~~of higher education in the case of a mine electrician, in~~
21 ~~order to be eligible to sit for a certification examination,~~
22 ~~the following shall apply:~~

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

26 ~~(A) Mine foreman or mine electrician, four~~
27 ~~years.~~

28 ~~(B) Assistant mine foreman, three years.~~

29 ~~(C) Mine examiner, two years.~~

30 ~~(ii) For each certification category in subparagraph~~

1 ~~(i), a minimum of one year's experience must have been in~~
2 ~~a working section.~~

3 ~~(b) Additional requirements. The following additional~~
4 ~~requirements shall apply:~~

5 ~~(1) All applicants shall be able to read and write the~~
6 ~~English language intelligently, and shall furnish the~~
7 ~~department with certificates as to their character and~~
8 ~~temperate habits, and a notarized statement from previous~~
9 ~~employers setting forth the length of service and type of~~
10 ~~work performed in the different mines.~~

11 ~~(2) Certificates of qualification as mine foremen shall~~
12 ~~be granted to individuals who have given to the department~~
13 ~~satisfactory evidence of their ability to perform the duties~~
14 ~~of mine foreman and who have received training by individuals~~
15 ~~approved by the department in determining the presence of~~
16 ~~explosive and noxious gases, and in the use and mechanics of~~
17 ~~all gas detection devices, and who have received an average~~
18 ~~of at least 80% in the examination.~~

19 ~~(3) Certificates of qualification as assistant mine~~
20 ~~foremen shall be granted to individuals who have given to the~~
21 ~~department satisfactory evidence of their ability to perform~~
22 ~~the duties of assistant mine foreman and who have received~~
23 ~~training by 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 70% in the~~
27 ~~examination.~~

28 ~~(4) Certificates of qualification as mine examiners~~
29 ~~shall be granted to individuals who have given to the~~
30 ~~department satisfactory evidence of their ability to perform~~

1 ~~the duties of mine examiners and who have received training~~
2 ~~by individuals approved by the department in determining the~~
3 ~~presence of explosive and noxious gases, and in the use and~~
4 ~~mechanics of all gas detection devices, and who have received~~
5 ~~an average of at least 75% in the mine examiners examination.~~

6 ~~(5) Certificates of qualification as mine electrician~~
7 ~~shall be granted to individuals who have given to the~~
8 ~~department satisfactory evidence of their ability to perform~~
9 ~~the duties of mine electrician and received training by~~
10 ~~individuals approved by the department in determining the~~
11 ~~presence of explosive and noxious gases, and in the use and~~
12 ~~mechanics of all gas detection devices, and who have received~~
13 ~~an average of 75% in the mine electrician's examination.~~

14 ~~(6) Certificates of qualification or service granted~~
15 ~~prior to the effective date of this act shall have equal~~
16 ~~value with certificates of qualification granted under this~~
17 ~~act.~~

18 ~~(7) All applicants who have satisfactorily passed~~
19 ~~examinations, after being certified but before assuming their~~
20 ~~duties as mine foremen, mine electricians, assistant mine~~
21 ~~foremen or mine examiners, shall accompany a certified mine~~
22 ~~foreman or certified assistant mine foreman for not less than~~
23 ~~two weeks for training purposes in accordance with a training~~
24 ~~program submitted by the operator and approved by the~~
25 ~~department. Any applicant who has been granted a mine~~
26 ~~official certificate prior to the effective date of this act~~
27 ~~need not undergo this training. The record of such training~~
28 ~~shall be maintained at the mine.~~

29 (A) QUALIFICATIONS FOR MINE FOREMEN.--APPLICANTS FOR

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30 CERTIFICATES OF QUALIFICATION AS MINE FOREMEN AND MINE

1 ELECTRICIANS SHALL:

2 (1) BE CITIZENS OF THE UNITED STATES.

3 (2) BE OF GOOD MORAL CHARACTER AND OF KNOWN TEMPERATE
4 HABITS.

5 (3) BE AT LEAST 23 YEARS OF AGE.

6 (4) HAVE NO FEWER THAN FIVE YEARS OF PRACTICAL
7 EXPERIENCE AFTER TURNING 18 YEARS OF AGE, AS MINERS OR MINING
8 ENGINEERS OR MEN OF GENERAL WORK. THIS EXPERIENCE SHALL
9 INCLUDE THREE YEARS' EXPERIENCE IN WORKING SECTIONS IN
10 UNDERGROUND BITUMINOUS COAL MINES. INDIVIDUALS GRADUATING
11 WITH A BACHELOR'S DEGREE IN CIVIL ENGINEERING, ELECTRICAL
12 ENGINEERING OR MINING ENGINEERING OR AN ASSOCIATE DEGREE IN A
13 MINING ENGINEERING COURSE OF STUDY AT A RECOGNIZED
14 INSTITUTION OF LEARNING MAY, AFTER EXAMINATION, BE GRANTED
15 CERTIFICATES OF QUALIFICATION BY AN EXAMINING BOARD AS MINE
16 FOREMEN AND MINE ELECTRICIANS, PROVIDED THE GRADUATES HAVE AN
17 AGGREGATE OF NO FEWER THAN THREE YEARS' PRACTICAL EXPERIENCE
18 AS MINERS OR MEN OF GENERAL WORK OR MINING ENGINEERS, IN
19 UNDERGROUND BITUMINOUS COAL MINES IN THE WORKING SECTION.

20 (B) QUALIFICATIONS FOR ASSISTANT MINE FOREMEN.--APPLICANTS
21 FOR CERTIFICATES OF QUALIFICATION AS ASSISTANT MINE FOREMEN
22 SHALL:

23 (1) BE CITIZENS OF THE UNITED STATES.

24 (2) BE OF GOOD MORAL CHARACTER AND OF KNOWN TEMPERATE
25 HABITS.

26 (3) HAVE AT LEAST FOUR YEARS OF PRACTICAL EXPERIENCE,
27 WITH AT LEAST THREE YEARS' EXPERIENCE IN WORKING SECTIONS,
28 AFTER TURNING 18 YEARS OF AGE, AS MINERS OR MINING ENGINEERS
29 OR MEN OF GENERAL WORK, IN UNDERGROUND BITUMINOUS COAL MINES.
30 INDIVIDUALS GRADUATING WITH A BACHELOR'S DEGREE IN CIVIL

1 ENGINEERING, ELECTRICAL ENGINEERING OR MINING ENGINEERING, OR
2 AN ASSOCIATE DEGREE IN A MINING ENGINEERING COURSE OF STUDY
3 AT A RECOGNIZED INSTITUTION OF LEARNING MAY, AFTER
4 EXAMINATION, BE GRANTED CERTIFICATES OF QUALIFICATION BY AN
5 EXAMINING BOARD AS ASSISTANT MINE FOREMEN, PROVIDED THE
6 GRADUATES HAVE AN AGGREGATE OF NO FEWER THAN THREE YEARS OF
7 PRACTICAL EXPERIENCE AS MINERS OR MINING ENGINEERS OR MEN OF
8 GENERAL WORK, IN UNDERGROUND BITUMINOUS COAL MINES IN WORKING
9 SECTIONS.

10 (C) QUALIFICATIONS FOR MINE EXAMINERS.--APPLICANTS FOR
11 CERTIFICATES OF QUALIFICATION AS MINE EXAMINERS SHALL:

12 (1) BE CITIZENS OF THE UNITED STATES.

13 (2) BE OF GOOD MORAL CHARACTER AND OF KNOWN TEMPERATE
14 HABITS.

15 (3) HAVE AT LEAST THREE YEARS OF PRACTICAL EXPERIENCE
16 AFTER TURNING 18 YEARS OF AGE, AS MINERS OR MINING ENGINEERS
17 OR MEN OF GENERAL WORK, IN UNDERGROUND BITUMINOUS COAL MINES
18 IN WORKING SECTIONS.

19 (D) OTHER QUALIFICATIONS.--ALL APPLICANTS SHALL:

20 (1) BE ABLE TO READ AND WRITE THE ENGLISH LANGUAGE.

21 (2) FURNISH THE BOARD WITH CERTIFICATES AS TO THEIR
22 CHARACTER AND TEMPERATE HABITS.

23 (3) PROVIDE A NOTARIZED STATEMENT FROM PREVIOUS
24 EMPLOYERS SETTING FORTH THE LENGTH OF SERVICE AND TYPE OF
25 WORK PERFORMED IN EACH MINE.

26 (E) QUALIFICATIONS FOR MINE FOREMEN CERTIFICATES.--
27 CERTIFICATES OF QUALIFICATION AS MINE FOREMEN SHALL BE GRANTED
28 TO INDIVIDUALS WHO HAVE:

29 (1) GIVEN THE EXAMINING BOARD SATISFACTORY EVIDENCE OF
30 THEIR ABILITY TO PERFORM THE DUTIES OF MINE FOREMEN.

1 (2) RECEIVED TRAINING BY INDIVIDUALS APPROVED BY THE
2 DEPARTMENT IN DETERMINING THE PRESENCE OF EXPLOSIVE AND
3 NOXIOUS GASES AND IN THE USE AND MECHANICS OF ALL GAS
4 DETECTION DEVICES.

5 (3) RECEIVED AN AVERAGE OF AT LEAST 80% IN THE
6 EXAMINATION.

7 (F) QUALIFICATIONS FOR ASSISTANT MINE FOREMAN
8 CERTIFICATES.--CERTIFICATES OF QUALIFICATION AS ASSISTANT MINE
9 FOREMEN SHALL BE GRANTED TO PERSONS WHO HAVE:

10 (1) GIVEN THE EXAMINING BOARD SATISFACTORY EVIDENCE OF
11 THEIR ABILITY TO PERFORM THE DUTIES OF ASSISTANT MINE
12 FOREMEN.

13 (2) RECEIVED TRAINING BY INDIVIDUALS APPROVED BY THE
14 DEPARTMENT IN DETERMINING THE PRESENCE OF EXPLOSIVE AND
15 NOXIOUS GASES AND IN THE USE AND MECHANICS OF ALL GAS
16 DETECTION DEVICES.

17 (3) RECEIVED AN AVERAGE OF AT LEAST 70% IN THE
18 EXAMINATION.

19 (G) QUALIFICATIONS FOR MINE EXAMINER CERTIFICATES.--MINE
20 EXAMINER CERTIFICATES SHALL BE GRANTED TO INDIVIDUALS WHO HAVE:

21 (1) GIVEN THE EXAMINING BOARD SATISFACTORY EVIDENCE OF
22 THEIR ABILITY TO PERFORM THE DUTIES OF MINE EXAMINERS.

23 (2) HAVE RECEIVED TRAINING BY INDIVIDUALS APPROVED BY
24 THE DEPARTMENT IN DETERMINING THE PRESENCE OF EXPLOSIVE AND
25 NOXIOUS GASES AND IN THE USE AND MECHANICS OF ALL GAS
26 DETECTION DEVICES.

27 (3) RECEIVED AN AVERAGE OF AT LEAST 75% IN THE MINE
28 EXAMINERS EXAMINATION.

29 (H) QUALIFICATIONS FOR A MINE ELECTRICIAN CERTIFICATES.--
30 CERTIFICATES OF QUALIFICATION FOR MINE ELECTRICIANS SHALL BE

1 GRANTED TO INDIVIDUALS WHO HAVE:

2 (1) GIVEN THE EXAMINING BOARD SATISFACTORY EVIDENCE OF
3 THEIR ABILITY TO PERFORM THE DUTIES OF MINE ELECTRICIAN.

4 (2) HAVE RECEIVED TRAINING BY INDIVIDUALS APPROVED BY
5 THE DEPARTMENT IN DETERMINING THE PRESENCE OF EXPLOSIVE AND
6 NOXIOUS GASES AND IN THE USE AND MECHANICS OF ALL GAS
7 DETECTION DEVICES.

8 (3) RECEIVED AN AVERAGE OF 75% IN THE EXAMINATION FOR
9 MINE ELECTRICIANS.

10 (I) ORAL EXAMINATIONS AND ADDITIONAL TRAINING.--ALL
11 APPLICANTS WHO HAVE SATISFACTORILY PASSED A WRITTEN EXAMINATION
12 SHALL ALSO SATISFACTORILY PASS AN ORAL EXAMINATION, AND AFTER
13 BEING CERTIFIED BUT BEFORE ASSUMING THEIR DUTIES AS MINE
14 FOREMEN, MINE ELECTRICIANS, ASSISTANT MINE FOREMEN OR MINE
15 EXAMINERS, SHALL ACCOMPANY A CERTIFIED MINE FOREMAN OR A
16 CERTIFIED ASSISTANT MINE FOREMAN WHILE EXECUTING THE DUTIES OF
17 THEIR POSITION FOR THE ENTIRE SHIFT FOR A PERIOD OF NOT LESS
18 THAN TEN FULL WORKING SHIFTS FOR TRAINING PURPOSES IN ACCORDANCE
19 WITH A TRAINING PROGRAM SUBMITTED BY THE OPERATOR AND APPROVED
20 BY THE DEPARTMENT. APPLICANTS WHO HAVE PREVIOUSLY OBTAINED A
21 CERTIFICATE NEED NOT UNDERGO THIS TRAINING. THE RECORD OF THE
22 TRAINING GIVEN UNDER THIS SECTION SHALL BE MAINTAINED AT THE
23 MINE.

24 Section 203. Emergency use of mine examiner as assistant mine
25 foreman.

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

29 (1) There is an emergency. As used in this paragraph,
30 the term "emergency" means a condition which could not have

1 been foreseen and requires immediate action.

2 (2) There is no assistant mine foreman available in the
3 mine who is willing to act as an assistant mine foreman.

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

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

12 Section 204. Certification of miners.

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

23 Section 205. Qualifications for certification as miners.

24 The following shall apply:

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

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

1 Section 208. Employment of mine foremen.

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

18 Section 209. Employment of mine electricians.

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

28 Section 210. Employment of assistant mine foremen.

29 When mine workings become so extensive that the mine foreman
30 is unable personally to carry out the requirements of this act

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

15 Section 211. Ventilation responsibilities of mine foreman.

16 The following shall apply:

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

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

30 (3) A mine foreman or an assistant mine foreman shall

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

10 (4) The following pertain to fan stoppage:

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

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

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

30 (C) If the interruption is less than 15 minutes,

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

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

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

12 (B) All individuals shall be withdrawn from the
13 mine on foot under proper supervision.

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

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

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

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

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

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

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

13 (D) That, during transportation, a certified
14 individual qualified to perform methane examinations
15 riding in each vehicle shall continuously monitor for
16 methane using a handheld detector and at specific
17 locations designated by the operator based on the
18 survey results. The speed of the vehicles shall not
19 be so fast as to negate the detector's ability to
20 accurately measure methane 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 other
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 individuals are permitted to enter
9 the mine. The examination shall be made on foot, except
10 an operator may use permissible transportation equipment
11 on intake travelways only for reexamination after a fan
12 stoppage if the examination is started within the time
13 period established by the survey. The examination shall
14 be recorded in the official mine record books used for
15 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 individual endangered by the presence of explosive or
4 noxious gases shall be allowed in that portion of the mine
5 until the gases have been removed. The mine foreman shall
6 direct and see that all dangerous places and the entrance or
7 entrances to worked-out and abandoned places in all mines are
8 properly fenced off across the openings so that no individual
9 can enter, and that danger signs are posted upon said fencing
10 to warn individuals of the existing danger.

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

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

25 The following shall apply:

26 (1) The mine foreman or assistant mine foreman shall
27 direct and see that every working place is properly secured
28 and shall see that no individual is directed or permitted to
29 work in an unsafe place, unless it be for the purpose of
30 making it safe. The mine foreman shall see that workmen are

1 provided with sufficient roof support materials delivered to
2 their working place or places. When timbers are used for roof
3 support, they shall be cut square on both ends and as near as
4 practicable to proper length.

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

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

26 (4) The mine foreman shall give prompt attention to the
27 removal of all dangers reported to him by his assistants, the
28 mine examiner or any other individual working in the mine,
29 and in case it is impracticable to immediately remove the
30 danger, he shall notify every individual whose safety is

1 threatened to remain away from the area of the mine where the
2 dangerous conditions exist.

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

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

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

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

26 The following shall apply:

27 (1) The mine foreman shall direct that the coal is
28 properly mined before it is blasted, shot or broken. For
29 purposes of this paragraph, the term "properly mined" shall
30 mean that the coal shall be undercut, centercut, overcut or

1 sheared by pick or machine, and in any case the cutting shall
2 be as deep as the holes are laid.

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

10 (3) The mine foreman shall employ a sufficient number of
11 competent and legally certified individuals to act as shot-
12 firers.

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

14 The following shall apply:

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

19 (2) Whenever any working place in a mine approaches
20 within 50 feet of abandoned workings, as shown by surveys
21 certified by a registered engineer or surveyor, or within 500
22 feet of any other abandoned workings of the mine, which
23 cannot be inspected and which may contain dangerous
24 accumulations of water or gas, or within 500 feet of any
25 workings of an adjacent mine, a test drilling plan which
26 provides for the safety of all individuals must be submitted
27 by the operator to the department for approval. The
28 department may increase the setback distances under this
29 paragraph.

30 (3) No mining may occur within the setback distances

1 under paragraph (2) unless the department approves the test
2 drilling plan and gives permission to proceed.

3 (4) No water or gas from any portion of an abandoned
4 mine, or from any idle portion of an active mine, and no
5 borehole from the surface shall be tapped except under the
6 immediate instruction and direction of the mine foreman with
7 the use of approved gas detection equipment. It shall be
8 unlawful to work or employ individuals to work in any portion
9 of a bituminous coal mine in which a body of water is dammed
10 or held back at a higher elevation in the same mine by
11 natural or artificial means, unless approval is given in
12 writing by the department.

13 (5) The department shall not accept from an operator a
14 six-month mine subsidence map as required by the act of April
15 27, 1966 (1st Sp.Sess. P.L.31, No.1), known as The Bituminous
16 Mine Subsidence and Land Conservation Act, unless the map
17 includes the information required by paragraphs (2), (3) and
18 (4).

19 Section 215. Mine foreman's responsibility for employment of
20 competent individuals.

21 A noncertified individual may not be employed to operate
22 equipment in a mine until the individual has completed a
23 training program approved by the department and has given the
24 mine foreman satisfactory proof that the individual can do the
25 assigned work without endangering anyone.

26 Section 216. Mine foreman's responsibilities for inspections
27 and reports.

28 The following shall apply:

29 (1) In all mines, the mine foreman shall employ a
30 sufficient number of assistants to ensure a visit to each

1 employee during each shift, except mine officials and miners
2 whose normal duties require travel throughout the mine,
3 either by the mine foreman or his assistants.

4 (2) The mine foreman shall each day enter plainly and
5 sign in ink a report of the condition of the mine in a book
6 provided for that purpose. The report shall clearly state any
7 danger that may have come under his observation during the
8 day or any danger reported by the assistant mine foreman or
9 the mine examiners. The report shall also state whether or
10 not a proper supply of material is on hand for the safe
11 working of the mine, and whether or not the requirements of
12 law are complied with. The mine foreman shall also, once each
13 week, enter plainly in ink in the book a true report of all
14 weekly air measurements required by this act, designating the
15 place, the area of each cut-through and entry separately, the
16 velocity of the air in each cut-through and entry, the
17 quantity of the air in each cut-through and entry and the
18 number employed in each separate split of air, with the date
19 when measurements were taken. The book shall at all times be
20 kept in the mine office, for examination by the department or
21 any individual working in the mine, in the presence of the
22 superintendent or the mine foreman. The mine foreman shall
23 also each day read carefully and countersign in ink all
24 reports entered in the record book of the mine examiners.

25 (3) When assistant mine foremen are employed, their duty
26 shall be to assist the mine foreman in complying with the
27 provisions of this act, and they shall be liable to the same
28 penalties as the mine foreman for any violation of this act
29 in parts or portions of the mine under their jurisdiction. At
30 the end of each shift, each assistant mine foreman shall make

1 a report in a book provided for that purpose, giving the
2 general condition as to safety of the working places visited,
3 and shall make a note of any unusual occurrence observed
4 during the shift. The mine foreman shall read carefully the
5 daily report of each assistant mine foreman and shall sign
6 the report in ink daily. Where more than one portal is being
7 used for the entrance of miners into a mine, the mine foreman
8 may designate an assistant who holds a mine foreman
9 certificate to sign the assistant mine foreman's and mine
10 examiner's daily report books at each portal other than the
11 main portal.

12 (4) It shall be the duty of the mine foreman or
13 assistant mine foreman, or an authorized individual
14 designated by the mine foreman, to examine daily in a general
15 way all electrical equipment and other machinery under his
16 jurisdiction to see that it is in safe operating condition
17 and make a report in the assistant mine foreman's daily
18 report book. It shall be the duty of the mine electrician to
19 make and sign a written report once each week in a record
20 book provided for that purpose, stating the condition of
21 electrical equipment and other machinery in the mine. The
22 report shall be countersigned by the mine foreman.

23 Section 217. Employment of mine examiners.

24 The mine foreman shall employ a sufficient number of mine
25 examiners to ensure that each mine can be examined in accordance
26 with the provisions of this act. The mine foreman or the
27 assistant mine foreman shall ensure that the mine examiner has
28 initialed, including date and time, the places examined or
29 reported as examined.

30 Section 218. Duties of mine examiners.

1 ~~(a) Examination of mine. Within three hours immediately~~ <—
2 ~~preceding the beginning of a coal producing shift and before any~~
3 ~~workmen in such shift, other than those who may be designated to~~
4 ~~make the examination under this section, enter the underground~~
5 ~~areas of the mine, the mine foreman, assistant mine foreman or~~
6 ~~mine examiner designated by the mine foreman shall make an~~
7 ~~examination of the areas as prescribed in this section. Each~~
8 ~~individual designated to act as a mine examiner shall be~~
9 ~~directed to examine a definite underground area of the mine and~~
10 ~~shall inspect every active working place and places immediately~~
11 ~~adjacent in the area and make tests with an approved gas~~
12 ~~detection device for accumulations of methane and oxygen~~
13 ~~deficiency in the air. The mine examiner shall examine seals and~~
14 ~~doors to determine whether they are functioning properly;~~
15 ~~inspect and test the roof, face and rib conditions in the~~
16 ~~working places; inspect active roadways, every unfenced roadway,~~
17 ~~travelways, approaches to abandoned workings, and accessible~~
18 ~~falls in active sections for explosive gas and other hazards;~~
19 ~~and inspect to determine whether the air in each split is~~
20 ~~traveling in its proper course and in normal volume. The mine~~
21 ~~examiner shall initial and date the face of each place he~~
22 ~~examines or in a nearby location. If the mine examiner finds a~~
23 ~~condition which the mine examiner considers to be dangerous to~~
24 ~~individuals who may enter or be in such area, he shall post a~~
25 ~~"danger" sign conspicuously at a point which individuals~~
26 ~~entering such dangerous place would be required to pass. No~~
27 ~~individual, other than Federal or State mine inspectors, or the~~
28 ~~mine foreman or assistant mine foreman, or individuals~~
29 ~~authorized by the mine foreman or assistant mine foreman to~~
30 ~~enter the place for the purpose of eliminating the dangerous~~

1 ~~condition, shall enter the place while the sign is posted.~~

2 ~~(b) Record book.— A suitable record book shall be kept at~~
3 ~~the mine office, on the surface, of every mine where mine~~
4 ~~examiners are employed, and immediately after the examination of~~
5 ~~the mine or any portion thereof by a mine examiner, whose duty~~
6 ~~it is to make the examination, he shall enter in the book, with~~
7 ~~ink, a record of the examination, and sign the same. This record~~
8 ~~shall show the time taken in making the examination, and also~~
9 ~~clearly state the nature and location of any danger that may~~
10 ~~have been discovered in any room or entry or other place in the~~
11 ~~mine, and if any danger has been discovered, the mine examiners~~
12 ~~shall immediately report the location thereof to the mine~~
13 ~~foreman. No individual shall enter the mine until the mine~~
14 ~~examiners return to the mine office on the surface, or to a~~
15 ~~station located in the intake entry of the mine, where a record~~
16 ~~book as provided for in this section shall be kept in a~~
17 ~~fireproof vault and signed by the individual making the~~
18 ~~examination, and report to the mine foreman or the assistant~~
19 ~~mine foreman, by telephone or otherwise, and a written report~~
20 ~~made thereof by the individual receiving the report, that the~~
21 ~~mine is in safe condition for individuals to enter. When a~~
22 ~~station is located in any mine, it shall be the duty of the mine~~
23 ~~examiners to sign the report entered in the record book in the~~
24 ~~mine office on the surface. The record books of the mine~~
25 ~~examiners shall at all times during working hours be accessible~~
26 ~~to the department and any individual working in the mine.~~

27 ~~(c) Second examination.— A second examination by the same or~~
28 ~~other mine examiner shall be made during working hours of every~~
29 ~~working place where men are employed, and a report of the~~
30 ~~examination shall be made in the mine examiner report book in~~

1 ~~the same manner as the first examination. No individual on a~~
2 ~~noncoal producing shift, other than a certified individual~~
3 ~~designated under this section, shall enter any underground area~~
4 ~~in a mine, unless the area, which shall include all places on~~
5 ~~that particular split of air, has been examined as prescribed in~~
6 ~~this section within three hours immediately preceding his~~
7 ~~entrance into the area.~~

8 (A) EXAMINATION OF MINE.--WITHIN THREE HOURS IMMEDIATELY <—
9 PRECEDING THE BEGINNING OF A SHIFT IN A BITUMINOUS COAL MINE IN
10 THIS COMMONWEALTH, AND BEFORE WORKMEN OF THE SHIFT, OTHER THAN
11 THOSE WHO MAY BE DESIGNATED TO MAKE THE EXAMINATIONS PRESCRIBED
12 IN THIS SECTION, ENTER THE UNDERGROUND AREAS OF THE MINE,
13 CERTIFIED INDIVIDUALS DESIGNATED BY THE MINE FOREMAN TO MAKE AN
14 EXAMINATION SHALL CONDUCT AN EXAMINATION OF THE AREAS AS
15 PRESCRIBED IN THIS SECTION. EACH PERSON DESIGNATED TO ACT AS A
16 MINE EXAMINER SHALL BE DIRECTED TO EXAMINE A DEFINITE
17 UNDERGROUND AREA OF THE MINE, AND IN MAKING HIS EXAMINATION, THE
18 MINE EXAMINER SHALL INSPECT EVERY ACTIVE WORKING PLACE AND
19 IMMEDIATELY ADJACENT PLACES IN THE AREA AND MAKE TESTS WITH AN
20 APPROVED GAS DETECTION DEVICE FOR ACCUMULATIONS OF METHANE AND
21 OXYGEN-DEFICIENCY IN THE AIR.

22 (B) DUTIES OF MINE EXAMINER.--THE MINE EXAMINER SHALL:

23 (1) EXAMINE SEALS AND DOORS TO DETERMINE WHETHER THEY
24 ARE FUNCTIONING PROPERLY.

25 (2) INSPECT AND TEST THE ROOF, FACE AND RIB CONDITIONS
26 IN THE WORKING PLACES.

27 (3) INSPECT ACTIVE ROADWAYS, EVERY UNFENCED ROADWAY,
28 TRAVELWAYS, APPROACHES TO ABANDONED WORKINGS AND ACCESSIBLE
29 FALLS IN ACTIVE SECTIONS FOR EXPLOSIVE GAS AND OTHER HAZARDS.

30 (4) INSPECT TO DETERMINE WHETHER THE AIR IN EACH SPLIT

1 IS TRAVELING IN ITS PROPER COURSE AND IN NORMAL VOLUME.

2 (5) INITIAL AND DATE AT OR NEAR THE FACE OF EACH PLACE
3 EXAMINED.

4 (6) INDICATE A DANGEROUS PLACE IF, IN MAKING AN
5 EXAMINATION, THE MINE EXAMINER FINDS A CONDITION WHICH HE
6 CONSIDERS DANGEROUS TO INDIVIDUALS WHO MAY ENTER THE AREA, BY
7 POSTING A "DANGER" SIGN CONSPICUOUSLY AT A POINT WHICH
8 INDIVIDUALS ENTERING SUCH DANGEROUS PLACE ARE REQUIRED TO
9 PASS. NO INDIVIDUAL, OTHER THAN FEDERAL OR STATE MINE
10 INSPECTORS, OR THE MINE FOREMAN OR ASSISTANT MINE FOREMAN, OR
11 INDIVIDUALS AUTHORIZED BY THE MINE FOREMAN OR ASSISTANT MINE
12 FOREMAN OR THE REPRESENTATIVE OF THE MINERS SHALL BE
13 PERMITTED TO ENTER THE DANGEROUS PLACE WHILE THE SIGN IS
14 POSTED, EXCEPT THOSE MINERS ASSIGNED TO ELIMINATE THE
15 DANGEROUS CONDITION.

16 (7) IMMEDIATELY REPORT DANGER AND ITS LOCATION TO THE
17 MINE FOREMAN, IF DANGER HAS BEEN DISCOVERED.

18 (8) SIGN THE REPORT ENTERED IN THE RECORD BOOK IN THE
19 MINE OFFICE ON THE SURFACE WHEN A STATION IS LOCATED IN A
20 MINE.

21 (C) RECORD BOOK.--AT EVERY MINE WHERE MINE EXAMINERS ARE
22 EMPLOYED, A SUITABLE RECORD BOOK SHALL BE KEPT AT THE MINE
23 OFFICE LOCATED ON THE SURFACE. IMMEDIATELY AFTER THE EXAMINATION
24 OF A MINE OR ANY PORTION OF THE MINE BY THE MINE EXAMINER, THE
25 MINE EXAMINER SHALL ENTER IN THE RECORD BOOK, IN INK, A RECORD
26 OF THE EXAMINATION AND SIGN THE RECORD BOOK. THE RECORD BOOK
27 SHALL BE KEPT IN A FIRE-PROOF VAULT. THE RECORD SHALL:

28 (1) SHOW THE TIME TAKEN IN MAKING THE EXAMINATION.

29 (2) CLEARLY STATE THE NATURE AND LOCATION OF DANGEROUS
30 OR POTENTIALLY DANGEROUS CONDITIONS THAT MAY HAVE BEEN

1 DISCOVERED IN ANY ROOM OR ENTRY OR OTHER PLACE IN THE MINE.

2 (D) PROHIBITIONS.--NO INDIVIDUAL SHALL ENTER THE MINE UNTIL
3 THE MINE EXAMINERS RETURN TO THE MINE OFFICE OR TO A STATION
4 LOCATION IN THE INTAKE ENTRY OF THE MINE, AND REPORT TO THE MINE
5 FOREMAN OR THE ASSISTANT MINE FOREMAN, BY TELEPHONE OR
6 OTHERWISE, THAT THE MINE IS IN SAFE CONDITION FOR INDIVIDUALS TO
7 ENTER. NO INDIVIDUAL ON A NON-COAL PRODUCING SHIFT, OTHER THAN A
8 CERTIFIED INDIVIDUAL DESIGNATED UNDER THIS PARAGRAPH, SHALL
9 ENTER ANY UNDERGROUND AREA IN A MINE, UNLESS THE AREA, WHICH
10 SHALL INCLUDE ALL PLACES ON THAT PARTICULAR SPLIT OF AIR, HAS
11 BEEN EXAMINED AS PRESCRIBED IN THIS SUBSECTION WITHIN THREE
12 HOURS IMMEDIATELY PRECEDING HIS ENTRANCE INTO SUCH AREA.

13 (E) WRITTEN REPORT.--A WRITTEN REPORT SHALL BE MADE OF THE
14 COMMUNICATION MADE UNDER SUBSECTION (D) BY THE PERSON RECEIVING
15 THE REPORT.

16 (F) ACCESS TO RECORD BOOKS.--AT ALL TIMES DURING WORKING
17 HOURS, THE RECORD BOOKS OF THE MINE EXAMINERS SHALL BE
18 ACCESSIBLE TO:

19 (1) THE MINE INSPECTOR.

20 (2) ANY INDIVIDUAL WORKING IN THE MINE.

21 (3) AUTHORIZED REPRESENTATIVES OF THE MINERS.

22 (G) SECOND EXAMINATION.--A SECOND EXAMINATION BY THE SAME OR
23 OTHER MINE EXAMINER SHALL BE MADE DURING WORKING HOURS OF EVERY
24 WORKING PLACE WHERE MINERS ARE EMPLOYED. A REPORT OF THE
25 EXAMINATION SHALL BE MADE IN THE MINE EXAMINER RECORD BOOK IN
26 THE SAME MANNER AS THE FIRST EXAMINATION.

27 Section 219. Management of mine.

28 The right to hire and discharge employees, management of the
29 mine and the direction of the working forces are vested
30 exclusively in the operator. No individual, association,

1 organization or corporation shall interfere with or attempt to
2 interfere with, abridge or attempt to abridge, in any manner
3 whatsoever, these rights, provided that these rights do not
4 invalidate any existing or future contract.

5 Section 220. Duties of superintendent.

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

16 (b) Examination.--The superintendent shall, at least once
17 every week, read, examine and countersign all reports entered in
18 the mine record book. If the superintendent determines that the
19 law is being violated, the superintendent shall order the mine
20 foreman to stop the violation and ensure compliance with that
21 order.

22 Section 221. Qualifications and general responsibility of
23 superintendent.

24 The following shall apply:

25 (1) Beginning one year after the effective date of this
26 paragraph, no individual may be appointed as a superintendent
27 at any mine in this Commonwealth unless the individual holds
28 a current, valid mine foreman certificate. In the event that
29 a superintendent is found by the department to be in breach
30 of his or her responsibilities as superintendent, the

1 department may suspend or revoke the superintendent's mine
2 foreman certificate.

3 (2) No individual may serve as the superintendent for
4 more than one mine.

5 (3) The superintendent shall not obstruct the mine
6 foreman or other official in the fulfillment of his duties as
7 required by this act. The superintendent shall ensure that
8 the mine foreman and all other employees of the mine comply
9 with the law. The superintendent shall immediately respond to
10 a violation of this act upon notification by the department.
11 The superintendent shall be responsible for all the outside
12 workings and all individuals employed at the mine. At a mine
13 where a superintendent is not employed, the mine foreman
14 shall have all the duties and responsibilities otherwise
15 given to the superintendent in addition to the regular duties
16 of the mine foreman.

17 Section 222. Danger signs.

18 The superintendent of every mine shall provide a sufficient
19 number of danger signs which the mine foreman or the assistant
20 mine foreman shall distribute in the mine at places convenient
21 for the use of the mine examiners and other officials in the
22 fulfillment of their duties. Danger signs in all mines shall be
23 uniform and of a design approved by the department. All danger
24 signs shall be kept in good condition and no defective sign
25 shall be used in any mine.

26 Section 223. Supply of record books.

27 The superintendent shall keep on hand at the mine a supply of
28 the record books required by this act and shall ensure that
29 record books are delivered to the proper individuals at the mine
30 and that they are properly cared for.

1 Section 224. Mapping requirements and surveying standards.

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

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

10 (2) An accurate delineation of the current extent of the
11 workings of the mine and all mines or coal lands, or both,
12 inside the permit boundary and all mines or coal lands, or
13 both, within 1,000 feet of the outside of the permit
14 boundary. The delineation must show all workings of all mines
15 above and below the mine within the permit boundary and
16 within 1,000 feet of the outside of the permit boundary.

17 (3) Barrier pillars for all mine workings inside the
18 permit boundary and all mine workings adjacent to the permit
19 boundary.

20 (4) Two permanent baseline points coordinated with the
21 underground and surface traverse points, and two permanent
22 elevation benchmarks referencing mine elevation surveys. The
23 baseline points and elevation benchmarks shall be prepared
24 using the Pennsylvania State Plan Coordinate System (NAD83
25 Datum). In the alternative, the map shall include coordinate
26 transformation equations converting the baseline points shown
27 to correlate to the Pennsylvania State Plan Coordinate
28 System.

29 (5) All openings, excavations, shafts, slopes, drifts,
30 tunnels, entries, crosscuts, rooms, boreholes and all other

1 excavations, including surface pits and auger holes in each
2 seam.

3 (6) Areas where the pillars or longwall panels have been
4 removed.

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

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

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

11 (10) Bottom of coal elevations, taken at intervals not
12 to exceed 300 feet apart, in one entry of each section and in
13 one entry of each set of rooms off such sections.

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

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

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

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

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

29 (16) The location of permanent surface features such as
30 railroad tracks, public highways, permanent buildings and oil

1 and gas wells.

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

3 (b) Accuracy standards.--The following accuracy standards
4 must be met:

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

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

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

12 (c) Surveying standards.--The extent of surveying shown on
13 the map shall be acceptable where the following minimum
14 underground surveying standards are met:

15 (1) Every entry must be surveyed at intervals not to
16 exceed 300 lineal feet. Survey station spads shall be
17 established in each entry of all mains, sections, butts,
18 rooms and other excavations. Survey lines may extend from
19 adjacent entries as long as the interval between survey
20 station spads within an entry does not exceed 300 lineal
21 feet. Continuous survey lines must be maintained in at least
22 one entry.

23 (2) Lateral take-ups, left and right, must be taken in
24 every entry at all intersections and must denote the location
25 of all intersections and define the corners and the location
26 of the rib line within each entry. For any excavation greater
27 than 20% from the planned excavation, additional lateral
28 take-ups must be taken to define this area. All of the
29 information must be accurately portrayed on the mine map.

30 (3) All workings not surveyed and taken from a working

1 map or other unofficial record shall be shown on the map with
2 dashed lines. The legend shall identify that these areas have
3 not been surveyed.

4 (4) A survey station spad is required to be within 300
5 feet of the deepest penetration of the final faces of each
6 mining section, butt or room. The number or designation of
7 the last survey station spad and the date of such survey of
8 the entries are to be shown on the mine map. The area from
9 this spad to the face will be considered surveyed provided
10 that lateral and face take-ups have been completed and
11 recorded in the field book and shown on the mine map. Field
12 books shall be available for inspection. If lateral and face
13 take-ups are not completed, the area inby the last survey
14 station spad must be identified on the map with dashed lines.
15 The survey station spads located in each mining section, butt
16 or room shall be tied to a check survey station.

17 (5) Check survey stations shall be advanced to within
18 300 feet of the deepest penetration of all mains, submains,
19 sections and butts. Check survey stations shall be advanced
20 to within 600 feet of the deepest penetration of all rooms.

21 (6) Check survey stations shall be advanced to within
22 100 feet of the deepest penetration of all mining sections,
23 butts, rooms and excavations adjacent to the permit or
24 property boundary lines.

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

30 Section 225. Availability of copy of map.

1 A true copy of the map made pursuant to section 224 shall be
2 kept in the mine office for the use of the mine officials and
3 department, and for the inspection, in the presence of the
4 superintendent or mine foreman, of any individual working in the
5 mine, or of authorized representatives of the employees of the
6 mine, whenever the individual or representative fears that any
7 working place is becoming dangerous by reason of its proximity
8 to other workings that may contain dangerous accumulations of
9 water or noxious gases.

10 Section 226. Excavations on map.

11 At least once every six months, the operator or
12 superintendent of every mine shall cause to be shown accurately
13 on the original map of the mine, and on the copy of the map in
14 the mine office, all the excavations made during the time that
15 elapsed since the excavations were last shown.

16 Section 227. Furnishing copies of maps.

17 A copy of the mine map shall be furnished every six months to
18 the department. When more than one seam of coal is being worked
19 in any mine, the department shall be provided with a separate
20 copy of the original map of the complete workings of each seam
21 as provided for under this act. The copies shall remain in the
22 care of the department. When one mine is working a seam of coal
23 under another mine that is working an overlying seam and the two
24 mines are operated by different operators, the operators shall
25 exchange with each other copies of their respective mine maps,
26 showing such portions of their respective mines as may be
27 directly above or below the other mine.

28 Section 228. Duties upon abandonment of mine.

29 (a) General rule.--If a mine is inactive for a period of 60
30 days or more or if the operator intends to cease ventilation of

1 the mine, the operator or the superintendent shall notify the
2 department at once and shall, within 60 days, extend the
3 official map to show clearly all worked-out or abandoned
4 territory with all excavations, property and boundary lines,
5 elevations and map features as required under this act or, if
6 the workings are not accessible, provide a copy of the most
7 recent map available that is clearly marked to state that the
8 workings shown were not surveyed. The owner or operator of the
9 mine shall also, within 45 days after its change in status, send
10 to the department a tracing, print or digital map in a format
11 acceptable to the department of the complete original map. The
12 registered mining engineer or registered surveyor shall certify
13 that the tracing, print or digital map is a true and correct
14 copy of the original map of the mine and that the original map
15 is a true, complete and correct map and survey of all the
16 excavations made in the inactive or abandoned mine. A dated
17 statement signed by a company or corporate officer stating that
18 the map represents a complete and accurate representation of all
19 underground excavations and is the final map of the mine, or
20 stating that the map provided is not a surveyed final map due to
21 inaccessibility of the workings, shall be included.

22 (b) Violation.--If the operator, superintendent or company
23 or corporate officer fails to provide the certified final map or
24 recklessly or intentionally submits an inaccurate certified map,
25 the violation shall be a felony subject to prosecution under
26 section 505. Costs incurred by the Commonwealth as a result of a
27 violation of this subsection may be recovered as restitution.
28 Section 229. Survey by department.

29 If the department has reasonable cause to believe that a map
30 of any mine furnished under the provisions of this act is

1 inaccurate or imperfect, the department may require the operator
2 to make a survey and a new map of the mine.

3 Section 230. Ventilation requirements.

4 (a) General rule.--The operator or superintendent of a mine
5 shall provide and maintain ample means of ventilation to furnish
6 a constant and adequate supply of pure air for the employees.
7 The quantity and velocity of the current of air shall be
8 sufficient to dilute so as to render harmless and carry away
9 flammable or harmful gases.

10 (b) Specification.--The quantity of air reaching the last
11 open crosscut in any pair or set of entries shall not be less
12 than 9,000 cubic feet per minute. All active underground work
13 areas in a mine shall be ventilated by a current of air
14 containing not less than 19.5% oxygen and not more than .5%
15 carbon dioxide and no harmful quantities of other noxious or
16 poisonous gases.

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

19 (1) The following requirements apply:

20 (i) The quantity of air traveling in the belt
21 conveyor shall be kept to the minimum quantity necessary
22 for effective ventilation by means of permanent stoppings
23 and regulators.

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

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

28 (2) If an operator proposes to use entries in common
29 with the belt conveyor entry, the operator must submit a plan
30 to and obtain approval by the department that addresses the

1 following criteria:

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

4 (ii) Stoppings and regulators are arranged to reduce
5 the quantity of air traveling in the belt and common
6 entries to a minimum for effective ventilation of the
7 belt and common entries and to provide an intake air
8 split as an escapeway to the main air current.

9 (iii) Fire protection is installed and maintained on
10 all belt conveyors in compliance with appropriate
11 standards.

12 (iv) There is an early warning fire detection system
13 and carbon monoxide (CO) or smoke sensors that meet the
14 requirements of 30 CFR § 75.351 (relating to atmospheric
15 monitoring systems). The spacing of the CO/smoke sensors
16 shall not exceed 1,000 feet. The belt air velocity shall
17 be a minimum of 50 fpm or CO/smoke sensor spacing shall
18 be reduced to provide an adequate alarm time not to
19 exceed 20 minutes. The CO/smoke sensors shall be set to
20 alarm at the lowest practicable setting and be positioned
21 in the ventilation current to provide the most effective
22 detection.

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

25 (vi) Development for common entries is designed to
26 be at a lower ventilation pressure than the main intake
27 escapeway.

28 (vii) If a condition develops that causes the belt
29 and common entries to be at a higher ventilation pressure
30 than the main intake escapeway, efforts are undertaken to

1 immediately correct the condition. If the condition
2 cannot practicably be corrected, the mine operator must
3 notify the department of the condition, the specific
4 cause, the area affected and the steps that will be taken
5 to maintain the pressure in the belt and common entries
6 at the lowest attainable level.

7 (viii) When the belt ventilation current travels
8 away from the working section, no ignition sources,
9 except equipment necessary to maintain the escapeway and
10 personnel carriers, shall be permitted in the intake
11 escapeway unless CO/smoke sensors that meet Federal fire
12 detection standards are installed in the intake
13 escapeway. Equipment operated in the intake escapeway
14 shall be equipped with an automatic fire suppression
15 system, or comply with 30 CFR § 75.380(f)(4) (relating to
16 escapeways; bituminous and lignite mines). CO detectors
17 shall give an audible alarm over the mine communication
18 system. The alarm shall indicate the conveyor belt flight
19 where the alarm occurred. Both visual and audible alarm
20 signals must automatically be provided at all affected
21 working sections and affected areas where mechanized
22 mining equipment is being installed or removed and on the
23 surface at a monitored location. Two-way underground
24 communications shall be maintained between the monitored
25 surface location and all underground working sections and
26 areas where mechanized mining equipment is being
27 installed or removed.

28 (ix) A copy of the mine's federally approved
29 firefighting and evacuation plan is included with the
30 plan.

1 (d) Actions to detect and respond to excess methane.--The
2 following actions are required to detect and respond to excess
3 methane:

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

7 (2) Working places and intake air courses.

8 (i) When 1% or more methane is present in a working
9 place or an intake air course, including an air course in
10 which a belt conveyor is located or in an area where
11 mechanized mining equipment is being installed or
12 removed:

13 (A) Except intrinsically safe atmospheric
14 monitoring systems (AMS), electrically powered
15 equipment in the affected area shall be deenergized
16 and other mechanized equipment shall be shut off.

17 (B) Changes or adjustments shall be made
18 immediately to the ventilation system to reduce the
19 concentration of methane to less than 1%.

20 (C) No other work shall be permitted in the
21 affected area until the methane concentration is less
22 than 1%.

23 (ii) When 1.5% or more methane is present in a
24 working place or an intake air course, including an air
25 course in which a belt conveyor is located or in an area
26 where mechanized mining equipment is being installed or
27 removed:

28 (A) Except for Federal or State mine inspectors,
29 the mine foreman or assistant mine foreman or
30 individuals authorized by the mine foreman or

1 assistant mine foreman, all individuals shall be
2 withdrawn from the affected area.

3 (B) Except for intrinsically safe AMS,
4 electrically powered equipment in the affected area
5 shall be disconnected at the power source.

6 (3) Return air split.

7 (i) When 1% or more methane is present in a return
8 air split between the last working place on a working
9 section and where that split of air meets another split
10 of air or the location at which the split is used to
11 ventilate seals or worked-out areas, changes or
12 adjustments shall be made immediately to the ventilation
13 system to reduce the concentration of methane in the
14 return air to less than 1%.

15 (ii) When 1.5% or more methane is present in a
16 return air split between the last working place on a
17 working section and where that split of air meets another
18 split of air or the location where the split is used to
19 ventilate seals or worked-out areas, except for Federal
20 or State mine inspectors, the mine foreman or assistant
21 mine foreman or individuals authorized by the mine
22 foreman or assistant mine foreman, all individuals shall
23 be withdrawn from the affected area.

24 (iii) Other than intrinsically safe AMS, equipment
25 in the affected area shall be deenergized, electric power
26 shall be disconnected at the power source and other
27 mechanized equipment shall be shut off.

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

1 (4) Return air split alternative.

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

3 (A) The quantity of air in the split ventilating
4 the active workings is at least 27,000 cubic feet per
5 minute in the last open crosscut or the quantity
6 specified in the approved ventilation plan, whichever
7 is greater.

8 (B) The methane content of the air in the split
9 is continuously monitored during mining operations by
10 an AMS that gives a visual and audible signal on the
11 working section when the methane in the return air
12 reaches 1.5% and the methane content is monitored as
13 specified in the approved ventilation plan.

14 (C) Rock dust is continuously applied with a
15 mechanical duster to the return air course during
16 coal production at a location in the air course
17 immediately outby the most inby monitoring point.

18 (ii) When 1.5% or more methane is present in a
19 return air split between a point in the return opposite
20 the section loading point and where that split of air
21 meets another split of air or where the split of air is
22 used to ventilate seals or worked-out areas:

23 (A) Changes or adjustments shall be made
24 immediately to the ventilation system to reduce the
25 concentration of methane in the return air less than
26 1.5%.

27 (B) Except for Federal or State mine inspectors,
28 the mine foreman or assistant mine foreman or
29 individuals authorized by the mine foreman or
30 assistant mine foreman, all individuals shall be

1 withdrawn from the affected area.

2 (C) Except for intrinsically safe AMS, equipment
3 in the affected area shall be deenergized, electric
4 power shall be disconnected at the power source and
5 other mechanized equipment shall be shut off.

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

9 ~~(e) Changes and adjustments in ventilation~~ BLEEDERS AND ←
10 OTHER RETURN AIR COURSES.--

11 (1) If either the concentration of methane in a bleeder
12 split of air immediately before the air in the split joins
13 another split of air, or in a return air course other than as
14 described in subsection (d)(3) and (4), contains methane gas
15 in an amount of 2% or greater as detected by an approved gas
16 detection device, changes or adjustments shall be made
17 immediately in the ventilation in the mine so that returning
18 air contains less than 2% of methane gas.

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

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

24 (1) A mine operator shall submit a detailed ventilation
25 plan and any addendums to the department for review and
26 comment. The mine operator shall review the plan with the
27 department and address concerns to the extent practicable.
28 The department shall submit any concern that is not addressed
29 to MSHA through comments to the plan. The mine operator shall
30 provide a copy of the plan to the department and the

1 representative of the miners, if applicable, ten days prior
2 to the submittal of the plan to MSHA.

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

6 (3) In the event of an unforeseen situation requiring
7 immediate action on a plan revision, the operator shall
8 submit the proposed revision to the department and the
9 representative of the miners when the proposed revision is
10 submitted to MSHA. The department shall work with the
11 operator to review and comment on the proposed plan revision
12 to MSHA as quickly as possible.

13 (4) Upon approval by MSHA, the plan is enforceable by
14 the department.

15 Section 231. Crosscuts and stoppings.

16 (a) Maximum distance.--

17 (1) The distance driven to establish ventilation
18 connections between entries or rooms shall not exceed 200
19 linear feet. Where adequate ventilation is provided, the
20 entry or room may be driven in conjunction with the new air
21 connection, provided that the distance to either face does
22 not exceed 200 linear feet when the new air connection is
23 established.

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

27 (3) Where adequate ventilation can be provided, the
28 department may give written permission to authorize a greater
29 distance.

30 (b) Closure of crosscuts.--Crosscuts between intakes and

1 return air courses shall be closed, except the one nearest the
2 face. Crosscuts between rooms shall be closed, where necessary
3 or when required by the department, to provide adequate
4 ventilation at the working face.

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

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

13 (e) Construction materials of stoppings.--A permanent
14 stopping shall be built of solid, substantial, incombustible
15 material, including, but not limited to, concrete, concrete
16 blocks, bricks, steel or tile, provided that, where physical
17 conditions exist because of caving that makes the use of
18 concrete, concrete blocks, brick, steel or tile impracticable,
19 timber laid longitudinally skin-to-skin or an approved
20 substitute may be used. A temporary stopping may be erected in
21 cut-throughs near the working face. A stopping shall be
22 reasonably airtight.

23 (f) Building and maintenance.--A permanent stopping or other
24 permanent ventilation control device shall be built and
25 maintained as follows:

26 (1) Between intake and return air courses, except
27 temporary controls may be used in rooms that are 600 feet or
28 less from the centerline of the entry from which the room was
29 developed, including where continuous face haulage systems
30 are used in the rooms. Unless otherwise approved in the

1 ventilation plan, the stopping or control shall be maintained
2 to and including the third connecting crosscut outby the
3 working face.

4 (2) To separate belt conveyor haulageways from intake
5 air courses when the air in the intake air courses is used to
6 provide air to active working places, EXCEPT temporary ←
7 ventilation controls may be used in rooms that are 600 feet
8 or less from the centerline of the entry from which the rooms
9 were developed, including where continuous face haulage
10 systems are used in the rooms. When continuous face haulage
11 systems are used, a permanent stopping or other device shall
12 be built and maintained to the outby most point of travel of
13 the dolly or 600 feet from the point of deepest penetration
14 in the conveyor belt entry, whichever distance is closer to
15 the point of deepest penetration, to separate the continuous
16 haulage entry from the intake entries.

17 Section 232. Overcasts and undercasts.

18 (a) Arrangement of ventilation.--Ventilation shall be so
19 arranged by means of air locks, overcasts or undercasts that the
20 passage of trips or individuals along the entries will not cause
21 interruptions of the air current. In face areas where it is
22 impracticable to install air locks, single doors may be used
23 with the permission of the department. An air lock shall be
24 ventilated sufficiently to prevent accumulations of methane in
25 it.

26 (b) Doors.--

27 (1) A door controlling ventilation shall be kept closed,
28 except when men or equipment are passing through the doorway.
29 Motor crews and other individuals who open a door shall see
30 that the door is closed before leaving it.

1 (2) It shall be unlawful for an individual to knowingly
2 leave a door or a check-curtain open.

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

5 (d) Construction materials.--Overcasts and undercasts shall
6 be constructed tightly of incombustible material, such as
7 masonry, concrete, concrete blocks or fire-resistant
8 prefabricated material of sufficient strength to withstand
9 possible falls from the roof. Overcasts and undercasts shall be
10 of ample area to pass the required quantity of air and shall be
11 kept clear of obstructions.

12 Section 233. Line brattice.

13 (a) General rule.--Substantially constructed line brattice
14 shall be used from the last open crosscut of an entry or room
15 when necessary or required by the department to provide adequate
16 ventilation for the workmen and to remove gases and explosive
17 fumes. When damaged by falls or otherwise, line brattice shall
18 be repaired promptly.

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

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

25 Section 234. Auxiliary blowers and fans.

26 (a) Procedure.--

27 (1) The operator of a mine who desires to use in the
28 mine an auxiliary blower or exhaust fan shall submit to the
29 department a ventilation plan showing the proposed use of the
30 auxiliary blower or exhaust fan.

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

3 (i) Approve the plan.

4 (ii) Request additional information.

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

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

9 (i) Powered by an approved motor when installed
10 underground.

11 (ii) Operated continuously while any work is being
12 performed in the area being ventilated by the blower or
13 fan.

14 (iii) Be so placed that recirculation of the air is
15 not possible.

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

19 Section 235. Unused and abandoned parts of mines.

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

24 Section 236. Sewage dumping prohibited.

25 If any individual shall construct or cause to be constructed
26 for use after the effective date of this section a sewer or
27 other method of drainage from a building or dwelling house for
28 the carrying of sewage, offal, refuse or other offensive matter
29 into any portion of an operating or abandoned mine, the
30 individual commits a misdemeanor of the third degree.

1 Section 237. Fans.

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

8 (b) Location.--Except as otherwise provided under subsection
9 (c), a main fan shall be:

10 (1) Located on the surface in fireproof housing offset
11 not less than 15 feet from the nearest side of the mine
12 opening.

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

15 (3) Operated from a separate power circuit.

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

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

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

24 All main fans shall be provided with pressure-recording gauges
25 or water gauges.

26 (d) Recordkeeping and inspections.--

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

28 (2) A daily inspection shall be made of all main fans
29 and connected machinery by a competent individual and a
30 record kept of the inspection in a book prescribed for that

1 purpose.

2 (e) Warning of fan interruption.--Approved facilities shall
3 be provided at a point or points under observation while men are
4 in the mine and shall give warning of an interruption to a fan.
5 Where such facilities are not provided, an attendant shall be
6 constantly kept on duty while individuals are working in the
7 mine.

8 Section 238. Measurement of methane.

9 The mine foreman or superintendent shall once each week
10 direct and see that the methane content of the ventilating
11 current or currents is determined by analyses or by an
12 instrument capable of accuracy to .1%. The samples or the
13 determinations shall be taken on the return end of the air
14 circuit or circuits just beyond the last working place, unless
15 otherwise directed by the department, and a correct report of
16 these determinations shall be promptly furnished to the
17 department. The determinations or samples shall be taken on days
18 when individuals are working and recorded in a book provided for
19 that purpose.

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

21 (a) Method of removal.--

22 (1) Dangerous accumulations of fine, dry coal dust shall
23 be removed from a mine or neutralized by the application of
24 rock dust, and all dry and dusty operating sections and
25 haulageways and the back entries for at least 1,000 feet
26 outby the first active working place in each operating
27 section shall be kept watered down, rock dusted or dust
28 allayed by such other methods as may be approved by the
29 department.

30 (2) A mine or location in a mine that is too wet or too

1 high in incombustible content to initiate or propagate a coal
2 dust ignition need not be rock dusted during the time any of
3 those conditions prevail.

4 (3) Coal dust and other dust in suspension in unusual
5 quantities shall be allayed by sprinkling or other dust
6 allaying or collecting devices.

7 (b) Specifications.--

8 (1) In a dry and dusty mine or section thereof, rock
9 dust shall be applied and maintained upon the roof, floor and
10 sides of all operating sections, haulageways and parallel
11 entries connected thereto by open crosscuts. Back entries
12 shall be rock dusted for at least 1,000 feet out by the
13 junction with the first active working place.

14 (2) Rock dust shall be so applied to include the last
15 open crosscut of rooms and entries and to within 40 feet of
16 the faces. In mines where mining is done by continuous-type
17 mining machinery, the distances from the face to which rock
18 dust shall be applied shall be the mining distance for one
19 shift if:

20 (i) The active working place shall be kept from damp
21 to wet.

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

26 (3) Rock dust shall be maintained in such quantity that
27 the incombustible content of the mine dust shall not be less
28 than 65%.

29 (c) Composition of rock dust.--Rock dust shall not contain
30 more than 5% by volume of quartz or free silica particles and

1 shall be pulverized so that 100% will pass through a 20-mesh
2 screen and 70% or more will pass through a 200-mesh screen.

3 Section 240. Instruction of employees and examination of
4 working areas.

5 (a) General rule.--The mine foreman or assistant mine
6 foreman shall ascertain that all workmen are trained in the
7 proper methods of testing roof, face and ribs. The mine foreman
8 shall designate the tool or tools to be used for testing.
9 Employees whose work exposes them to hazards or falls of roof
10 and coal shall thoroughly test the roof, face and ribs before
11 starting to work or before starting a machine, and frequently
12 thereafter.

13 (b) Examination for date marks.--A miner shall examine his
14 place to determine whether the mine examiner has left the date
15 marks indicating his examination thereof. If date marks cannot
16 be found, the miner shall notify the mine foreman or assistant
17 mine foreman of that fact.

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

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

22 (2) If roof, face or rib conditions are found to be
23 unsafe and normal taking down or supporting practices cannot
24 correct the unsafe condition, the place shall be vacated and
25 guarded or a danger sign erected to prevent unauthorized
26 entrance and the certified mine official in charge promptly
27 shall be notified. Only individuals capable of correcting the
28 dangerous condition may be delegated to do such work.

29 (3) The certified mine official in charge shall examine
30 for unsafe conditions and the roof, faces, ribs and timbers

1 or supports of all working places each time they visit a
2 place. Unsafe conditions found shall be corrected promptly.
3 All employees shall notify the mine foreman or assistant mine
4 foreman of an unsafe condition in the mine when the condition
5 is known to them.

6 Section 241. Roof support.

7 (a) General rule.--The roof in an underground area shall be
8 supported as necessary for the protection of the employees and
9 equipment. A roof control plan suitable to the roof conditions
10 of each mine or part of a mine shall be adopted and complied
11 with by the operator. The department shall be notified of the
12 adoption of the plan of roof support, shall review the plan and:

- 13 (1) approve it;
14 (2) request additional information; or
15 (3) disapprove the plan and state in writing its reason
16 for the disapproval.

17 (b) Roof support plans to be posted.--Workmen whose work
18 involves roof support shall be informed of approved roof support
19 plans and the plans shall be posted. Additional roof supports
20 shall be used when and where necessary.

21 (c) Periodic revision and update of roof control plan.--
22 Every mine operator shall revise and update the roof control
23 plan every six months or more frequently if required to do so by
24 the department. A copy of the plan shall be provided to the
25 representative of the miners ten days prior to submitting it to
26 the department for review and comment.

27 Section 242. Authorized explosives.

28 Permissible explosives, approved breaking devices or approved
29 blasting devices shall be used in underground mines.

30 Section 243. (Reserved).

1 Section 244. Underground storage of explosives.

2 (a) Placement.--Explosives and detonators stored underground
3 shall be:

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

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

9 (b) Separation.--If not kept in separate boxes or magazines
10 not less than five feet apart, the explosives and detonators may
11 be kept in the same box or magazine if separated by at least a
12 four-inch hardwood partition or the equivalent. The boxes or
13 magazines shall be kept at least 300 feet from the faces and out
14 of the direct line of blasting and shall be installed outby the
15 last permanent stopping and on intake air.

16 Section 245. Preparation of shots, blasting practices and
17 multiple shooting.

18 (a) Requirements.--

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

21 (2) Only electric detonators of proper strength fired
22 with approved shot-firing units shall be used, and drillholes
23 shall be solidly stemmed with at least 24 inches of
24 incombustible material or at least one-half of the length of
25 the hole shall be solidly stemmed if the hole is less than
26 four feet in depth unless other approved stemming devices or
27 methods are used.

28 (3) Drillholes shall be of ample size and shall not be
29 drilled beyond the limits of the cut, and, as far as
30 practicable, cuttings and dust shall be cleaned from the

1 holes before the charge is inserted. Charges of explosives
2 exceeding one and one-half pounds shall be used only if
3 drillholes are six feet or more in depth.

4 (4) Ample warning shall be given before shots are fired,
5 and care shall be taken to determine that all individuals are
6 in the clear before firing. Individuals shall be removed from
7 adjoining areas and other areas when there is danger of shots
8 blowing through.

9 (5) No shots shall be fired:

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

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

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

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

21 (c) Prohibitions.--

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

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

28 (3) No solid shooting shall be permitted without
29 approval from the department. Where solid shooting is
30 practiced, blasting holes shall be stemmed the full length of

1 the hole.

2 (d) Blasting and shooting cables.--

3 (1) Blasting cables shall be well-insulated and shall be
4 at least 125 feet in length to permit individuals authorized
5 to fire shots to get in a safe place out of the line of
6 blasting.

7 (2) Shooting cables shall be kept away from power wires
8 and all other sources of electric current, connected to the
9 leg wires by the individual who fires the shot, staggered as
10 to length or well-separated at the detonator leg wires and
11 shunted at the battery end until ready to connect to the
12 blasting unit.

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

15 Section 246. Transportation of explosives.

16 (a) Construction of containers.--

17 (1) Individual containers used to carry permissible
18 explosives or detonators shall be constructed of substantial,
19 nonconductive materials approved by the department, kept
20 closed and maintained in good condition. When explosives or
21 detonators are transported underground in cars moved by means
22 of powered haulage equipment, they shall be in cars having a
23 substantial covering or in special substantially built
24 covered containers used specifically for transporting
25 detonators or explosives.

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

29 (b) Prohibitions.--

30 (1) Neither explosives nor detonators shall be

1 transported on flight or shaking conveyors, mechanical
2 loading machines, locomotives, scrapers, cutting machines,
3 drill trucks or any self-propelled mobile equipment.

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

7 (c) Separation of explosives and detonators.--If explosives
8 and detonators are transported in the same explosives car or in
9 the same special container, they shall be separated by at least
10 four inches of hardwood partition or the equivalent. The bodies
11 of the cars or containers shall be constructed or lined with
12 nonconductive material.

13 Section 247. Electrical shot-firing.

14 Electricity from any grounded circuit shall not be used for
15 firing shots.

16 Section 248. General shot-firing rules.

17 (a) Ignited gas.--When gas is ignited by a blast or a fire
18 occurs, the shot-firer shall immediately extinguish it, if
19 possible, and if unable to do so shall immediately notify the
20 mine foreman of the fact and warn other individuals in the
21 vicinity who might be endangered.

22 (b) Shot-firer to provide notice to others.--When a shot-
23 firer is about to fire a blast, he shall notify all individuals
24 who may be endangered and shall give sufficient alarm so that
25 any individual approaching may be warned of the danger.

26 (c) Construction of charging and tamping tools.--All
27 charging and tamping tools shall be constructed of nonsparking
28 materials.

29 (d) Disconnection from electricity.--Immediately after the
30 firing of a shot, the firing leads shall be disconnected from

1 the supply or source of electricity and shunted.

2 (e) Preconditions to firing machine or battery.--No firing
3 machine or battery shall be connected to the shot-firing leads
4 unless:

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

7 (2) All individuals have been moved to a place of
8 safety.

9 (3) No individual other than the shot-firer has made the
10 connection.

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

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

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

20 Section 249. Hoisting equipment and operations.

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

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

24 (i) A telephone or other means of communication from
25 the top to the bottom and intermediate landings of the
26 shaft.

27 (ii) A standard means of signaling.

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

30 (iv) A sufficient cover on every cage used for

1 lowering or hoisting individuals.

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

4 (vi) An adequate brake on the drum of every machine
5 used to lower or hoist individuals in the shaft.

6 (2) The operator shall have the machinery used for
7 lowering and hoisting individuals into or out of the mine
8 kept in safe condition and equipped with a reliable
9 indicator. Cages and elevators shall be inspected once in
10 each 24 hours by a competent individual of the company or by
11 a manufacturer's representative and a safety catch test made
12 every two months, a record kept thereof and a copy sent to
13 the department.

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

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

23 (4) There shall be cut out around the side of the
24 hoisting shaft, or driven through the solid strata at the
25 bottom thereof, a travelingway not less than five feet high
26 and three feet wide to enable an individual to pass the shaft
27 in going from one side to the other without passing over or
28 under the cage or other hoisting apparatus.

29 (5) Positive stop blocks or derails shall be placed near
30 the top and bottom, at all intermediate landings of slopes

1 and surface inclines and at approaches to all shaft landings.

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

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

9 (b) Duties of mine foreman.--

10 (1) When hoisting or lowering of individuals occurs
11 during darkness, at any mine operated by shaft, the mine
12 foreman shall provide and maintain, at the shaft mouth, a
13 light of stationary character sufficient to show the landing
14 and all surrounding objects distinctly and sufficient light
15 of a stationary character shall be located at the bottom of
16 the shaft so that individuals going to the bottom may clearly
17 discern the cages, elevators and other objects contiguous
18 thereto.

19 (2) The mine foreman shall see that:

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

23 (ii) No mine cars, either empty or loaded, are
24 hoisted or lowered on cages while individuals are being
25 lowered or hoisted.

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

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

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

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

10 (3) All ropes, links and chains shall be carefully
11 examined at least once every 24 hours by a competent
12 individual delegated for that purpose by the superintendent.

13 (4) Any defect found from the examination, by which life
14 and limb may be endangered, shall be reported at once in
15 writing to the superintendent, who shall immediately proceed
16 to remedy the defect. Until that is accomplished, the
17 superintendent shall prohibit any individual from being
18 lowered into or hoisted from the mine by the defective
19 apparatus.

20 (5) The individual making the examination shall keep a
21 daily record of each inspection, in ink, in a book kept at
22 the mine office for that purpose.

23 (d) Cage requirements.--

24 (1) (i) The operator or superintendent shall provide
25 every cage used for lowering or hoisting individuals with
26 handrails at sides or overhead or additional suitable
27 devices and with a bar or gate at ends.

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

30 (2) The ropes shall be securely attached to the sides of

1 the drum of every machine that is used for lowering and
2 hoisting individuals or material into and out of the mine,
3 and the flanges shall have a clearance of not less than four
4 inches when the whole of the rope is wound on the drum.

5 (e) Signaling system.--

6 (1) In all shafts and slopes where individuals, coal and
7 other materials are hoisted by machinery, a system of
8 signaling approved by the department shall be in effect. The
9 following code of signals shall be used:

10 (i) One signal to hoist the car or cage.

11 (ii) One signal to stop the car or cage when in
12 motion.

13 (iii) Two signals to lower the car or cage.

14 (iv) Three signals to hoist individuals.

15 (2) The hoist operator shall signal back when ready,
16 after which the individual shall get on the car or cage and
17 then one signal shall be given to hoist.

18 Section 250. Bottom person.

19 (a) Duties.--At every shaft or slope where individuals are
20 lowered into or hoisted from the mine, a bottom person, who
21 shall be over 21 years of age, shall be designated by the mine
22 foreman. The bottom person shall:

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

25 (2) Personally attend to the signals and see that the
26 provisions of this act in respect to hoisting individuals in
27 shafts or slopes are complied with.

28 (3) Not allow any tools to be placed on the same cage
29 with individuals or on either cage when they are being
30 hoisted out of the mine, except for the purpose of repairing

1 the shaft or machinery in the shaft. Individuals shall place
2 their tools in containers or cars provided for that purpose,
3 which containers or cars shall be hoisted before or after the
4 individuals have been hoisted.

5 (4) Immediately inform the mine foreman of any
6 violation.

7 (5) Not attempt to withdraw the car until the cage comes
8 to a rest.

9 (6) When putting the full car on the cage, see that the
10 springs or catches are properly adjusted so as to keep the
11 car in its proper place, before giving the signal to the
12 hoist operator.

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

15 Section 251. Number of individuals to be hoisted.

16 (a) General rule.--No greater number of individuals shall be
17 lowered or hoisted at any one time in any shaft or slope than is
18 permitted by the department. Whenever the number of individuals
19 returning from work shall arrive at the bottom of the shaft or
20 slope in which individuals are regularly hoisted or lowered,
21 they shall be promptly furnished with an empty cage, car or
22 elevator and be hoisted to the surface. In cases of emergency, a
23 lesser number than permitted shall be promptly hoisted.

24 (b) Posting of notice.--A notice of the number permitted to
25 be lowered or hoisted at any one time shall be posted by the
26 operator or superintendent in conspicuous places at the top and
27 bottom of the shaft, and the cage or cages or other safe means
28 of egress shall be available at all times for the individuals
29 employed in any mine that has no second outlet available.

30 Section 252. Top person.

1 (a) Duties.--At every shaft or slope where individuals are
2 lowered into or hoisted from a mine, a top person or trip rider,
3 who shall be over 21 years of age, shall be designated by the
4 superintendent. The top person shall:

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

7 (2) Personally attend to the signals and see that the
8 provisions of this act in respect to lowering and hoisting
9 individuals in shafts or slopes are complied with. The trip
10 rider may also perform this duty.

11 (3) Not allow any tools to be placed on the same cage
12 with persons or on either cage when persons are being lowered
13 into the mine, except for the purpose of repairing the shaft
14 or the machinery in the shaft. Individuals shall place their
15 tools in containers or cars provided for that purpose, which
16 containers or cars shall be lowered before or after the
17 individuals have been lowered.

18 (4) If located on a slope or incline plane, close the
19 safety block or other device as soon as the cars have reached
20 the landing in order to prevent any loose or runaway cars
21 from descending the slope or incline plane, and in no case
22 shall the safety block or other device be withdrawn until the
23 cars are coupled to the rope or chain and the proper signal
24 given.

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

29 (6) Ring the alarm bell in case of an accident and, when
30 necessary, immediately set free the drop logs or safety

1 switch to act.

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

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

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

8 (c) Reporting of individuals crowding or pushing.--Any
9 individual crowding or pushing to get on or off a cage, elevator
10 or car, thereby endangering life, shall be reported by any
11 individual to the superintendent, who in turn shall report the
12 incident to the department for appropriate action.

13 Section 253. Use of competent hoist operators.

14 (a) Prohibitions.--

15 (1) No operator or superintendent of any bituminous coal
16 mine worked by shaft, slope or incline shall place in charge
17 of any hoist used for lowering or hoisting individuals in the
18 mine hoisting operators who are under 21 years of age.

19 (2) No hoist operator in charge of such machinery shall
20 allow any individual, except as may be designated for this
21 purpose by the operator or superintendent, to interfere with
22 any part of the machinery.

23 (3) No individual shall interfere with or intimidate the
24 hoist operator in the discharge of the duties of the hoist
25 operators.

26 (4) No individual shall ride on a loaded cage or car in
27 any shaft, slope or incline. This paragraph shall not be
28 construed to prevent a trip rider from riding during the
29 performance of his authorized duties.

30 (b) Special precautions.--When individuals are being lowered

1 or raised, the hoist operator shall take special precautions to
2 keep the hoist well under control.

3 Section 254. Clearances and shelter holes.

4 (a) Specifications for clearances.--

5 (1) Track switches, except room and entry development
6 switches, shall be provided with properly installed throws,
7 bridle bars and guard rails.

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

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

19 (4) Ample clearance shall be provided at all points
20 where supplies are loaded or unloaded along haulage roads or
21 conveyors.

22 (b) Specifications for shelter holes.--

23 (1) (i) Shelter holes shall be provided on the
24 clearance side along designated travelways, which are
25 also used as haulage entries, other than belt conveyor
26 haulage entries.

27 (ii) Subparagraph (i) shall not apply to face area
28 or room haulageways.

29 (2) Shelter holes shall be spaced not more than 105 feet
30 apart unless otherwise approved by the department. Shelter

1 holes shall be at least five feet in depth, not more than
2 four feet in width, level with the roadway and at least four
3 feet in height.

4 (3) Crosscuts may be used as shelter holes even though
5 their width exceeds four feet and they shall be kept clear
6 for a depth of at least six feet.

7 (4) Shelter holes shall be kept clear of refuse and
8 other obstructions.

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

11 Section 255. Underground haulage equipment.

12 (a) Maintenance.--Underground haulage equipment shall be
13 maintained in a safe operating condition. An audible warning
14 device and headlights shall be provided on each locomotive and
15 each shuttle car. Rerailing devices shall be provided on all
16 locomotives.

17 (b) Warnings to be sounded.--Operators of haulage equipment
18 shall sound a warning on approaching curves, intersections,
19 doors, curtains, manway crossings or any other location where
20 individuals are likely to travel.

21 Section 256. Operation of haulage equipment.

22 (a) Duties of motormen and trip riders.--Motormen and trip
23 riders shall:

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

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

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

30 (b) Prohibitions.--

1 (1) No individual shall ride on locomotives unless
2 granted permission by the mine foreman.

3 (2) No individual shall ride on any loaded car or on the
4 outside of any car.

5 (3) No motorman or trip rider shall get on or off a
6 locomotive while it is in motion.

7 (4) No individual shall fly or run switches or ride on
8 the front bumper of a car. Back poling shall be permitted
9 only to the nearest turning point or when going up extremely
10 steep grades and then only cautiously and at slow speed. The
11 operator of a shuttle car shall face in the direction of
12 travel except during the loading operation when he may face
13 the loading machine.

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

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

20 (2) Inspect locomotives and report any mechanical
21 defects found to the proper mine official prior to operation.
22 The locomotive may not be operated until the defects are
23 corrected.

24 (3) If there is reason to leave a trip, see that the
25 trip is left in a safe place, secure from cars, locomotives
26 or other dangers and where it will not endanger the operators
27 of other trips or other individuals.

28 (d) System of signals, methods or devices.--A system of
29 signals, methods or devices shall be used to provide protection
30 for trips, locomotives and other equipment coming out onto

1 tracks used by other equipment. Where a dispatcher is employed
2 to control trips, traffic shall move only at his direction.

3 Section 257. Trip rider and bottom individual on rope haulage.

4 (a) Duties of trip rider.--The trip rider shall see that all
5 hitchings are safe for use and that the trip is coupled before
6 starting. If at any time the trip rider sees any material defect
7 in the rope, link or chain, he shall immediately remedy the
8 defect or, if he is unable to do so, shall detain the trip and
9 report the matter to the mine foreman or the assistant.

10 (b) Duties of bottom individual.--The bottom individual at
11 the bottom of any slope shall see that cars are properly coupled
12 to a rope or chain and that the safety catch or other device is
13 properly attached to the rear car before giving the signal to
14 the hoisting operator. The bottom individual shall not allow any
15 individual to ride up the slope other than the trip rider.

16 Section 258. Transportation of individuals.

17 (a) General rule.--The speed of mantrips shall be governed
18 by the mine foreman, and mantrips shall be operated at safe
19 speeds consistent with the condition of roads and type of
20 equipment used. MANTRIPS OR OTHER ADEQUATE TRANSPORTATION, TO BE ←
21 USED EXCLUSIVELY FOR THE MOVEMENT OF WORKERS IN AND OUT OF THE
22 MINE, SHALL BE MAINTAINED AT ALL TIMES WITHIN 500 FEET OF THE
23 WORKING FACES IN ACTIVE SECTIONS. WHERE TRACK MOUNTED MANTRIPS
24 ARE UTILIZED THE TRACK SHALL BE MAINTAINED WITHIN 500 FEET OF
25 THE WORKING FACE, EXCEPT WHEN ANY SECTION IS FULLY DEVELOPED AND
26 BEING PREPARED FOR RETREATING, THE DISTANCE OF THE MANTRIP MAY
27 BE EXTENDED TO 800 FEET IF A VEHICLE WITH RUBBER TIRES IS
28 READILY AVAILABLE IN THE WORKING SECTION. EACH MANTRIP SHALL BE
29 PROVIDED WITH AN AUDIBLE WARNING DEVICE, A SEALED-BEAM
30 HEADLIGHT, OR ITS EQUIVALENT, ON EACH END, AND REFLECTORS ON

1 BOTH ENDS AND SIDES. THE DISTANCE FROM THE NEAREST FACE TO THE
2 MANTRIP SHALL NOT EXCEED 1,000 FEET. Each mantrip shall be under
3 the charge of a competent individual designated by the mine
4 foreman or the assistant mine foreman and operated independently
5 of any loaded trip of coal or other heavy material, but may
6 transport tools, small machine parts and supplies.

7 (b) Prohibition.--No individual shall:

8 (1) Ride under the trolley wire unless suitable covered
9 mantrips are used.

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

13 (c) Adequate clearance and proper illumination.--Adequate
14 clearance and proper illumination shall be provided where
15 individuals load or unload mantrips.

16 (d) Adequate precautions.--Adequate precautions shall be
17 taken so that moving trips and standing cars are subject to
18 proper control by derauling or braking devices.

19 Section 259. Conveyor belts and conveyor equipment.

20 (a) Specifications.--

21 (1) Except as otherwise provided under paragraph (2),
22 all conveyor entries shall be provided with a minimum width
23 and height of not less than four feet for travel and, in
24 conveyor entries in which track is installed, the minimum
25 amount of clearance width shall not be less than two and one-
26 half feet, which clearance width shall be continuous
27 throughout the entry.

28 (2) In lieu of maintaining four feet of height in
29 conveyor entries, a minimum height of three feet and a
30 minimum width of four feet may be maintained, provided the

1 operator furnishes a mode of conveyance for men and material
2 other than on the conveyor. All such travel space and
3 clearance space shall be kept free of all forms of
4 obstruction underfoot and from electric wires and electric
5 cables. A space of not less than four feet in width shall be
6 provided for travel from the immediate entrance of each
7 working place to the face thereof, which space shall be kept
8 free of all forms of obstruction underfoot and free from
9 electric wires and electric cables.

10 (b) Cross points.--At all points where individuals must of
11 necessity cross conveyors, the conveyor at the point where the
12 crossing is made shall be so arranged that individuals can cross
13 safely and conveniently without coming into contact with the
14 conveyor.

15 (c) Automatic stop control.--Conveyors shall be equipped
16 with an automatic control that will stop the driving motor in
17 case of slipping on the drive pulley, and the control shall be
18 tested each operating shift to ascertain that it is in good
19 operating condition.

20 (d) Electric wires and cables.--All electric wires or
21 electric cables in completed portions of conveyor entries shall
22 be carried on insulators.

23 (e) Control lines.--Control lines shall be installed the
24 full length of the belt.

25 (f) Point type heat sensors.--Point type heat sensors shall
26 not be used as the primary type of fire sensors in any mine
27 opened more than six months after the effective date of this
28 section.

29 Section 260. Blowtorches and fuel.

30 No blowtorch may be used in a mine.

1 Section 261. Oxygen and gas containers.

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

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

8 Section 262. Transportation of oxygen and gas.

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

14 (b) Marking of empty tanks and cylinders.--Empty oxygen and
15 gas tanks or cylinders shall be marked "empty" and shall be
16 removed from the mine promptly in proper containers. The valve
17 protection caps shall be placed on all tanks or cylinders for
18 which caps are provided when not in use and when being
19 transported. No oxygen and gas tanks or cylinders shall be
20 transported with the hoses and gauges attached.

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

23 Section 263. Storage of oxygen and gas.

24 (a) General rule.--All oxygen and gas tanks or cylinders
25 shall be properly secured and protected against possible damage
26 when stored in and about bituminous coal mines. When oxygen and
27 gas tanks or cylinders are stored in underground shops or
28 surface structures, they shall be protected from damage by
29 falling material and secured in an upright position. Not more
30 than a one-week supply of oxygen or gas shall be stored in any

1 underground or surface shop. This quantity shall be determined
2 in agreement with the department.

3 (b) Valves and hoses.--The valves on oxygen and gas tanks or
4 cylinders shall be closed. The hoses shall be removed when not
5 in actual use, except in a properly ventilated and protected
6 underground machine shop or surface structure. Valves on empty
7 tanks or cylinders shall be kept closed.

8 Section 264. Use of oxygen and gas.

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

11 (b) Training and clothing.--An individual assigned to use
12 and work with oxygen or gas shall be properly trained and
13 skilled in its use and shall be fully conversant with the danger
14 of its misuse. Any individual using oxygen or gas in and about a
15 bituminous coal mine shall be provided with goggles or shields,
16 and the clothing of such individual shall be reasonably free of
17 oil and grease.

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

22 (d) Maintenance.--The oxygen or gas hose lines, gauges and
23 similar equipment shall be maintained in safe operating
24 condition. Defective tanks, cylinders, gauges, hose lines,
25 torches and similar equipment shall be taken out of service upon
26 discovery and shall not be put into use until corrected and made
27 safe.

28 (e) Multiple units permitted.--

29 (1) Multiple units consisting of one gas tank and one
30 oxygen tank are permitted in a working section when

1 necessary. When not in use, the tanks shall be removed to a
2 point outby the last open crosscut and kept away from power
3 wires and electric equipment. A proper storage area must be
4 provided.

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

7 (f) Pressure.--Neither oxygen nor gas shall be used under
8 direct pressure from tanks or cylinders but must be used under
9 reduced pressure not exceeding pressures recommended by the
10 manufacturer of the oxygen or gas.

11 (g) Working sections.--Oxygen or gas cutting, burning or
12 welding shall be done in fresh intake air only in working
13 sections. The area where the work is to be done shall be
14 examined by a mine official before, during and after the welding
15 or burning to assure that no fire or other danger exists. In the
16 event the equipment to be repaired cannot be removed from the
17 face area to outby the last open crosscut, the following shall
18 be satisfied:

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

21 (2) An approved gas detection device shall be used by a
22 mine official for gas detection during the cutting and
23 welding operation.

24 (3) No individual shall be permitted inby the point in
25 the working section where cutting or welding operations are
26 being performed.

27 (h) Safety requirements.--

28 (1) When oxygen or gas cutting, burning or welding is
29 being done, a suitable fire extinguisher shall be kept on
30 hand and ready for use. In dry or dusty locations, a water

1 line and tap under pressure or an adequate supply of rock
2 dust shall be available in the area where such work is
3 performed.

4 (2) Neither oxygen nor gas shall be used near oil,
5 grease or fine coal dust unless the oil, grease or fine coal
6 dust is adequately cleaned or made inert by the use of rock
7 dust or the area where the work is to be done is thoroughly
8 wetted.

9 (i) Intake air activity.--Oxygen or gas cutting, burning or
10 welding shall be done in intake air only. Underground shops
11 where oxygen gas burning occurs shall be on a separate split of
12 air.

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

16 (k) Torch-tip cleaners.--An efficient and proper type torch-
17 tip cleaner shall be kept on hand and used to maintain each
18 torch in safe operating condition. A suitable wrench designed
19 for oxygen and gas tanks shall be in the possession of the
20 individual authorized to use the equipment.

21 (l) Manifolding cylinders.--The practice known as
22 "manifolding cylinders" shall be permitted if the installation
23 is solidly grounded and operation thereof is in accordance with
24 recognized safe procedures.

25 (m) Protection from power lines.--Oxygen and gas tanks or
26 cylinders shall be protected from power lines or energized
27 electrical machinery or equipment, and such tanks or cylinders
28 shall be kept away from the place where the cutting is being
29 done in order to prevent damage or accident and to prevent heat
30 from affecting such tanks or cylinders.

1 Section 265. Duties of individuals subject to this act.

2 It shall be the duty of each operator, superintendent, mine
3 foreman, assistant mine foreman and mine examiners and other
4 officials to comply with and to see that others comply with the
5 provisions of this act. It shall be the duty of all employees to
6 comply with this act and to cooperate with management and the
7 department in carrying out its provisions. Reasonable rules and
8 regulations of an operator for the protection of employees and
9 preservation of property that are in harmony with the provisions
10 of this act and other applicable laws shall be complied with.

11 Section 266. Protective clothing.

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

16 (b) Snug-fitting clothing.--Employees engaged in haulage
17 operations and all other individuals employed around moving
18 equipment on the surface and underground shall wear snug-fitting
19 clothing.

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

23 (d) Protective hats.--All individuals shall wear protective
24 hats while underground and while on the surface where falling
25 objects may cause injury.

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

29 Section 267. Checking systems.

30 Each bituminous coal mine shall have a check-in and check-out

1 system that will provide positive identification of every
2 individual underground. An accurate record of the individuals in
3 the mine, which shall consist of a written record, a check
4 board, a time clock record or another approved method shall be
5 kept on the surface in a place that will not be affected in the
6 event of an emergency. The record shall bear a number or name
7 identical to the identification check carried by or fastened to
8 the belt of all individuals going underground.

9 Section 268. Prohibitions regarding endangering security of
10 mine.

11 (a) Prohibitions regarding ventilation.--No miner, worker or
12 other individual shall knowingly damage, obstruct or remove any
13 shaft, lamp, instrument, air course or other equipment, obstruct
14 or disrupt any portion of the mine's ventilation, carry open
15 lights, open a door closed for directing ventilation and not
16 close it again or enter any part of a mine that has been
17 dangered off. No individual shall deface, pull down or destroy
18 any notice boards, record books or mine maps.

19 (b) Smoking prohibition.--Open lights, smoking and smokers'
20 articles, including matches, are prohibited in bituminous coal
21 mines. No individual shall at any time enter a mine with or
22 carry into the mine any matches, pipes, cigars, cigarettes or
23 any device for making lights or fire not approved. In all mines
24 the operator may search or cause to be searched any individual,
25 including his clothing and material belongings, entering or
26 about to enter the mine, or inside the mine, to prevent such
27 individual from taking or carrying into the mine any of the
28 articles prohibited by this subsection.

29 (c) Intoxicated individuals.--No individual under the
30 influence of alcohol or a controlled substance shall enter into

1 or loiter about any mine. No individual shall have in his
2 possession alcohol or controlled substances while in or about
3 the mine premises. This provision shall not apply to the use of
4 medication as prescribed for that individual.

5 Section 269. Responsibility for care and maintenance of
6 equipment.

7 Equipment operators shall exercise reasonable care in the
8 operation of the equipment entrusted to them and shall promptly
9 report defects known to them.

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

11 Individuals exposed for short periods to gas, dust, fume and
12 mist inhalation hazards shall wear approved respiratory
13 equipment. When exposure is for prolonged periods, dust shall be
14 controlled by the use of approved dust collectors or by water or
15 other approved methods.

16 Section 271. Safeguards for mechanical equipment.

17 (a) Locking.--The cutting devices of mining machines shall
18 be locked securely by mechanical means or electrical interlocks
19 while the machines are parked or being trammed. Loading machines
20 shall not be trammed with loading arms in motion except when
21 loading materials.

22 (b) Guarding.--Belt chain or rope drives and the moving
23 parts of machinery which are within seven feet of the floor,
24 ground or platform level, unless isolated, shall be guarded
25 adequately. Repair pits shall be kept covered or guarded at all
26 times when not in use. Machinery shall not be lubricated or
27 repaired while in motion, except where safe remote lubricating
28 devices are used. Machinery shall not be started until the
29 individual lubricating or repairing it has given a clear signal.
30 Guards that have been removed shall be replaced before the

1 machinery is again put into use. Provision shall be made to
2 prevent accumulation of spilled lubricants.

3 (c) Grinders.--Mechanically operated grinding wheels shall
4 be equipped with safety washers and substantial retaining hoods
5 covering two-thirds of the circumference of the wheel, and
6 goggles or eye shields shall be used. Where stationary grinders
7 are used, a tool rest shall be provided and the clearance
8 between the wheel and tool rest shall not exceed one thirty-
9 second of an inch.

10 Section 272. First aid equipment.

11 In every bituminous coal mine where individuals are employed
12 underground and in every active section of the mine, it shall be
13 the duty of the operator or superintendent of the mine to keep
14 on hand properly constructed stretchers, woolen and waterproof
15 blankets and all requisites for use in case of emergency. No
16 first aid material shall be removed or diverted without
17 authorization, except in case of accident in or about the mine.
18 It shall be the duty of the operator or superintendent to have
19 adequate ambulance service available promptly in the event of
20 injury to any employee.

21 Section 273. Fire protection.

22 (a) Firefighting equipment.--Each mine shall be provided
23 with suitable firefighting equipment adapted for the size and
24 conditions of the mine.

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

27 (1) Waterlines shall be capable of delivering 50 gallons
28 of water per minute at a nozzle pressure of 50 pounds per
29 square inch.

30 (2) A portable water car shall be of at least 1,000

1 gallons capacity and shall have at least 300 feet of fire
2 hose with nozzles. A portable water car shall be capable of
3 providing a flow through the hose of 50 gallons of water per
4 minute at a nozzle pressure of 50 pounds per square inch.

5 (3) A portable chemical car shall carry enough chemicals
6 to provide a fire extinguishing capacity equivalent to that
7 of a portable water car.

8 (4) A portable foam-generating machine or device shall
9 have facilities and equipment for supplying the machine with
10 30 gallons of water per minute at 30 pounds per square inch
11 for a period of 35 minutes.

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

13 (i) A multipurpose dry chemical type containing a
14 nominal weight of five pounds of dry powder and enough
15 expellant to apply the powder.

16 (ii) A foam-producing type containing at least 2.5
17 gallons of foam-producing liquids and enough expellant to
18 supply the foam.

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

24 (7) The fire hose shall be lined with a flame-resistant
25 material. The cover shall be polyester or other material with
26 flame-spread qualities and mildew resistance equal or
27 superior to polyester. The bursting pressure shall be at
28 least four times the water pressure at the valve to the hose
29 inlet with the valve closed, and the maximum water pressure
30 in the hose nozzle shall not exceed 100 pounds per square

1 inch.

2 (c) Working sections.--

3 (1) Each working section of a mine producing 300 tons or
4 more per shift shall be provided with two portable fire
5 extinguishers and 240 pounds of rock dust in bags or other
6 suitable containers. Water lines shall extend to each section
7 loading point and be equipped with enough fire hose to reach
8 each working face unless the section loading point is
9 provided with one of the following:

10 (i) two portable water cars;

11 (ii) two portable chemical cars; or

12 (iii) one portable water car or one portable
13 chemical car, and either:

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

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

18 (2) Each working section of a mine producing less than
19 300 tons of coal per shift shall be provided with:

20 (i) Two portable fire extinguishers.

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

23 (iii) At least 500 gallons of water and at least
24 three pails of ten-quart capacity. In lieu of the 500-
25 gallon water supply, a water line with sufficient hose to
26 reach the working places, a portable water car with a
27 500-gallon capacity or a portable all-purpose dry powder
28 chemical car of at least 125 pounds capacity may be
29 provided.

30 (d) Belt conveyors.--In all mines, water lines shall be

1 installed parallel to the entire length of belt conveyors and
2 shall be equipped with fire hose outlets with valves at 300-foot
3 intervals along each belt conveyor and at tailpieces. At least
4 500 feet of fire hose with fittings suitable for connection with
5 each belt conveyor water line system shall be stored at
6 strategic locations along the belt conveyor. Water lines may be
7 installed in entries adjacent to the conveyor entry belt as long
8 as the outlets project into the belt conveyor entry.

9 (e) Haulage tracks.--

10 (1) In a mine producing 300 tons of coal or more per
11 shift, water lines shall be installed parallel to all haulage
12 tracks using mechanized equipment in the track or adjacent
13 entry and shall extend to the loading point of each working
14 section. Water lines shall be equipped with outlet valves at
15 intervals of not more than 500 feet, and 500 feet of fire
16 hose with fittings suitable for connection with such water
17 lines shall be provided at strategic locations. Two portable
18 water cars, readily available, may be used in lieu of water
19 lines prescribed under this paragraph.

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

23 (i) a tank of water of at least 55-gallon capacity
24 with at least three pails of not less than ten-quart
25 capacity; or

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

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

30 (g) Electrical installations.--

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

5 (2) One portable fire extinguisher and 240 pounds of
6 rock dust shall be provided at each temporary electrical
7 installation.

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

14 (i) Welding, cutting and soldering.--One portable fire
15 extinguisher or 240 pounds of rock dust shall be provided at
16 locations where welding, cutting or soldering with arc or flame
17 is being done.

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

22 (k) Emergency materials.--

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

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

28 (ii) Two rolls of brattice cloth.

29 (iii) Two handsaws.

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

- 1 (v) Twenty-five pounds of 10d nails.
- 2 (vi) Twenty-five pounds of 16d nails.
- 3 (vii) Three claw hammers.
- 4 (viii) Twenty-five bags of wood fiber plaster or ten
- 5 bags of cement, or equivalent material for stoppings.
- 6 (ix) Five tons of rock dust.

7 (2) At a mine producing less than 300 tons of coal per
8 shift, the materials set forth in this subsection shall be
9 available at the mine, provided, however, that the emergency
10 materials for one or more mines may be stored at a central
11 warehouse or building supply company and the supply must be
12 the equivalent of that required for all mines involved and
13 within an hour's delivery time from each mine. This exception
14 shall not apply where the active working sections are more
15 than two miles from the surface.

16 (1) Condition and examination of firefighting equipment.--
17 All firefighting equipment shall be maintained in a usable and
18 operative condition. Chemical extinguishers shall be examined
19 every six months, and the date of the examination shall be
20 written on a permanent tag attached to the extinguisher.

21 (m) Branch lines.--As a part of the deluge-type water spray
22 system, two or more branch lines of nozzles shall be installed.
23 The maximum distance between nozzles shall not exceed eight
24 feet.

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

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

29 (2) Foam generator systems shall be equipped with a fire
30 sensor which actuates the system, and each system shall be

1 capable of producing and delivering the following amounts of
2 foam within five minutes:

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

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

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

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

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

20 (o) Water sprinkler systems.--Water sprinkler systems may be
21 installed to protect main and secondary belt-conveyor drives,
22 however, where such systems are employed, they shall be
23 installed and maintained in accordance with subsections (p),
24 (q), (r), (s) and (t).

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

26 (1) The fire-control components of each water sprinkler
27 system shall be installed, as far as practicable, in
28 accordance with the recommendations set forth in the National
29 Fire Protection Association, Code No. 13, entitled

30 "Installation of Sprinkler Systems," in effect at the time of

1 installation, and such systems' components shall be of a type
2 approved by the Underwriters Laboratories, Inc., Factory
3 Mutual Research Corporation.

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

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

11 (q) Arrangement of sprinklers.--

12 (1) At least one sprinkler shall be installed above each
13 belt drive, belt take-up, electrical control and gear-
14 reducing unit, and individual sprinklers shall be installed
15 at intervals of no more than eight feet along all conveyor
16 branch lines.

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

21 (3) The water discharge rate from the sprinkler system
22 shall not be less than .25 gallon per minute per square foot
23 of the top surface of the top belt, and the discharge shall
24 be directed at both the upper and bottom surfaces of the top
25 belt and to the upper surface of the bottom belt. The supply
26 of water shall be adequate to provide a constant flow of
27 water for ten minutes with all sprinklers functioning.

28 (4) Each individual sprinkler shall be activated at a
29 temperature of not less than 150 degrees Fahrenheit and not
30 more than 300 degrees Fahrenheit.

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

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

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

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

14 (u) Equivalent dry-pipe system.--Where water sprinkler
15 systems are installed to protect main and secondary belt
16 conveyor drives and freezing temperatures prevail, an equivalent
17 dry-pipe system may be installed.

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

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

25 (1) Self-contained dry-powder chemical systems shall be
26 installed to protect each beltdrive, belt take-up, electrical
27 controls, gear-reducing units and 50 feet of fire-resistant
28 belt or 150 feet of non-fire-resistant belt adjacent to the
29 belt drive.

30 (2) The fire control components of each dry-powder

1 chemical system shall be a type approved by the Underwriters
2 Laboratories, Inc., or Factory Mutual Engineering
3 Corporation.

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

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

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

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

14 (3) Hose shall be protected by wire braid or its
15 equivalent.

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

19 (5) Each belt shall be protected on the top surface of
20 both the top and bottom belts and the bottom surface of the
21 top belt.

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

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

29 (2) Where sensors are operated from the same power
30 source as the belt drive, each sensor shall be equipped with

1 a standby power source which shall be capable of remaining
2 operative for at least four hours after a power cutoff.

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

5 (4) Each fire suppression system shall be equipped with
6 a manually operated control valve which shall be independent
7 of the sensor.

8 (z) Dry powder requirements.--Each dry powder chemical
9 system shall contain the following minimum amounts of
10 multipurpose dry powder:

11 (1) One hundred and twenty-five pounds of dry powder for
12 fire resistant belts.

13 (2) Two hundred and twenty-five pounds of dry powder for
14 non-fire-resistant belts.

15 (aa) Nozzles, flow rate and direction.--The nozzles of each
16 dry-powder chemical system shall be capable of discharging all
17 powder within one minute after actuation of the system, and such
18 nozzles shall be directed so as to minimize the effect of
19 ventilation upon fire control.

20 (bb) Safeguards for dry-powder chemical systems.--Adequate
21 guards shall be provided along all belt conveyors in the
22 vicinity of each dry-powder chemical system to protect
23 individuals whose vision is restricted by a discharge of powder
24 from the system. Handrails shall be installed in these areas to
25 provide assistance to those passing along the conveyor after a
26 powder discharge.

27 (cc) Backup water system.--One fire hose outlet, together
28 with a length of hose capable of extending to the belt drive,
29 shall be provided within 300 feet of each belt drive.

30 (dd) Inspection of dry-powder chemical systems.--

1 (1) Each dry-powder chemical system shall be examined
2 weekly, and a functional test of the complete system shall be
3 conducted at least once each year.

4 (2) Where the dry-powder chemical system has been
5 actuated, all components of the system shall be cleaned
6 immediately by flushing all powder from pipes and hoses, and
7 all hose damaged by fire shall be replaced.

8 Section 274. Mine openings or outlets.

9 ~~(a) Mine openings or outlets. It shall be unlawful for the~~ <—
10 ~~operator, superintendent or mine foreman of a mine to employ any~~
11 ~~individual to work in the mine unless there are two openings or~~
12 ~~outlets to the surface from every seam of coal being worked, and~~
13 ~~available from every seam of coal entry, which openings or~~
14 ~~outlets shall have distinct means of ingress and egress~~
15 ~~available at all times for the use by the employees. The two~~
16 ~~openings to the surface required by this section shall not be at~~
17 ~~a common shaft, slope, or drift opening, except that multiple~~
18 ~~compartment shafts or slopes separated by substantially~~
19 ~~constructed walls of noncombustible material shall be considered~~
20 ~~as two separate and distinct openings. The distance between two~~
21 ~~shafts shall not be less than 200 feet, the distance between the~~
22 ~~openings to the surface of slopes shall not be less than 150~~
23 ~~feet and the distance between drifts shall not be less than 50~~
24 ~~feet, provided that the distance between the openings shall~~
25 ~~apply only to mines opened after the effective date of this act.~~
26 ~~The distances specified may be less with the written consent of~~
27 ~~the department. The passageways between the two shafts shall at~~
28 ~~all times be maintained in safe and available condition for the~~
29 ~~employees to travel, and the pillars in entries between the two~~
30 ~~openings shall not be removed without the approval of the~~

1 department.

2 ~~(b) Openings. The requirements of subsection (a) shall not~~
3 ~~apply to the openings of a new mine, or to the openings of a new~~
4 ~~entry of an existing mine, that is being worked for the purpose~~
5 ~~of making connection between the two outlets, as long as not~~
6 ~~more than 20 individuals are employed at any one time in making~~
7 ~~the connection or driving the second opening. The requirements~~
8 ~~of subsection (a) shall not apply to any mine in which the~~
9 ~~second opening has been rendered unavailable by reason of the~~
10 ~~final robbing or removing of pillars, as long as not more than~~
11 ~~20 individuals are employed in the mine at any one time.~~

12 ~~(c) Safe egress. Safe means of egress shall be available at~~
13 ~~all times for the individuals employed in a mine that has no~~
14 ~~second outlet available.~~

15 ~~(d) Entries. Every mine shall have at least five main~~
16 ~~entries, two of which shall lead from the main opening and two~~
17 ~~of which shall lead from the second opening into the body of the~~
18 ~~mine. The fifth, which may be connected with an opening to the~~
19 ~~surface or with the intake airway at or near the main intake~~
20 ~~opening, shall be used exclusively as a travelingway for the~~
21 ~~employees.~~

22 (A) OPENINGS OR OUTLETS TO THE SURFACE.--IT SHALL BE <—
23 UNLAWFUL FOR THE OPERATOR, SUPERINTENDENT OR MINE FOREMAN TO
24 EMPLOY AN INDIVIDUAL TO WORK IN THE MINE UNLESS THERE ARE NO
25 FEWER THAN TWO INTAKE OPENINGS OR OUTLETS TO THE SURFACE FROM
26 EVERY SEAM OF COAL BEING WORKED. THE OPENINGS OR OUTLETS SHALL
27 HAVE A DISTINCT MEANS OF INGRESS AND EGRESS AVAILABLE, AT ALL
28 TIMES, FOR USE BY THE EMPLOYEES. THE TWO INTAKE OPENINGS OR
29 OUTLETS TO THE SURFACE REQUIRED BY THIS SECTION SHALL NOT BE AT
30 A COMMON SHAFT, SLOPE OR DRIFT OPENING. MINES IN OPERATION PRIOR

1 TO THE EFFECTIVE DATE OF THIS ACT ARE NOT SUBJECT TO THE
2 REQUIREMENTS UNDER THIS SUBSECTION.

3 (B) EXCEPTION.--THE REQUIREMENTS OF SUBSECTION (A) SHALL NOT
4 APPLY TO THE OPENINGS OR OUTLETS OF A NEW MINE BEING WORKED FOR
5 THE PURPOSE OF MAKING CONNECTIONS BETWEEN THE OPENINGS OR
6 OUTLETS, SO LONG AS NO MORE THAN 20 INDIVIDUALS ARE EMPLOYED IN
7 MAKING THE CONNECTIONS.

8 (C) SHAFT, SLOPE AND DRIFT DISTANCES.--THE DISTANCE BETWEEN
9 SHAFTS SHALL BE NOT LESS THAN 200 FEET. THE DISTANCE BETWEEN THE
10 OPENINGS TO THE SURFACE OF SLOPES SHALL BE NOT LESS THAN 150
11 FEET. THE DISTANCE BETWEEN DRIFTS SHALL BE NOT LESS THAN 50
12 FEET. EXCEPTIONS TO THE DISTANCE REQUIREMENTS SPECIFIED IN THIS
13 SUBSECTION MAY BE GRANTED WITH THE WRITTEN CONSENT OF THE
14 DEPARTMENT. THE PASSAGEWAYS BETWEEN OPENINGS OR OUTLETS SHALL BE
15 MAINTAINED IN A SAFE AND AVAILABLE CONDITION FOR THE EMPLOYEES
16 TO TRAVEL. THE PILLARS IN ENTRIES BETWEEN THE OPENINGS OR
17 OUTLETS SHALL NOT BE REMOVED.

18 (D) NUMBER OF ENTRIES.--EVERY MINE SHALL HAVE NO FEWER THAN
19 FIVE MAIN ENTRIES CONNECTED TO THE OPENINGS OR OUTLETS TO THE
20 SURFACE.

21 (e) Intake and return entries.--The intake and return
22 entries shall be kept reasonably drained and reasonably free
23 from refuse and obstructions of all kinds, so that individuals
24 may safely travel throughout their whole length and have a safe
25 means of egress from workings in case of emergency. The entries
26 shall be separated by pillars of coal of sufficient strength.
27 When the coal seam height is less than four and one-half feet,
28 employees shall be provided a means of transportation in and out
29 of the mine.

30 (f) Passageway between workings.--In every slope with

1 workings on both sides, an overpass or underpass not less than
2 five feet wide and five feet high shall be provided as a
3 passageway for the use of employees to cross from one side of
4 the slope to the other. The overpass or underpass shall connect
5 with available passageways leading to the workings on both sides
6 of the slope. The intervening strata between the slope and the
7 overpass or underpass shall be of sufficient strength at all
8 points to insure safety to the employees, provided, however,
9 that if it is impracticable to drive an overpass or an underpass
10 in the solid, an overpass or underpass, if substantially built
11 with masonry or other incombustible material, will be deemed
12 sufficient.

13 (g) Shafts less than 100 feet deep.--If the opening or
14 outlet other than the main opening is a shaft not more than 100
15 feet in depth and is used by employees for the purpose of
16 ingress to or egress from the mine, it shall be kept available
17 and in safe condition, free from dangerous gases and all
18 obstruction, and shall be fitted with safe and convenient
19 stairways, with steps of an average tread of ten inches and a
20 rise of nine inches, not less than two feet in width and not to
21 exceed an angle of 45 degrees, and with landings not less than
22 24 inches in width and four feet in length, at easy and
23 convenient distances. Stairways shall be made safe by having
24 handrails of suitable material placed on one side, or on both
25 sides when requested by the department, and shall be inspected
26 every 24 hours by a certified mine official employed for that
27 purpose. Water that may come from the surface or from the strata
28 in the shaft shall be conducted away so it will not fall on the
29 stairways or on individuals while descending or ascending them.

30 (h) Shafts more than 100 feet deep.--When a mine is operated

1 by a shaft more than 100 feet in depth, the individuals employed
2 in the shaft shall be lowered and hoisted by means of machinery
3 unless the second opening is a drift or a slope. When the
4 employees are lowered into or hoisted from the mine at the main
5 shaft opening, the second opening, if a shaft, shall be supplied
6 with a stairway, constructed in the manner designated in this
7 section or with suitable machinery for safely lowering and
8 hoisting individuals in case of an emergency.

9 (i) Slope openings.--At any mine where one of the openings
10 required is a slope and is used as a means of ingress and egress
11 by the employees, and where the angle of descent of the slope
12 exceeds 15 degrees and its length from the mouth of the opening
13 exceeds 1,000 feet, the employees shall be lowered into and
14 hoisted from the mine at a speed not to exceed six miles per
15 hour. At any mine where the angle of descent of the slope
16 averages from five to 15 degrees and its length exceeds 3,000
17 feet, the employees shall be lowered into and hoisted from the
18 mine at a speed not to exceed six miles per hour, provided,
19 however, that when a separate travelingway is provided at any
20 such slope, the owner or operator may, at the owner's or
21 operator's option, be exempt from the requirements of this
22 section if the angle of the travelingway does not exceed 20
23 degrees.

24 Section 275. Mining close to abandoned workings.

25 The superintendent shall not permit the mining of coal in any
26 seam the entire distance to a permit boundary, not including
27 boundaries around reservations or along crop lines, when on the
28 adjoining property there are mine workings in the seam within
29 3,000 feet of the permit boundary. A barrier pillar shall be
30 left, from the operation to the permit boundary, of not less

1 than ten feet plus two feet for every foot or part of a foot of
2 thickness of the bed measured from the roof to the floor, plus
3 five feet for each 100 feet or part of 100 feet of cover over
4 the bed at the permit boundary. If the coal on one side of the
5 permit boundary has been mined, prior to the effective date of
6 this section, closer to the permit boundary than permitted, the
7 barrier pillar to be left in the mine approaching the permit
8 boundary shall be at least equal, when added to that already
9 left in the adjoining mine, to that required on both sides of
10 the permit boundary. If, in the opinion of the department or the
11 superintendent of either mining property, the barrier pillar is
12 deemed insufficient, after due notice to the operator of the
13 adjoining mining property, one-half of the barrier pillar shall
14 be left on each side of the permit boundary, except as provided
15 in this section. The department, the superintendent or owner of
16 either mining property shall determine the thickness necessary
17 to afford safety and protection. If it is agreed by the
18 department and superintendents of the adjoining coal mining
19 properties that the permit boundary is so located that there is
20 no danger to property or lives in mining coal on either or both
21 sides of the permit boundary up to the permit boundary, then
22 mining to the permit boundary shall be lawful if all danger from
23 accumulated water and gas shall have first been removed by
24 driving a passageway to tap and drain off any accumulations of
25 water and gas, as provided for in this act.

26 Section 276. Lubrication and storage of flammable lubricants.

27 The oiling or greasing of any cars inside any mine is
28 strictly prohibited unless the place where the oil or grease is
29 used is thoroughly cleaned at least once a day to prevent the
30 accumulation of waste oil or grease. Not more than two days'

1 supply of flammable oil or lubricant shall be stored in any
2 portion of a mine unless it is kept in a fireproof building or a
3 structure cut out of solid rock. Oil or grease stored in the
4 face area shall be kept in approved containers and away from
5 power wires and electric equipment. Accumulations of spilled oil
6 or grease shall be rendered harmless. Excessive accumulations
7 shall be removed from the mine. Closed metal containers shall be
8 provided for the storage of oily rags or waste until removed for
9 disposal. If any flammable oil or lubricants are stored
10 underground, all reasonable safety practices shall be observed
11 in order to minimize any dangers of fire.

12 Section 277. Approved lighting and gas detection devices in
13 mines.

14 (a) Lighting.--It shall be unlawful to use open lights in
15 mines, and only approved electric cap lamps, approved
16 flashlights, approved safety lamps and other approved lighting
17 equipment shall be used in mines.

18 (b) Gas detection devices.--All approved gas detection
19 devices used for examining mines shall be in the care of the
20 mine foreman or some other competent individual appointed by the
21 mine foreman, who shall have a duty to examine, test and deliver
22 them in a safe condition to the individuals when entering the
23 mine and to receive gas detection devices from the individuals
24 when returning from work.

25 (c) Number of devices.--At every mine, a sufficient number
26 of approved gas detection devices shall be kept in good
27 condition for use in case of emergency.

28 (d) Entrusting of devices.--No approved gas detection
29 devices shall be entrusted to any individual for use in a mine
30 until the individual has given satisfactory evidence to the mine

1 foreman that he understands the proper use of the gas detection
2 device and the danger of tampering with the device.

3 (e) Duty to return device.--It shall be the duty of every
4 individual who knows their approved gas detection device is
5 defective to return it immediately to a mine official.

6 Section 278. Unauthorized entry into mine.

7 Any individual who enters a mine without authorization from
8 the superintendent commits a misdemeanor of the second degree.
9 This section shall not be applicable to any individual who
10 enters a mine in the performance of any duty imposed upon him by
11 this act.

12 Section 279. Passing by or removing danger signs.

13 Except as specifically authorized in this act, no employee or
14 other individual shall pass by any danger sign into any mine, or
15 into any portion of any mine, or remove any danger sign before
16 the mine or portion of the mine has been examined and reported
17 to be safe. Any employee or other individual shall not pass by
18 any danger sign placed at the entrance to a working place, or
19 any other place in the mine, or remove the danger sign without
20 permission from the mine foreman, the assistant mine foreman or
21 the mine examiner.

22 Section 280. Miners to remain in work areas.

23 Each miner shall remain during working hours in the work area
24 assigned by the mine foreman or the assistant mine foreman.

25 Section 281. Sealing openings.

26 (a) Permanently abandoned shafts.--Every shaft permanently
27 abandoned shall be filled for its entire depth. The fill shall
28 extend from the bottom of the coal seam to a height of 50 feet
29 with incombustible material.

30 (b) Out of service openings.--Every slope, drift or tunnel

1 permanently taken out of service shall be filled for a distance
2 of 25 feet with incombustible material.

3 (c) Drillholes and boreholes.--All drillholes and boreholes
4 permanently taken out of service after the effective date of
5 this act shall be effectively plugged or sealed.

6 (d) Openings available for future use.--Every shaft, slope,
7 drift or tunnel, temporarily taken out of service, which may be
8 used for future mining purposes shall be properly sealed or
9 fenced.

10 Section 282. Ladders in mines.

11 Permanently installed ladders in mines that are more than ten
12 feet in length and set on an angle of 60 degrees or more with
13 the horizontal shall be provided with substantial backguards,
14 and all ladders shall be maintained in good repair.

15 Section 283. Inside structures to be of incombustible
16 materials.

17 All buildings or structures in any bituminous coal mine shall
18 be constructed of incombustible materials.

19 Section 284. Washhouses.

20 It shall be the duty of the operator or superintendent of a
21 mine to provide a suitable building, convenient to the principal
22 entrance of the mine, for the use of employees of the mine to
23 wash and change clothes. The building shall be maintained in
24 good order and be properly lighted and heated, shall be provided
25 with hot and cold running water and facilities for individuals
26 to wash and shall include adequate sanitary facilities. The cost
27 of providing and maintaining the conveniences and facilities
28 shall be defrayed by the owner or operator of mine.

29

CHAPTER 3

30

ELECTRICAL EQUIPMENT

1 Section 301. Duties of mine foreman and superintendent.

2 It shall be the duty of the mine foreman and superintendent
3 to see that the requirements of this chapter for the
4 installation and maintenance of electrical equipment are
5 observed in and around coal mines.

6 Section 302. Definitions.

7 As used in this chapter, the following words and terms shall
8 have the meanings given to them in this section unless the
9 context clearly indicates otherwise:

10 "Armored cable." A cable provided with a wrapping of metal,
11 usually steel wires or tapes, primarily for the purpose of
12 mechanical protection.

13 "Borehole cable." A cable designed for vertical suspension
14 in a borehole or shaft and is used for power circuits in a mine.

15 "Branch circuit." A tap taken off a main circuit.

16 "Cable sheath." A covering consisting of composition tapes,
17 compound jackets of natural or synthetic rubber, or
18 thermoplastic or fiber braids applied over the conductor
19 assembly and insulation of multiple conductor cables.

20 "Circuit breaker." A device which may be controlled by
21 relaying or protective equipment for interrupting a circuit
22 between separable contacts under normal or abnormal conditions.

23 "Delta-connected." A delta-connected power system is one in
24 which the windings of transformers or AC generators are
25 connected to form a triangular phase relationship, with the
26 phase conductors connected to each point of the triangle.

27 "Difference of potential." The difference of electrical
28 pressure or electromotive force existing between any two points
29 of an electrical system, or between any point of a system and
30 the earth, as determined by a voltmeter or other suitable

1 instrument.

2 "Effectively grounded." Grounded through a grounding
3 connection of sufficiently low impedance, inherent or
4 intentionally added, or both, so that fault grounds which may
5 occur cannot build up voltages in excess of limits established
6 for apparatus, circuits or systems so grounded.

7 "ELECTRIC SYSTEM." ALL ELECTRIC EQUIPMENT AND CIRCUITS THAT <—
8 PERTAIN TO THE OPERATION OF THE MINE AND ARE UNDER CONTROL OF
9 THE MINE MANAGEMENT.

10 "Electrical face equipment." Mobile or portable mining
11 machinery having electric motors or accessory equipment normally
12 installed or operated in by the last open crosscut in any entry
13 or room.

14 ~~"Electric system." All electric equipment and circuits that <—~~
15 ~~pertain to the operation of the mine and are under control of~~
16 ~~the mine management.~~

17 "Explosion-proof or flame-proof." Casings or enclosures
18 which, when completely filled with a mixture of methane and air
19 and the same exploded, are capable of either entirely confining
20 the products of the explosion within the casing or discharging
21 them from the casing so that they cannot ignite a mixture of
22 methane and air, combined in proportions most sensitive to
23 ignition and entirely surrounding the points of discharge, and
24 in most intimate proximity with the points of discharge.

25 "Flame-resistant cable." A cable that meets the MSHA testing
26 requirements for flame resistance and has been assigned an
27 approval. A cable shall also be considered flame-resistant if it
28 meets the criteria for flame resistance by a nationally
29 recognized testing lab that is equivalent to the MSHA testing
30 criteria and that is appropriately identified. All flame-

1 resistant cables used underground shall have the approval number
2 embossed or indented on the jacket at intervals not to exceed 12
3 feet.

4 "Ground." A conducting connection, whether intentional or
5 accidental, between an electric circuit or equipment and earth
6 or to some conducting body which serves in place of the earth.

7 "Grounding conductor." A metallic conductor used to connect
8 the metal frame or enclosure of an equipment, device or wiring
9 system with an effective grounding medium.

10 "High voltage." Voltage higher than 1,000 volts nominal.

11 "Lightning arrestor." A protective device for limiting surge
12 voltages on equipment by discharging or bypassing surge current
13 and for preventing continued flow of current to ground.

14 "Low voltage." Voltage up to 660 volts nominal.

15 "Machine operator." An individual who possesses a machine
16 runners certification and is placed in charge of a portable or
17 mobile face machine of any sort where a gas examination is
18 required under this act or regulations promulgated under this
19 act.

20 "Medium voltage." Voltage from 661 to 1,000 volts nominal.

21 "Mine power center." A combined transformer and distribution
22 unit which may include a rectifier, complete within a metal
23 enclosure, from which one or more low-voltage, medium-voltage or
24 high-voltage power circuits are taken.

25 "Neutral." A neutral point of connection established through
26 the use of a grounding or zig-zag transformer with a normally
27 ungrounded delta power system.

28 "Neutral point." The connection point of transformer or
29 generator windings from which the voltage to ground is nominally
30 zero and is the point generally used for system grounding in a

1 wye-connected AC power system.

2 "Nonmetallic armor." A tough outer covering or cable sheath
3 of rubber, rubber compound or thermoplastic designed to protect
4 the cable conductors and insulation from abrasion or other
5 damage from external sources.

6 "Portable trailing cable." A flexible cable or cord used for
7 connecting mobile, portable or stationary equipment in mines to
8 a trolley system or other external source of electric energy
9 where permanent mine wiring is prohibited or impracticable.

10 "Potential of a circuit." The voltage of a circuit machine
11 or any piece of electrical apparatus is the potential difference
12 normally existing between the conductors of such circuit or the
13 terminals of the machine or apparatus.

14 "Primary ground." A low impedance ground bed or system
15 consisting of several interconnected ground rods or buried
16 conducting mesh, or both, located near an outdoor substation and
17 used as a lightning arrestor or station ground or, separately,
18 as a basic ground for one conductor of a power transmission or
19 distribution system. A single ground rod of any length is not
20 considered a primary ground.

21 "Protection." Fuses or other suitable automatic circuit-
22 interrupting devices for preventing damage to circuits,
23 equipment and personnel by abnormal conditions, such as over-
24 current, high or low voltage and single phasing.

25 "Rectifiers." Alternating current to direct-current power
26 conversion devices of the mercury-arc, silicon, selenium or
27 other type.

28 "Shielded cable." A cable in which the insulated conductor is
29 covered with a conductive material for the purpose of clearing
30 ground faults.

1 "Voltage." The phase-to-phase or line-to-line root-mean-
2 square value assigned to a circuit or system for designation as
3 its voltage class. Actual voltage at which the circuit or
4 systems operated may vary from the normal voltage with a range,
5 which permits satisfactory operation of the equipment. The
6 difference of electrical pressure or electromotive force
7 existing between any two points of an electrical system, or
8 between any point of a system and earth, as determined by a volt
9 meter or other instrument. The term shall be synonymous with the
10 term potential and shall mean electrical pressure.

11 "Wye-connected." A system in which one end of each phase
12 winding of transformers or AC generators are connected together
13 to form a neutral point, and the other ends of the windings are
14 connected to the phase conductors.

15 "Zig-zag transformer." A three-phase transformer used to
16 provide a neutral point on delta systems and capable of carrying
17 continuously the maximum ground fault current of the system.

18 Section 303. Plan of electrical system.

19 A plan shall be kept at the mine showing the location of all
20 stationary electrical apparatus in connection with the mine
21 electrical system, including permanent cables, conductors,
22 switches and trolley lines. The plan shall be of sufficient size
23 to show clearly the position of the apparatus, and the scale
24 shall not be less than 500 feet per inch. There shall be stated
25 on the plan the capacity in horsepower of each motor, and in
26 kilowatts of each generator, rectifier or transformer, and the
27 nature of its duty. The plans shall be corrected as often as may
28 be necessary to keep them up to date or at intervals not
29 exceeding six months.

30 Section 304. Protection against shock.

1 (a) Electrical work.--No electrical work shall be performed
2 on low-voltage, medium-voltage or high-voltage distribution
3 circuits or equipment except by a qualified individual or by an
4 individual trained to perform electrical work and to maintain
5 electrical equipment under the direct supervision of a qualified
6 individual. Disconnecting devices shall be locked out and
7 suitably tagged by the individuals who perform the work, except
8 that in cases where locking out is not possible, the devices
9 shall be opened and suitably tagged by such individuals. Locks
10 or tags shall be removed only by the individual who installed
11 them or, if the individuals are unavailable, by an individual
12 authorized by the operator or the operator's agent.

13 (b) Insulating materials.--Mats of rubber, insulated
14 platform or other suitable insulating materials shall be
15 provided at all stationary transformers, rectifiers, motors and
16 generators and their controls, except portable and mobile
17 equipment. Gloves or mats of rubber or other suitable insulating
18 material shall be provided by the operator and used by qualified
19 individuals when energized parts of electrical apparatus have to
20 be handled for the purpose of adjustment.

21 Section 305. Restoration from shock.

22 Instruction shall be posted in every generating, transforming
23 and motor room and at the entrance to the mine containing
24 directions as to the restoration of individuals suffering from
25 electric shock. All employees working in connection with
26 electrical apparatus shall be familiar with and competent to
27 carry out the instructions.

28 Section 306. Report of defective equipment.

29 In the event of a breakdown or damage or injury to any
30 portion of the electrical equipment in a mine, overheating, the

1 appearance of sparks or arcs outside enclosed casings or in the
2 event of any portion of the equipment not a part of the
3 electrical circuit becoming energized, the equipment shall be
4 disconnected from its source of power, the occurrence shall be
5 promptly reported to a mine official and the equipment shall not
6 be used again until necessary repairs are made.

7 Section 307. Damage or alteration to mine electrical system.

8 No individual shall willfully damage or without authority
9 alter or make connections to any portion of a mine electrical
10 system.

11 Section 308. Capacity.

12 All electrical apparatus and conductors shall be sufficient
13 in size and power for the work they may be called upon to do
14 and, as prescribed in this act, be efficiently covered or
15 safeguarded. The electrical apparatus and conductors shall be
16 installed, operated and maintained to reduce danger from
17 accidental shock or fire to the minimum and shall be constructed
18 and operated so that the rise in temperature caused by ordinary
19 operation will not injure the insulating materials. Where these
20 conditions are not met, affected equipment shall be removed from
21 service until corrective action is taken.

22 Section 309. Joints in conductors.

23 All joints in conductors shall be mechanically and
24 electrically efficient. Suitable connectors or screw clamps
25 shall be used. All joints in insulated wire shall, after the
26 joint is complete, be reinsulated to at least the same extent as
27 the remainder of the wire.

28 Section 310. Cables entering fittings.

29 The exposed ends of cables where they enter fittings of any
30 description shall be protected and finished off so that moisture

1 cannot enter the cable, or the insulating material, if of an
2 oily or viscous nature, leak. Where unarmored cables or wires
3 pass through metal frames or into boxes or motor casings, the
4 holes shall be substantially bushed with insulating bushings
5 and, where necessary or required, with gas-tight bushings which
6 cannot readily become displaced.

7 Section 311. Switches, fuses and circuit breakers.

8 (a) Construction.--Fuses and automatic circuit breakers
9 shall be constructed as to effectively interrupt the current on
10 short circuit or when the current through them exceeds a
11 predetermined value. Open type fuses shall be provided with
12 terminals. Circuit breakers shall be of adequate interrupting
13 capacity.

14 (b) Trip setting.--Circuit breakers used to protect feeder
15 circuits shall be set to trip when the current exceeds by more
16 than 50% of the rated capacity of the feeder. In case the feeder
17 is subjected to overloads sufficient to trip the circuit breaker
18 but of short duration, the circuit breaker may be equipped with
19 a device which will prevent its acting unless the overload
20 persists for period longer than ten seconds. Trip current shall
21 be indicated at the circuit breaker.

22 (c) Fuses.--Fuses shall be stamped or marked or shall have a
23 label attached indicating the maximum current which they are
24 intended to carry. Fuses shall only be adjusted or replaced by a
25 competent individual authorized by the mine foreman.

26 (d) Protective fuses.--Fuses used to protect feeders shall
27 be a less current rating than the feeder.

28 (e) Incombustible base requirement.--All switches, circuit
29 breakers and fuses shall have incombustible bases.

30 Section 312. Lightning protection.

1 If the surface transmission lines of low voltage or medium
2 voltage from the generating station are overhead, there shall be
3 lightning arrestors installed at the generating station. If the
4 distance from the generating station to the point where the line
5 enters the mine is more than 500 feet, an additional arrestor
6 shall be installed at that point.

7 Section 313. Underground power supply.

8 (a) Ground detectors.--All underground systems of
9 distribution that are completely insulated from earth shall be
10 equipped with properly installed ground detectors of suitable
11 design which will trip the circuit breaker when a ground fault
12 is detected. The ground detectors shall be maintained in working
13 condition.

14 (b) Protection of circuits leading underground.--

15 (1) In every completely insulated feeder circuit in
16 excess of 25 kilowatts capacity, leading underground and
17 operating at a potential not exceeding the limits of medium
18 voltage, there shall be provided above ground a circuit
19 breaker arranged to open simultaneously each ungrounded
20 conductor. In addition, a positive disconnect means shall be
21 installed outby the circuit breaker. Overload protection
22 shall be provided to open the circuit breaker in case of
23 overload on any conductor. Fuses may be substituted for
24 circuit breakers in circuits transmitting 25 kilowatts or
25 less. Each power circuit in excess of 50 kilowatts leading
26 underground shall be provided with a suitable ammeter.

27 (2) Every alternating current feeder circuit leading
28 underground and operating at a potential exceeding the limits
29 of medium voltage shall be provided above ground with a
30 suitable circuit breaker. The breaker shall be equipped with

1 automatic overload trip, arranged to open simultaneously each
2 ungrounded power-carrying conductor. Each circuit shall also
3 be provided with a suitable ammeter.

4 (c) Cables in shafts, slopes and boreholes.--

5 (1) All cables passing underground through inclines,
6 boreholes and shafts shall be installed in a manner that will
7 prevent undue strain in the sheath, insulation or conductors
8 and damage by chafing of cables against each other or against
9 the borehole casing or shaft. All ungrounded power conductors
10 in shafts, boreholes and inclines shall be covered with
11 suitable insulating materials and installed to provide a
12 minimum tensile factor of safety of five. Conductors shall be
13 securely fastened and properly supported out of contact with
14 combustible materials. When the weight, length and
15 construction of a cable are such that suspension from its
16 upper end only would subject the cable to possible damage, it
17 shall be supported at intervals necessary to prevent undue
18 strains in the sheath, insulation and conductors and to
19 provide a minimum tensile factor of safety of five. Adequate
20 protection shall be provided so that no damage can result
21 from water, electrolysis, moving cages, skips, ice, coal or
22 other falling or moving materials.

23 (2) Installation of direct-current and alternating-
24 current cables carrying in excess of 25 kilowatts in the same
25 borehole shall require approval of the department.

26 (d) High-voltage underground transmission systems.--High-
27 voltage conductors or cables leading underground and extending
28 underground shall be of the flame-resistant type with either a
29 rubber, plastic or armor sheath meeting the requirements of the
30 department for flame resistance. When the cable is fed by high-

1 voltage systems other than that described in this chapter, it
2 shall be either metallic armored, installed in rigid steel
3 conduit or buried one foot below combustible material. When
4 circuit and protective requirements are met, the cable
5 construction and method of installation may be that described in
6 this chapter. Cables shall be adequate for the intended current
7 and voltage. Splices made in cable shall provide continuity of
8 all components and shall be made in accordance with cable
9 manufacturers' recommendations. A competent individual
10 designated by the mine electrician shall supervise the making of
11 the splices.

12 (e) Braid covered cable.--

13 (1) No power wires or cables having what is commonly
14 termed as weatherproof insulation or insulation consisting of
15 braided covering, which is susceptible to moisture absorption
16 from the outer surface to the conductor, shall be installed
17 in a mine.

18 (2) All insulated power cables purchased for use in a
19 mine shall be protected by a flame-resistant jacket and
20 assigned an approval number unless either armored or
21 installed in rigid steel conduit, a metal enclosure or a
22 fireproof room.

23 (f) Ventilation.--

24 (1) Bare power conductors shall not be installed in an
25 air current that has passed through or by the first working
26 place in the air split.

27 (2) High-voltage transmission cable, high-voltage motors
28 and high-voltage transformers shall not be installed in any
29 air current that has passed through or by the first working
30 place in the air split.

1 (g) Underground cables in haulage roads.--

2 (1) Where the cables or feed wires, other than trolley
3 wires, in main haulage roads cannot be kept at least 12
4 inches from any part of a mine car or locomotive, they shall
5 be specially protected by proper guards.

6 (2) Cables and wires, except trailing or portable cables
7 or bare return cables, shall be installed on roofs, ribs,
8 walls or timbers by means of efficient insulators. All
9 electric cables constantly kept in rooms or pillars or other
10 work areas shall be carried on suitable supports to within 70
11 feet of the face of each work area. In no instance shall the
12 method of support damage the cable jacket or armor.

13 (3) When main or other roads are being repaired or
14 blasting is being carried on, suitable temporary protection
15 from damage shall be given to the cables.

16 (4) All other wires, except telephone, shot-firing and
17 signal wires, shall be on the same side of the road as the
18 trolley wire.

19 (5) Haulage block signal circuits and other control
20 circuits powered from the trolley shall be located on the
21 same side of the road as the trolley.

22 (h) Branch circuit protection.--When the potential of a
23 branch circuit exceeds the limit of medium voltage, it shall be
24 protected by a circuit breaker, except as otherwise permitted
25 under section 331(h). The circuit breaker shall be equipped with
26 an automatic overload trip arranged to open simultaneously each
27 ungrounded power carrying conductor. Provisions for positive
28 disconnection of the branch circuit shall be included.

29 (i) Underground transformer and substation rooms.--

30 (1) Any motor-generator, rectifier except those

1 described in subsection (r), rotary converter or oil-filled
2 transformer installed in a mine shall be enclosed in a
3 fireproof chamber of masonry or in an effectively grounded
4 approved steel structure. These buildings shall be provided
5 with automatically closing fire doors, but the automatic
6 features of fire doors may be omitted if a substation
7 attendant is employed. The openings of the doors shall be
8 safeguarded by grillwork so that only authorized individuals
9 may enter the room. No electrical equipment containing
10 inflammable material shall be placed within eight feet of a
11 door or opening in the underground building. All underground
12 substations containing rotary machinery shall have an
13 attendant constantly on duty while rotating machinery is in
14 operation, unless adequate control and protection of the
15 equipment is assured by the use of suitable automatic
16 devices. No transformer, circuit breaker, controller or other
17 device containing more than 20 gallons of inflammable liquid
18 shall be placed in any underground substation. A separate
19 split of air shall adequately ventilate the substation. No
20 substation shall be built in any mine until the location,
21 material, construction and method of ventilation for the
22 substation has received the approval of the department.

23 (2) Main and distribution switch and fuse boards shall
24 be made of incombustible, moisture-resistant, insulating
25 material and fixed in as dry a situation as practicable or
26 shall be of suitable metal construction, exposed portions of
27 which shall be effectively grounded. All switches, circuit
28 breakers, rheostats, fuses and instruments used in connection
29 with underground motor-generators, rotary-converters, high-
30 voltage motors, transformers, and low-voltage and medium-

1 voltage motors of more than 50 horsepower or 50 KVA capacity
2 shall be installed upon a suitable switchboard or in a metal-
3 clad switchgear structure. Similar equipment for low-voltage
4 and medium-voltage motors of 50 horsepower and less may be
5 separately installed if mounted upon insulating bases of
6 suitable material or effectively metal clad.

7 (j) Clearances.--

8 (1) In underground stations where switchboards are
9 installed, there shall be a passageway in front of the
10 switchboard not less than three feet in width, and, if there
11 are any high-voltage connections at the back of the
12 switchboard, any passageway behind the switchboard shall not
13 be less than three feet. The floor at the back of the
14 switchboard shall be properly floored and insulated with
15 nonconducting material, accessible from each end. In the case
16 of high-voltage, switchboards shall be kept locked, but the
17 lock shall allow the door being opened from the inside
18 without the use of a key.

19 (2) Where the supply is at a voltage exceeding the
20 limits of medium voltage, there shall be no live metal work
21 on the front of the main switchboard within seven feet of the
22 floor or platform, and the space provided under paragraph (1)
23 shall not be less than four feet. Insulating floors or mats
24 shall be provided for medium-voltage boards where live metal
25 work is on the front.

26 (k) Transformers.--The primary of each underground power
27 transformer shall be protected by a suitable circuit breaker
28 equipped with automatic overload trip arranged to open
29 simultaneously each ungrounded power conductor. The primary of a
30 transformer of less than 25 KVA capacity operated at a potential

1 lower than high voltage may be protected by fuses. When a
2 transformer is the only load on a branch circuit, the branch
3 circuit protection can be considered the transformer protection.

4 (l) Outgoing feeder protection.--Main circuits leaving
5 underground substations or transformer stations shall be
6 protected by circuit breakers.

7 (m) Grounding.--All metallic coverings, metal armoring of
8 cables and the frames and bedplates of generators, transformers
9 and motors shall be effectively grounded.

10 (n) Identification of hazard.--All high-voltage machines and
11 apparatus shall be marked to clearly indicate that they are
12 dangerous, by the use of the words "Danger, High Voltage."

13 (o) Protection of terminals.--All terminals on machines,
14 motors or equipment over medium-voltage underground shall be
15 protected with insulating covers or metal covers effectively
16 connected to the ground.

17 (p) Unauthorized individuals.--No individual, other than one
18 authorized by the mine foreman or mine electrician, shall enter
19 a station or transformer room or interfere with the working of
20 any connected apparatus.

21 (q) Fire protection.--Rock dust or fire extinguishers
22 suitable for extinguishing electrical fires shall be kept ready
23 for immediate use at electrical stations and transformer rooms.

24 (r) Fireproof rectifiers and transformers.--A portable
25 rectifier with a dry-type transformer, except those using pumped
26 tubes or glass bulb mercury arc tubes or a dry-type transformer
27 designed for underground use with adequate automatic electrical
28 protection and substantially of fireproof construction, fully
29 metal clad, which will not be in the same location in excess of
30 one year, may be installed in any intake air current, not beyond

1 the last open crosscut and not closer than 250 feet along the
2 air route to pillar workings. The location where the fireproof
3 rectifier or transformer is installed need not be made fireproof
4 with masonry or steel, but shall be equipped with doors,
5 grillwork or otherwise to prevent entry or access by
6 unauthorized individuals.

7 Section 314. Storage battery equipment.

8 (a) General rule.--All storage battery equipment and
9 charging stations shall be designed, operated and ventilated so
10 that gas from the batteries will be safely diluted. Storage
11 battery charging stations shall be on a separate split of air.

12 (b) Flammable materials.--The presence of flammable
13 materials is not permitted in any storage battery room or
14 charging station. Signs to this effect shall be posted in all
15 battery rooms or charging stations.

16 (c) Use in face areas.--Storage battery-operated equipment
17 may be used in face areas when all electrical parts that are
18 practicable to enclose are enclosed in explosion-proof casings
19 and the batteries are adequately ventilated.

20 Section 315. (Reserved).

21 Section 316. Electrical equipment.

22 (a) Voltage restriction.--Hand-held tools shall be
23 restricted to a maximum of 300 volts.

24 (b) Grounding.--The frame of all off-track equipment shall
25 be effectively grounded through a safety ground conductor in its
26 trailing cable.

27 (c) Hand-held tools.--Electric drills and other electrically
28 operated rotating tools intended to be hand held shall be
29 equipped with an integrally mounted electric switch designed to
30 break the circuit when the hand releases the switch.

1 (d) Trailing cables.--

2 (1) Trailing cables for equipment shall be safely and
3 efficiently insulated and constructed with an outer sheath or
4 jacket of flame-resistant material as approved by the
5 department.

6 (2) Cables for hand-held tools shall be especially
7 flexible, heavily insulated and effectively protected from
8 damage.

9 (3) Each trailing cable on mobile equipment in use shall
10 be examined ~~within two hours of~~ PRIOR TO OPERATING THE ←
11 EQUIPMENT AT the beginning of each shift by the machine
12 operator for abrasions and other defects. The machine
13 operator shall also carefully observe the trailing cable
14 while in use and shall immediately report any defect to the
15 mine official in charge.

16 (4) In the event of the trailing cable in service
17 breaking down or becoming damaged in any way, or of it
18 inflicting a shock upon any individual, it shall be put out
19 of service at once. The faulty cable shall not be used again
20 until it has been repaired and tested by a properly
21 authorized individual.

22 (5) The trailing cable shall be divided at the machine
23 to which it is supplying power, but only for such length as
24 is necessary for making connection to the machine terminals.
25 The trailing cable, with its outer covering complete, shall
26 be securely clamped to the machine frame in a manner that
27 will protect the cable from injury and prevent any mechanical
28 strains on the single ends connected to the machine
29 terminals.

30 (6) No more than five temporary splices shall be made in

1 any trailing cable. After the fifth splice is made, the cable
2 shall be changed before the machine is operated on the
3 following shift. Trailing cables on equipment without a cable
4 reel shall have no temporary splices within 50 feet of the
5 machine before the machine is operated on the following
6 shift. Cable jacket repairs not involving conductors or
7 conductor insulation are not considered temporary splices.

8 (7) Trailing cables shall be hung or adequately
9 protected to prevent them from being run over and damaged by
10 mobile machinery.

11 (8) Trailing cables on off-track equipment shall contain
12 a safety ground conductor, which shall be solidly connected
13 to the machine frame. Cables found to contain defective
14 grounds shall be repaired before use or shall be replaced.
15 The safety ground conductor shall have a cross-sectional area
16 of at least 50% of that of a single power conductor unless
17 used with ground trip protective systems employing ground
18 fault current limiting devices, in which case a smaller
19 safety ground may be used.

20 (e) Motors.--In all mines electrical equipment in use inby
21 the last open crosscut shall have all current-carrying parts
22 completely enclosed in explosion-proof enclosures. This
23 requirement shall not include trailing cable, except where
24 terminated, and shall not include flexible cable as required
25 between motors, controllers, terminal boxes and other
26 auxiliaries. The enclosures shall not be opened except by an
27 authorized individual and then only when the power is switched
28 off. The power shall not be switched on while the enclosures are
29 open. Only permissible equipment is permitted inby the last
30 permanent stopping, except in rooms where open-type equipment

1 may be used only in intake travelways. This exception does not
2 include power distribution equipment.

3 (f) Safeguarding.--The individual in charge of mobile
4 electrical equipment shall not leave the equipment while it is
5 working and shall, before leaving the work area, see that power
6 is cut off the trailing cables.

7 (g) Explosion-tested compartments.--All explosion-tested
8 compartments and packing glands shall be maintained as approved
9 by the department.

10 (h) Detection of gas.--

11 (1) In working places, an approved hand-held gas
12 detection device shall be provided for use with each machine
13 when working. If methane gas is detected in an amount of 1%
14 or greater, the individual in charge shall immediately stop
15 the machine, cut off the current at the nearest switch and
16 report the matter to a mine official.

17 (2) When not in use, equipment shall be parked away from
18 the face. No electrically operated permissible face equipment
19 shall be taken in by the last open breakthrough until the
20 machine operator assures that an inspection for gas has been
21 made in the place where the machine is to be in operation. If
22 methane gas is detected in an amount of 1% or greater by a
23 gas detection device, the machine shall not be taken in. The
24 place shall be dangered off until the gas has been removed or
25 rendered harmless.

26 (3) No electrically operated equipment shall be in use
27 for a period longer than 20 minutes without a check for
28 methane gas as required under this subsection. If methane gas
29 is found at 1% or greater, the individual in charge shall
30 immediately stop the machine, cut off the current at the

1 nearest switch and report the matter to a mine official.

2 (4) The individual finding gas shall at once report the
3 fact to the mine foreman, assistant mine foreman or mine
4 examiner, and the machine shall not again be started in that
5 place until the mine examiner or an individual duly
6 authorized by the mine foreman has examined it and pronounced
7 it safe.

8 (5) If any electric sparking or arc is produced outside
9 a coal-cutting or other portable motor, or by the cables or
10 rails, the machine shall be stopped, disconnected from the
11 power supply and not be worked again until the defect is
12 repaired and the occurrence shall be reported to a mine
13 official.

14 (i) Methane monitors.--

15 (1) Methane monitors shall be installed on all face-
16 cutting machines and other mechanized equipment used to
17 extract or load coal in a mine. The sensing device for
18 methane monitors shall be installed at the return end of the
19 longwall face. An additional sensing device shall also be
20 installed on the longwall shearing machine, down wind and as
21 close to the cutting head as is practicable. The sensing
22 devices for methane on other types of machines shall be
23 installed as close to the working face as is practicable.
24 Methane monitors shall be maintained in permissible and
25 proper operating conditions and shall be calibrated with a
26 known air-methane mixture at least once every 31 days. To
27 assure that methane monitors are properly maintained and
28 calibrated, the operators shall do all of the following:

29 (i) Use individuals properly trained in the
30 maintenance, calibration and permissibility of methane

1 monitors to calibrate and maintain the devices.

2 (ii) Maintain a record of all calibration tests of
3 methane monitors. Records shall be maintained in a secure
4 book that is not susceptible to alteration or
5 electronically in a computer system so as to be secure
6 and not subject to alteration.

7 (iii) Retain the record of calibration tests for one
8 year from the date of the test. Records shall be retained
9 at a surface location at the mine and made available to
10 department representatives and representatives of the
11 mine workers.

12 (2) When the methane concentrations at any methane
13 monitor reach 1%, the monitor shall give a warning signal.
14 The warning signal of the methane monitor shall be visible to
15 the mining machine operator, who can de-energize electric
16 equipment or shut down diesel equipment on which the monitor
17 is mounted. A gas check shall be completed in accordance with
18 this act if at any time the methane concentrations at any
19 methane monitor reach 1.5%. This shall only apply if the
20 methane monitor maintains a warning signal for methane
21 concentrations of 1.5%.

22 (3) The methane monitor shall automatically de-energize
23 electric equipment or shut down diesel-powered equipment when
24 the methane accumulation reaches 2% or the methane monitor is
25 not operating properly.

26 Section 317. Inspection of equipment.

27 (a) Inspection required.--All electrical equipment shall be
28 inspected by the mine electrician or individual designated by
29 the mine electrician weekly and, where necessary, shall be
30 cleaned and repaired.

1 (b) Removal of coal dust.--All electric motors and cables in
2 mechanical sections shall have all excessive coal dust removed
3 from their exterior surfaces once each operating shift.

4 Section 318. Stationary motors.

5 Every stationary motor underground, together with its
6 starting equipment, shall be protected by a fuse or circuit-
7 breaking device on each ungrounded pole and by switches arranged
8 to entirely cut off the power from the motor. The devices shall
9 be installed in a convenient position near the motor, and every
10 stationary underground motor of 100 brake horsepower or over
11 shall be provided with a suitable meter to indicate the load on
12 the machine.

13 Section 319. Permanent underground installation.

14 All electrical equipment not covered elsewhere under this
15 act, and except room hoists and gathering pumps which will
16 remain in the same location for a period of one year or more,
17 shall be completely housed in an incombustible structure built
18 of tile, brick, stone, concrete or grounded steel plates not
19 less than one-eighth inch in thickness, securely joined.

20 Section 320. Underground illumination.

21 (a) Sockets.--In all mines, the sockets of fixed electric
22 lamps shall be of so-called weatherproof type, the exterior of
23 which shall be entirely nonmetallic. Flexible lamp cord
24 connections are prohibited, except for portable lamps as
25 provided under subsection (c).

26 (b) Lamps.--Electric lamps shall be placed so they cannot
27 come in contact with combustible material.

28 (c) Portable electric lamps.--Portable electric lamps, other
29 than battery lamps, shall not be used in connection with the
30 repair and inspection of machines and equipment in face areas.

1 When used elsewhere, they shall be protected by a heavy wire
2 cage completely enclosing both lamp and socket and shall be
3 provided with a handle to which both cage and socket are firmly
4 attached and through which the lead-in wires are carried.

5 (d) Electric lamp enclosure.--Electric lamps, when used in
6 face areas of any mine, shall be installed in explosion-proof
7 enclosures.

8 (e) Electric lamp replacement.--Electric lamps shall be
9 replaced by a competent individual. In face areas, a qualified
10 individual shall be utilized after an examination for gas has
11 been made with an approved gas detection device.

12 (f) Underground photography.--Underground photography using
13 flash bulbs or other sources of artificial illumination shall be
14 prohibited unless immediately preceded by an examination for gas
15 by a mine foreman, assistant mine foreman or mine examiner and
16 the place found safe.

17 Section 321. Telephones and signaling.

18 (a) Telephone service.--Telephone service or equivalent two-
19 way communication facilities shall be provided in all mines
20 between the surface and each working section that is more than
21 1,500 feet from the main portal.

22 (b) Telephone lines.--Telephone lines shall be carried on
23 insulators, installed on the opposite side from power or trolley
24 wires and insulated adequately where they cross power or trolley
25 wires.

26 (c) Lightning arrestors.--Lightning arrestors shall be
27 provided at points where telephone circuits enter the mine.

28 (d) Telephone cables.--Telephone cables permanently
29 installed in power boreholes containing unarmored power cables
30 shall be either armored or protected at top and bottom by

1 insulating transformers.

2 (e) Precautions.--All proper precautions shall be taken to
3 prevent electric signal and telephone wires from coming into
4 contact with other electric conductors, whether insulated or
5 not.

6 (f) Standards generally.--Bells, wires, insulators, contact
7 makers and other apparatus used in connection with electric
8 signaling underground shall be of suitable design and of
9 substantial and reliable construction and erected in such a
10 manner as to reduce the liability of failures or false signals
11 to a minimum.

12 (g) Potential.--In the face areas of any mine, the potential
13 used for signal purposes shall not exceed 24 volts, and bare
14 wires shall not be used for signal circuits.

15 (h) Voltage on signal circuits.--The voltage on signal
16 circuits confined to intake air and using insulated conductors
17 may be greater than 24 volts, but shall not exceed 125 volts
18 average. This shall not apply to haulage block signal systems.
19 Section 322. Grounding.

20 (a) General rule.--In a direct-current electrical system,
21 grounding shall consist in so connecting any part of an
22 electrical system, including frames, to the earth that there
23 shall be no difference of potential between them.

24 (b) Negative side to be grounded.--Only the negative side of
25 the direct-current circuit shall be grounded.

26 (c) Rectifier diodes.--Rectifier diodes used at any
27 bituminous coal mine shall be connected to the supply circuit
28 through an isolating winding in order that isolation between
29 alternating current and direct-current systems is effective.

30 (d) Initial installation.--The initial installation of

1 rectifiers at any bituminous coal mine shall be approved by the
2 department before being energized.

3 Section 323. Voltage limitation.

4 In no case shall the potential used in the trolley system be
5 higher than 600 volts.

6 Section 324. Incoming feeder-disconnect switches.

7 Disconnecting switches shall be installed underground in all
8 main direct-current power circuits within 500 feet of the bottom
9 of shafts, boreholes or at other places where main power
10 circuits enter a mine.

11 Section 325. Bonding.

12 Where air or water pipes parallel the grounded return of
13 power circuits, the return shall be securely bonded to the pipes
14 at frequent intervals to eliminate the possibility of a
15 difference of voltage between rails and pipes and to prevent
16 electrolysis of the pipes. The rail return shall be of
17 sufficient capacity for the current used, independent of the
18 capacity of the pipes. On main haulage roads, both rails shall
19 be bonded, except welded track, and cross bonds shall be placed
20 at points not to exceed 200 feet apart. On secondary haulage
21 roads, one rail shall be bonded continuously.

22 Section 326. Trolley installation.

23 (a) Trolley wires and feeder lines.--All trolley wires and
24 feeder lines installed on underground haulage roads shall be
25 placed as far to one side of the passageway as is practicable,
26 but not less than six inches outside of line of rail, and
27 securely supported upon hangers which shall not be more than 24
28 feet apart and efficiently insulated.

29 (b) Prohibition.--In all mines, trolley and feeder wires
30 shall not extend beyond the last open crosscut and shall be kept

1 at least 150 feet from open pillar workings.

2 (c) Switches or circuit breakers.--All branch trolley lines
3 shall be fitted with either a trolley switch, circuit breaker or
4 section insulator and line switch or some other device that will
5 allow the current to be shut off from the branch headings.

6 Switches or circuit breakers shall be provided on haulage roads
7 to de-energize all trolley and feeder lines at intervals not to
8 exceed 2,000 feet.

9 Section 327. Connections to trolley.

10 (a) Permanent connections.--All permanent connections to
11 trolley feeder circuits shall be made with suitable mechanical
12 connectors. No temporary or permanent connection shall be
13 wrapped or tied.

14 (b) Temporary connections.--Temporary connections for
15 portable equipment may be made through fused trolley taps.

16 (c) Safety ground and negative connections.--Safety ground
17 and negative connections for temporary or permanent
18 installations shall be made at two separate points, at least six
19 inches apart, and shall be made directly to the track, a bond or
20 the system ground.

21 Section 328. Guarding.

22 At all landings and partings or other places where
23 individuals are required to regularly work or pass under trolley
24 or other bare power wires, which are placed less than six and
25 one-half feet above top of rail, a suitable protection shall be
26 provided. This protection shall consist of placing boards along
27 the wire, which boards shall not be more than five inches apart
28 nor less than two inches below the lowest point of the wire. The
29 distance between boards on curves may exceed five inches, but
30 shall not exceed eight inches. This does not prohibit the use of

1 other approved devices or methods furnishing equal or better
2 protection.

3 Section 329. Locomotives.

4 (a) Electric haulage.--Electric haulage by trolley
5 locomotive is not permitted except on intake air.

6 (b) Certain operation prohibited.--It shall be unlawful to
7 run or operate a locomotive, fed directly or indirectly from a
8 trolley wire, by the open entrances to worked out places wherein
9 the pillars have been drawn or places in which the pillars have
10 not been drawn but in places where the roof has collapsed.

11 (c) Certain use proscribed.--No open-type electric
12 locomotive or open-type electric machine of whatsoever type
13 shall be taken into a working place. Main return airways or
14 passageways shall not be used as haulageways for electric
15 locomotives operated from a trolley wire.

16 Section 330. Outdoor substation.

17 The outdoor substation shall be built in accordance with
18 current Institute of Electrical and Electronics Engineers'
19 standards and department equipment performance specification and
20 shall include:

21 (1) Protective fence or enclosure.

22 (2) Primary or incoming line lightning arrestors.

23 (3) Positive disconnecting means on the incoming or
24 primary line with a circuit breaker or fuses to interrupt
25 safely any current, normal or abnormal, which might be
26 encountered.

27 (4) Transformer bank to convert the incoming or primary
28 voltage to the transmission voltage. The use of auto-
29 transformers for this purpose is prohibited. Secondary or
30 underground transmission voltage shall not exceed 15,000

1 volts, nominal, phase to phase. The transformer may be
2 connected delta-wye, wye-delta or delta-delta. Wye-wye
3 connections shall not be used because of voltage instability
4 under some conditions of load. In the event that the
5 secondary winding is delta-connected, the neutral necessary
6 for the four-wire transmission circuit shall be derived by
7 the use of a three-phase zig-zag or grounding transformer.
8 Where grounding transformers are used, they shall be of
9 sufficient capacity to carry maximum ground fault current
10 continuously. Should the substation primary or supply voltage
11 equal the mine transmission voltage, the main transformer
12 bank may be omitted and the zig-zag transformer used to
13 derive a system neutral if one is not otherwise available.

14 (5) Secondary lightning arrestors.

15 (6) Ground fault-current limiting resistor capable of
16 continuously limiting ground fault current to 25 amperes or
17 less. The resistor shall be adequately insulated and shall be
18 protected by a grounded fence or screen unless mounted eight
19 feet or more above ground.

20 (7) Secondary or mine feeder circuit breaker with
21 interrupting capacity adequate for any possible condition of
22 fault and no less than the short circuit capacity of the
23 system supplying power to the breaker. Positive disconnect
24 means shall be provided on the input and output side of the
25 breaker. Use of automatic reclosing circuit breakers is
26 prohibited. Breaker automatic tripping shall be through
27 protective relays and shall provide, as a minimum, tripping
28 by undervoltage, instantaneous and inverse time limit phase
29 overcurrent, ground fault current not exceeding 15 amperes
30 and ground-continuity check not exceeding seven amperes. The

1 ground-continuity check circuit shall continuously monitor
2 the integrity of the neutral circuit leading underground and
3 shall cause the breaker to open when either the ground or
4 pilot check wire is broken. An ammeter capable of reading
5 current in each phase and a voltmeter capable of reading
6 phase-to-phase voltage shall be provided at the circuit
7 breaker.

8 (8) Surge protection or station ground bed to which
9 shall be connected all lightning arrestor grounds, substation
10 equipment frame grounds, fence, if metallic, and substation
11 structure, if metallic. There shall be no direct connection
12 between this ground bed and either the grounded side of the
13 mine direct-current system or the neutral ground bed
14 described below.

15 (9) Neutral or primary ground bed located at least 25
16 feet away from the station ground at its closest point and to
17 which shall be connected only the inby or load end of the
18 neutral current limiting resistor. To prevent current
19 transformer core saturation by stray direct current return
20 currents, or neutral conductor damage, there shall be no
21 direct or metallic connection between any point of the high-
22 voltage alternating current neutral circuit and the mine
23 direct-current ground.

24 (10) Ground bed resistance shall be measured at least
25 every six months and appropriate action taken to assure the
26 maintenance of four ohms or less of ground bed resistance. A
27 record of these resistance measurements shall be kept in a
28 book provided for that purpose.

29 Section 331. High-voltage underground transmission system.

30 (a) Underground.--High-voltage cables leading underground

1 and extending underground shall be of the multiple conductor
2 flame-resistant type with a rubber, plastic or armor sheath
3 meeting the requirements of the department for flame resistance.
4 They shall be equipped with metallic shields around each power
5 conductor. One or more ground conductors shall be provided of a
6 total size either:

- 7 (1) not less than one-half the power conductor size; or
- 8 (2) capable of carrying two times the maximum ground
9 fault current.

10 There shall also be provided an insulated conductor not smaller
11 than No. 10 AWG for the ground-continuity check circuit. Cables
12 shall be adequate for the intended current and voltage. Splices
13 made in the cable shall provide continuity of all components and
14 shall be made in accordance with the cable manufacturers'
15 recommendations. A competent individual designated by the mine
16 electrician shall supervise the making of splices.

17 (b) Subject to flexing.--High-voltage cables subject to
18 repeated flexing shall be similar in construction to type SH-D
19 in accordance with Insulated Power Cable Engineers Association
20 standard S-19-81.

21 (c) Couplers.--If couplers are used, they shall be of the
22 three-phase type with a full metallic shell and shall be
23 adequate for the voltage and current expected. All exposed metal
24 on the couplers shall be grounded to the ground conductor in the
25 cable. The coupler shall be constructed so that the ground
26 continuity conductor shall be broken first and the ground
27 conductor shall be broken last when the coupler is being
28 uncoupled.

29 (d) Equipment passing over or under cable.--At locations
30 where cables cross haulageways or travelways or where equipment

1 must pass over or under the cable, the cables shall be either
2 installed in a trench in the roof, protected by some mechanical
3 means or buried at least 12 inches below combustible material
4 and adequately protected from crushing by the weight of
5 equipment passing over it.

6 (e) Location of installation.--High-voltage cables shall be
7 installed only in intake airways. They may be installed on
8 intake haulageways only with the approval of the department. The
9 cable may be installed by hanging on suitable hooks or clamps,
10 supported by a suitable messenger cable, burying or installing
11 in metal conduit. When suspended, the distance between supports
12 shall not exceed 20 feet, and they shall be so placed that they
13 do not damage the cable jacket. When hung in a haulage entry
14 containing a trolley wire, the cable shall be installed at least
15 12 inches from the trolley wire or feeder wires and away from
16 the track.

17 (f) Excess cable.--Any excess cable which is connected and
18 supplying a load shall be coiled, stored on a reel or otherwise
19 stored at a place near the load where it can be protected by
20 danging off the storage area. The cable shall not exceed 1,000
21 feet in length.

22 (g) Frames and enclosures.--Frames and enclosures of high-
23 voltage switch units, transformers, metallic cable couplers and
24 splice boxes shall be grounded to the common or primary ground
25 for the system in the high-voltage cable.

26 (h) Taps or branch circuits.--Taps or branch circuits from
27 the high-voltage feeder shall be made through circuit breakers
28 or suitable load break switches.

29 (i) Nonload breaking disconnect switches.--When nonload
30 breaking disconnect switches are used for sectionalizing high-

1 voltage circuits, they shall be fully metal clad, equipped with
2 a door interlock to break the ground-continuity check circuit,
3 thus tripping the feeding breaker when the door is open, and a
4 voltmeter or indicating lights to verify that the circuit is
5 deenergized before the disconnected switches are opened.

6 (j) Applicability.--For the purpose of interpretation and
7 compliance with subsection (h) and section 313(h), the following
8 apply:

9 (1) A branch circuit is a subportion of the high-voltage
10 system, serving one or more loads. The branch circuit begins
11 at the junction or splitting of the high-voltage system. The
12 junction consists of the following distinct elements:

13 (i) Input feeder, which delivers power from the
14 source.

15 (ii) Output feeder, which may extend the feeder to
16 other parts of the high-voltage system.

17 (iii) Branch circuit.

18 The output feeder is not considered as a branch circuit and
19 is not required to have electrical protection at the
20 junction, but receives electrical protection either at the
21 source substation or at some place between the source
22 substation and the junction. The branch circuit is required
23 to have protection at the junction.

24 (2) A tap supplies power to the high-voltage loads
25 located entirely within the enclosure where the connection is
26 made. Where no splitting of the feeder cable occurs, neither
27 a tap nor branch is created.

28 (3) A suitable load-break switch, which may be used in
29 lieu of a circuit breaker, is a gang-operated switch with a
30 voltage rating not less than the system voltage, capable of

1 interrupting a current equal to its continuous full load
2 rating and to be used in conjunction with fuses to provide
3 overload and short circuit protection for the load being
4 served.

5 Section 332. Load center.

6 Transmission voltage shall be reduced to machine utilization
7 voltage by a portable transformer or load center of adequate
8 capacity for the equipment powered by it. The transformer shall
9 be of the dry type, ventilated, nonventilated or sealed,
10 substantially constructed and completely enclosed in a metal
11 case. The metal enclosure shall be connected to the high-voltage
12 system ground conductor in the high-voltage cable. Complete load
13 center construction shall render it essentially fireproof. In
14 addition to these requirements, the following shall be observed:

15 (1) Connection of the high-voltage cable to the load
16 center shall be made through a cable coupler of the type
17 described in section 331(c).

18 (2) The load center shall be equipped with a positive
19 disconnect means on the incoming or high-voltage circuit.
20 This may consist of a circuit breaker, load-break switch,
21 disconnect switch or other device. The following apply:

22 (i) If a circuit breaker is used for this purpose,
23 it shall be equipped with instantaneous and inverse time
24 limit phase overcurrent and undervoltage relaying
25 protection.

26 (ii) If a device other than a circuit breaker is
27 used, it shall be so arranged that it cannot be operated
28 until the ground continuity check circuit in the high-
29 voltage cable has opened causing the nearest feeding
30 circuit breaker to trip.

1 (3) The restriction of section 330(4) pertaining to
2 transformer connections and use of zig-zag grounding
3 transformers also apply to the load center.

4 (4) The transformer secondary neutral, direct or
5 derived, shall be connected to machine trailing cable safety
6 ground conductors through a ground current limiting resistor
7 capable of limiting ground fault current to 25 amperes or
8 less. The inby side of the resistor shall be grounded to the
9 load center frame if no DC equipment powered from a common
10 mine DC system can contact the frames of AC equipment powered
11 by this load center. In the event there is a possibility of
12 frame contact between AC equipment and DC equipment supplied
13 from a common DC mine system, the inby side of the resistor
14 may be insulated from the load center frame and shall be
15 solidly connected to the DC ground system.

16 (5) The load center shall be equipped with a main
17 secondary breaker of adequate interrupting capacity with
18 tripping devices which shall feed individual machine breakers
19 located either in the load center or external to it in a
20 separate distribution center. External utilization voltage
21 connections shall be made through receptacles arranged so
22 that they cannot be uncoupled under load.

23 (6) Load centers shall be located on intake air only.
24 Load centers shall not be located beyond the last open
25 crosscut or located closer than 250 feet along the air route
26 to pillar workings.

27 Section 333. Distribution centers.

28 (a) General rule.--Distribution centers may be used to
29 distribute utilization power to portable equipment. The
30 distribution center may be connected to the load center through

1 one or more cables or conductors protected by flame-resistant
2 jackets with combined capacity sufficient to carry the maximum
3 loads that may be encountered. The distribution center shall
4 contain breakers adequate to interrupt any fault current that
5 might occur, which shall feed each unit of equipment that is
6 connected to the distribution center. Each breaker shall be
7 equipped with tripping devices that will function, on overload,
8 phase fault and ground fault. Distribution centers shall be
9 located on intake air only, and shall not be located beyond the
10 last open crosscut or closer than 150 feet from pillar workings
11 unless the distribution center shall have an approved explosion-
12 proof enclosure.

13 (b) Cables.--Utilization voltage cables shall be fitted with
14 plug couplers and provision made so that cables cannot be
15 uncoupled under load. All plugs and sockets shall be
16 substantially constructed, and any exposed metal portions shall
17 be grounded. Couplers shall be constructed so that the ground
18 conductor connection is broken last during uncoupling.

19 (c) Ground conductors.--Utilization voltage conductors,
20 cables or conductor groups shall contain one or more ground
21 conductors which when combined shall be able to carry safely and
22 continuously at least twice the maximum ground fault current.

23 (d) Option.--A combined alternating and direct-current
24 distribution or load center complete within a substantially
25 fireproof metal enclosure, with a dry type transformer and solid
26 state rectifier and adequate automatic electrical protection,
27 may be used to distribute alternating and direct current
28 utilization power. The power supply to this unit may be low,
29 medium or high voltage. When high voltage is utilized, the
30 requirements of section 332 shall apply. When medium or low

1 voltage is utilized, this section shall apply. However, when an
2 external DC distribution device is employed, the rectifier
3 output may be taken through a main DC circuit breaker to that
4 device without the use of a plug and receptacle system.

5 Section 334. Mandatory safety components of electrical
6 equipment.

7 (a) Requirement.--Low-voltage, medium-voltage and high-
8 voltage resistance ground systems shall have ground wire
9 monitors to continuously monitor the continuity of the grounding
10 circuits to the equipment affected, except for:

11 (1) Low-voltage and medium-voltage circuits supplying
12 power to longwall illumination systems.

13 (2) Low-voltage and medium-voltage stationary equipment
14 installed in accordance with all of the following:

15 (i) The equipment is permanently installed at a
16 fixed location.

17 (ii) All load components are securely attached to a
18 common metallic frame or structure.

19 (iii) Each component of the equipment is grounded by
20 two independent equipment safety grounding, each sized
21 appropriately.

22 (iv) At least one of the equipment safety ground
23 conductors to each component is visible for its entire
24 length. High-voltage resistance grounded systems shall
25 have ground wire monitors to continuously monitor the
26 continuity of the grounding circuits. All ground wire
27 monitors shall be designed and constructed to be
28 failsafe.

29 (b) Study.--The mining industry shall initiate a study to
30 enhance the safety of underground direct-current machine cables.

1 The program shall include an evaluation of ground wire monitors
2 for use on all direct-current equipment. The program shall
3 include laboratory and underground testing. The test results
4 shall be documented and presented to the Board of Coal Mine
5 Safety no later than 365 days after the effective date of this
6 act for action by the board.

7 (c) Additional study.--The mining industry shall initiate a
8 study to enhance the safety of underground cables. The program
9 shall include an evaluation of metallic shielded cable,
10 nonmetallic shielded cable and more sensitive ground fault
11 limiting and detection. The program shall include laboratory and
12 underground testing. The results shall be documented and
13 presented to the Board of Coal Mine Safety no later than 365
14 days after the effective date of this act for action by the
15 board.

16 (d) Plugs.--If plugs are used on any cable in a mine, the
17 plugs must be interlocked.

18 Section 335. High-voltage longwalls.

19 Sections 336 through 344 are electrical safety standards that
20 apply to high-voltage longwall circuits and equipment. All other
21 standards established under this act also apply to longwall
22 circuits and equipment when appropriate. The department shall
23 consider existing Federal interpretations of comparable
24 standards when implementing and enforcing these requirements.

25 Section 336. Longwall electrical protection.

26 (a) High-voltage circuits.--High-voltage circuits must be
27 protected against short circuits, overloads, ground faults and
28 undervoltages by circuit-interrupting devices of adequate
29 interrupting capacity as follows:

30 (1) Current settings of short-circuit protective devices

1 must not exceed the setting specified in approval
2 documentation or 75% of the minimum available phase-to-phase
3 short-circuit current, whichever is less.

4 (2) Time-delay settings of short-circuit protective
5 devices used to protect any cable extending from the section
6 power center to a motor-starter enclosure must not exceed the
7 settings specified in approval documentation or one-quarter
8 second, whichever is less. Time-delay settings of short-
9 circuit protective devices used to protect motor and shearer
10 circuits must not exceed the settings specified in approval
11 documentation or three cycles, whichever is less.

12 (3) Ground-fault currents must be limited by a neutral
13 grounding resistor to not more than:

- 14 (i) six and one-half amperes when the nominal
15 voltage of the power circuit is 2,400 volts or less; or
16 (ii) three and three-quarters of an ampere when the
17 nominal voltage of the power circuit exceeds 2,400 volts.

18 (4) High-voltage circuits extending from the section
19 power center must be provided with all of the following:

20 (i) Ground-fault protection set to cause de-
21 energization at not more than 40% of the current rating
22 of the neutral grounding resistor.

23 (ii) A backup ground-fault detection device to cause
24 de-energization when a ground fault occurs with the
25 neutral grounding resistor open.

26 (iii) Thermal protection for the grounding resistor
27 that will de-energize the longwall power center if the
28 resistor is subjected to a sustained ground fault. The
29 thermal protection must operate at either 50% of the
30 maximum temperature rise of the grounding resistor or 150

1 Centigrade or 302 Fahrenheit, whichever is less, and must
2 open the ground-wire monitor circuit for the high-voltage
3 circuit supplying the section power center. The thermal
4 protection must not be dependent upon control power and
5 may consist of a current transformer and overcurrent
6 relay.

7 (5) High-voltage motor and shearer circuits must be
8 provided with instantaneous ground-fault protection set at
9 not more than 0.125 of an ampere.

10 (6) Time-delay settings of ground-fault protective
11 devices used to provide coordination with the instantaneous
12 ground-fault protection of motor and shearer circuits shall
13 not exceed one-quarter second.

14 (7) Undervoltage protection shall be provided by a
15 device which operates on low voltage to cause and maintain
16 the interruption of power to a circuit to prevent automatic
17 restarting of the equipment.

18 (b) Current transformers.--Current transformers used for the
19 ground-fault protection specified in subsection (a)(1), (4)(i)
20 and (5) must be single window type and must be installed to
21 encircle all three-phase conductors. Equipment safety grounding
22 conductors must not pass through or be connected in series with
23 ground-fault current transformers.

24 (c) Test circuit.--Each ground-fault current device
25 specified in subsection (a)(4)(i) and (5) must be provided with
26 a test circuit that will inject a primary current of 50% or less
27 of the current rating of the grounding resistor through the
28 current transformer and cause each corresponding circuit-
29 interrupting device to open.

30 (d) Prohibition.--Circuit-interrupting devices shall not

1 reclose automatically.

2 (e) Multiple cables.--Where two or more high-voltage cables
3 are used to supply power to a common bus in a high-voltage
4 enclosure, each cable must be provided with ground wire
5 monitoring. The ground wire monitoring circuits must cause de-
6 energization of each cable when either the ground monitor or
7 grounding conductor of any cable becomes severed or open. On or
8 after the effective date of this section, parallel-connected
9 cables on newly installed longwalls must be protected as
10 follows:

11 (1) when one circuit-interrupting device is used to
12 protect parallel-connected cables, the circuit-interrupting
13 device must be electrically interlocked with the cables so
14 that the device will open when any cable is disconnected; or

15 (2) when two or more parallel circuit-interrupting
16 devices are used to protect parallel-connected cables, the
17 circuit-interrupting devices must be mechanically and
18 electrically interlocked. Mechanical interlocking shall cause
19 all devices to open simultaneously and electrical
20 interlocking shall cause all devices to open when any cable
21 is disconnected.

22 Section 337. Longwall disconnect switches.

23 (a) Section power center.--The section power center must be
24 equipped with a main disconnecting device installed to de-
25 energize all cables extending to longwall equipment when the
26 device is in the open position.

27 (b) Maintenance.--Disconnecting devices for motor-starter
28 enclosures must be maintained in accordance with the
29 department's approval. The compartment for the disconnect device
30 must be provided with a caution label to warn miners against

1 entering the compartment before de-energizing the incoming high-
2 voltage circuits to the compartment.

3 (c) Rating.--Disconnecting devices must be rated for the
4 maximum phase-to-phase voltage of the circuit in which they are
5 installed and for the full load current of the circuit that is
6 supplied power through the device.

7 (d) Installation.--Each disconnecting device must be
8 designed and installed so that:

9 (1) Visual observation determines that the contacts are
10 open without removing any cover.

11 (2) All load power conductors can be grounded when the
12 device is in the open position.

13 (3) The device can be locked in the open position.

14 (e) Capability.--Disconnecting devices, except those
15 installed in explosion-proof enclosures, shall be capable of
16 interrupting the full load current of the circuit or designed
17 and installed to cause the current to be interrupted
18 automatically prior to the opening of the contacts of the
19 device. Disconnecting devices installed in explosion-proof
20 enclosures shall be maintained in accordance with the
21 department's approval.

22 Section 338. Guarding of longwall cables.

23 (a) High-voltage cables.--High-voltage cables shall be
24 guarded at the following locations:

25 (1) Where individuals regularly work or travel over or
26 under the cables.

27 (2) Where the cables leave cable handling or support
28 systems to extend to electric components.

29 (b) Intent and design of guarding.--Guarding shall minimize
30 the possibility of miners contacting the cables and protect the

1 cables from damage. The guarding shall be made of grounded metal
2 or nonconductive flame-resistant material.

3 Section 339. Longwall cable-handling and support systems.

4 Longwall mining equipment shall be provided with cable-
5 handling and support systems that are constructed, installed and
6 maintained to minimize the possibility of miners contacting the
7 cables and to protect the high-voltage cables from damage.

8 Section 340. Use of longwall insulated cable handling
9 equipment.

10 (a) General rule.--Energized high-voltage cables shall not
11 be handled except when motor or shearer cables need to be
12 trained. When cables need to be trained, high-voltage insulated
13 gloves, mitts, hooks, tongs, slings, aprons or other personal
14 protective equipment capable of providing protection against
15 shock hazard shall be used to prevent direct contact with the
16 cable.

17 (b) Standards, examinations, testing and replacement.--High-
18 voltage insulated gloves, sleeves and other insulated personal
19 protective equipment shall:

20 (1) have a voltage rating of at least Class 1, 7,500
21 volts, that meets or exceeds ASTM F496-97, Standard
22 Specification for In-Service Care of Insulating Gloves and
23 Sleeves (1997);

24 (2) be examined before each use for visible signs of
25 damage;

26 (3) be removed from the underground area of the mine or
27 destroyed when damaged or defective; and

28 (4) be electrically tested every six months.

29 Section 341. Maintenance.

30 Compartment separation and cover interlock switches for

1 motor-starter enclosures shall be maintained in accordance with
2 section 342.

3 Section 342. High-voltage longwall mining systems.

4 (a) General rule.--In each high-voltage motor-starter
5 enclosure, with the exception of a controller on a high-voltage
6 shearer, the disconnect device compartment,
7 control/communications compartment and motor contactor
8 compartment shall be separated by barriers or partitions to
9 prevent exposure of personnel to energized high-voltage
10 conductors or parts. Barriers or partitions shall be constructed
11 of grounded metal or nonconductive insulating board.

12 (a.1) High-voltage shearers.--In each motor-starter
13 enclosure on a high-voltage shearer, the high-voltage components
14 shall be separated from lower voltage components by barriers or
15 partitions to prevent exposure of personnel to energized high-
16 voltage conductors or parts. Barriers or partitions shall be
17 constructed of grounded metal or nonconductive insulating board.

18 (b) Interlock switches.--Each cover of a compartment in the
19 high-voltage motor-starter enclosure containing high-voltage
20 components shall be equipped with at least two interlock
21 switches arranged to automatically de-energize the high-voltage
22 components within that compartment when the cover is removed.

23 (c) Circuit-interrupting devices.--Circuit-interrupting
24 devices shall be designed and installed to prevent automatic
25 reclosure.

26 (d) Transformers.--Transformers with high-voltage primary
27 windings that supply control voltages shall incorporate grounded
28 electrostatic (Faraday) shielding between the primary and
29 secondary windings. The shielding shall be connected to the
30 equipment ground by a minimum No. 12 AWG grounding conductor.

1 The secondary nominal voltage shall not exceed 120 volts, line
2 to line.

3 (e) Test circuits.--Test circuits shall be provided for
4 checking the condition of ground wire monitors and ground-fault
5 protection without exposing personnel to energized circuits.
6 Each ground-test circuit shall inject a primary current of 50%
7 or less of the current rating of the grounding resistor through
8 the current transformer and cause each corresponding circuit-
9 interrupting device to open.

10 (f) Disconnect devices.--Each motor-starter enclosure, with
11 the exception of a controller on a high-voltage shearer, shall
12 be equipped with a disconnect device installed to de-energize
13 all high-voltage power conductors extending from the enclosure
14 when the device is in the open position.

15 (1) When multiple disconnect devices located in the same
16 enclosure are used to satisfy the requirement of this
17 subsection, they shall be mechanically connected to provide
18 simultaneous operation by one handle.

19 (2) The disconnect device shall be rated for the maximum
20 phase-to-phase voltage and the full-load current of the
21 circuit in which it is located and installed so that:

22 (i) visual observation determines that the contacts
23 are open without removing any cover;

24 (ii) the load-side power conductors are grounded
25 when the device is in the open position;

26 (iii) the device can be locked in the open position;

27 (iv) when located in an explosion-proof enclosure,
28 the device shall be designed and installed to cause the
29 current to be interrupted automatically prior to the
30 opening of the contacts; and

1 (v) when located in a nonexplosion-proof enclosure,
2 the device shall be designed and installed to cause the
3 current to be interrupted automatically prior to the
4 opening of the contacts, or the device shall be capable
5 of interrupting the full-load current of the circuit.

6 (g) Starters to be interlocked.--Control circuits for the
7 high-voltage motor starters shall be interlocked with the
8 disconnect device so that:

9 (1) The control circuit can be operated with an
10 auxiliary switch in the test position only when the
11 disconnect device is in the open and grounded position.

12 (2) The control circuit can be operated with the
13 auxiliary switch in the normal position only when the
14 disconnect switch is in the closed position.

15 (h) Determination of minimum available fault current.--A
16 study to determine the minimum available fault current shall be
17 submitted to the department to ensure adequate protection for
18 the length and conductor size of the longwall motor, shearer and
19 trailing cables.

20 (i) Shielded construction of certain cables.--Longwall motor
21 and shearer cables with nominal voltages greater than 660 volts
22 shall be made of a shielded construction with a grounded
23 metallic shield around each power conductor.

24 (j) Instantaneous ground fault protection.--High-voltage
25 motor and shearer circuits shall be provided with instantaneous
26 ground fault protection of not more than 0.125 of an ampere.
27 Current transformers used for this protection shall be of the
28 single window type and shall be installed to encircle all three-
29 phase conductors.

30 Section 343. Longwall electrical work.

1 (a) Qualified workers.--Electrical work on all circuits and
2 equipment associated with high-voltage longwalls shall be
3 performed by MSHA-qualified persons.

4 (b) Procedures for work on circuits and equipment.--Except
5 for troubleshooting and testing of energized circuits and
6 equipment as provided under subsection (d), prior to performing
7 electrical work a qualified individual shall do the following:

8 (1) De-energize the circuit or equipment with a circuit-
9 interrupting device.

10 (2) Open the circuit-disconnecting device. On high-
11 voltage circuits, ground the power conductors until work on
12 the circuit is completed.

13 (3) Lock out the disconnecting device with a padlock.
14 When more than one qualified individual is performing work,
15 each individual shall install an individual padlock.

16 (4) Tag the disconnecting device to identify each
17 individual working and the circuit or equipment on which work
18 is being performed.

19 (c) Restrictions relating to low-voltage, medium-voltage or
20 high-voltage distribution circuits or equipment.--No electrical
21 work shall be performed on low-voltage, medium-voltage or high-
22 voltage distribution circuits or equipment, except by a
23 qualified individual or an individual trained to perform
24 electrical work and to maintain electrical equipment under the
25 direct supervision of a qualified individual. Disconnecting
26 devices shall be locked out and suitably tagged by the
27 individuals who perform the work, except that in cases where
28 locking out is not possible, the devices shall be opened and
29 suitably tagged by individuals performing the work. Locks or
30 tags shall be removed only by the individuals who installed them

1 or, if such individuals are unavailable, by individuals
2 authorized by the operator or his agent.

3 (d) Troubleshooting and testing of energized circuits.--
4 Troubleshooting and testing of energized circuits must be
5 performed only:

6 (1) On low-voltage and medium-voltage circuits.

7 (2) When the purpose of troubleshooting and testing is
8 to determine voltages and currents.

9 (3) By an individual qualified to perform electrical
10 work and who wears protective gloves. Rubber-insulating
11 gloves shall be rated at least for the nominal voltage of the
12 circuit when the voltage of the circuit exceeds 120 volts
13 nominal and is not intrinsically safe.

14 (e) Troubleshooting and testing of multiple voltage
15 circuits.--Before troubleshooting and testing a low-voltage or
16 medium-voltage circuit contained in a compartment with a high-
17 voltage circuit, the high-voltage circuit must be de-energized,
18 disconnected, grounded, locked out and tagged in accordance with
19 subsection (b).

20 (f) Conveyor belt structures.--Prior to the installation or
21 removal of a conveyor belt structure, high-voltage cables
22 extending from the section power center to the longwall
23 equipment and located in the belt entries shall be:

24 (1) deenergized; or

25 (2) guarded in accordance with section 338, at the
26 location where the belt structure is being installed or
27 removed.

28 Section 344. Testing, examination and maintenance of longwall
29 equipment.

30 (a) Equipment subject to seven-day inspection schedule.--At

1 least once every seven days, a MSHA-qualified individual shall
2 test and examine each unit of high-voltage longwall equipment
3 and circuits to determine that electrical protection, equipment
4 grounding, permissibility cable insulation and control devices
5 are being properly maintained to prevent fire, electrical shock,
6 ignition or operational hazards from existing on the equipment.
7 Tests shall include activating the ground-fault test circuit.

8 (b) Equipment subject to 30-day inspection schedule.--Each
9 ground-wire monitor and associated circuits shall be examined
10 and tested at least once every 30 days to verify proper
11 operation and to verify that it will cause the corresponding
12 circuit-interrupting device to open.

13 (c) Removal or repair of equipment.--When examinations or
14 tests of equipment reveal a fire, electrical shock, ignition or
15 operational hazard, the equipment must be removed from service
16 immediately or repaired immediately.

17 (d) Certifications and records.--At the completion of
18 examinations and tests required by this section, the individual
19 who makes the examinations and tests shall certify by signature
20 and date that they have been conducted. A record shall be made
21 of any unsafe condition found and any corrective action taken.
22 Certifications and records shall be kept for at least one year
23 and shall be made available for inspection by authorized
24 representatives of the department and representatives of miners.

25 Section 345. (Reserved).

26 Section 346. (Reserved).

27 Section 347. (Reserved).

28 Section 348. (Reserved).

29 Section 349. (Reserved).

30 Section 350. Equipment approvals.

1 (a) Departmental discretion.--The department may require the
2 approval of all underground equipment, surface substations
3 feeding power underground, fans and personnel conveyances
4 (elevators, man hoists and escape capsules) connected to an
5 underground mine. All elevators at the time of installation
6 shall meet the criteria established in the current American
7 Society of Mechanical Engineers A17.1 Code, pertaining to
8 special application elevators, mine elevators, connected to an
9 underground mine. The equipment shall be grouped as follows for
10 the purposes of approval:

11 (1) Bituminous face equipment (BFE) - permissible
12 equipment.

13 (2) Bituminous open type equipment (BOTE) - non-
14 permissible equipment.

15 (3) Bituminous power distribution equipment (BPDE) -
16 nonpermissible power equipment.

17 (4) Surface installations:

18 (i) Mine power substations (MM-S).

19 (ii) Fans I (MM-F).

20 (iii) Personnel conveyances (MM-P).

21 (5) Minewide monitoring systems (MWMS).

22 (b) Limitation of approvals.--The approvals under subsection
23 (a) are specifically limited by the provision that permissible
24 equipment approved by the MSHA Approval and Certification Center
25 that is not in conflict with and which meets the requirements of
26 this act shall be deemed to be approved by the department.

27 (c) Procedures for approval.--The procedures for approval of
28 underground and surface equipment are as follows:

29 (1) Approvals shall be limited to electrical systems,
30 safety systems required by this act and specifications

1 developed by the task force established by the parties and
2 provided for under subsection (d).

3 (2) Newly purchased permissible equipment shall be
4 constructed in a fashion as to provide accessibility for
5 inspection of permissible components.

6 (3) The evaluation to determine whether the equipment
7 should be approved shall be based strictly on the specific
8 criteria set forth in this act and the performance
9 specifications under subsection (d). In the absence of
10 performance specifications for equipment or specific
11 provisions of this act addressing such equipment; and if the
12 department considers that the equipment as designed or built
13 poses an unacceptable risk to the health or safety of miners,
14 the following procedure shall be applied:

15 (i) The department, in a written report, shall
16 specify the unacceptable risk, based upon objective
17 ascertainable data and criteria approved by a nationally
18 recognized standards organization.

19 (ii) The department shall convene a task force to
20 develop specifications for the equipment in an expedited
21 fashion.

22 (iii) If the task force is unable to develop
23 applicable performance standards within 75 days, the
24 department may continue to withhold approval based upon
25 noncompliance with a mandatory safety standard of a
26 nationally recognized standards organization that has
27 been shown to be appropriate for mining.

28 (4) For new equipment, the prototype of which has not
29 been previously approved, a manufacturer or operator shall
30 submit to the department an application requesting approval.

1 The request for approval shall include four schematics, a
2 description and any other pertinent information for the
3 equipment.

4 (5) The application under paragraph (4) shall be
5 reviewed within 15 working days after receipt. Within the 15-
6 day period the department shall communicate verbally and in
7 writing to the applicant all discrepancies between the
8 application and the equipment performance specifications. If
9 the department does not communicate to the applicant within
10 the 15 days as described in this paragraph, the application
11 shall be deemed approved. If the applicant submits additional
12 schematics or information, the department shall have an
13 additional 15 days to communicate to the applicant concerning
14 such additional schematics or information.

15 (6) When the application review under paragraph (5) is
16 complete, an inspector shall be assigned to evaluate the
17 equipment and the operator or manufacturer notified of that
18 assignment. The equipment inspection shall be scheduled
19 within 20 working days of the departmental inspector being
20 notified. If the inspector gets to the inspection site and
21 the equipment is not in conformance with the specific
22 criteria set forth in this act and the performance
23 specifications described in this section, the time frame
24 shall stop. When the equipment has been modified to conform
25 with the specific criteria set forth in this act and the
26 performance specifications, the operator shall notify the
27 department for a reinspection, and the department shall
28 schedule the reinspection within ten working days. If the
29 equipment is in conformance with the specific criteria set
30 out in this act and the performance specifications described

1 in this section, but the schematics are not, the equipment
2 can be used, but the operator or manufacturer shall have ten
3 working days to resubmit the corrected schematics or the
4 equipment shall be taken out of service.

5 (7) For previously approved equipment that an operator
6 proposes to modify, the approval procedure established for
7 new equipment that has not been previously approved is to be
8 applicable. The approval process shall address only the
9 modification that has been made and shall not require changes
10 to the components of the equipment that were initially
11 approved. For the purpose of this paragraph, modification
12 shall not include changes to equipment in which components
13 are changed and replaced with components that provide
14 equivalent protection. Modifications subject to approval
15 shall include only those changes to equipment which affect
16 whether the equipment still satisfies the applicable
17 performance specifications described in this section or set
18 out specifically in this act.

19 (8) Approved equipment and repaired equipment that has
20 not been modified are outside the scope of the approval
21 process and shall be handled under the mine inspection
22 program of the department.

23 (9) Any direction to take corrective action shall be in
24 writing and shall specify the provisions of this act or the
25 performance specifications upon which the department relies.

26 (10) The department has the right to inspect equipment
27 to determine that it is in compliance with applicable
28 requirements of this act and the equipment performance
29 specifications. The inspections shall be performed in the
30 normal course of inspecting the mine and shall, to the extent

1 feasible, minimize the disruption of production.

2 (11) New or rebuilt equipment that has been approved,
3 but has not been inspected by an approval inspector, shall be
4 inspected by a mine electrical inspector. The operator shall
5 give reasonable notice to the mine electrical inspector for
6 an inspection prior to the equipment entering the mine. The
7 inspection shall be performed in the normal course of
8 inspecting the mine and shall, to the extent feasible,
9 minimize the disruption of production.

10 (d) Written criteria for equipment performance
11 specifications.--A task force shall be established to develop
12 written criteria for equipment performance specifications.

13 (1) The task force shall be comprised of equal numbers
14 of representatives, not less than two nor more than four,
15 selected by the department and the major trade association
16 representing coal operators in this Commonwealth. Final
17 consensus on performance specifications shall be determined
18 by a majority of the task force.

19 (2) The task force shall develop performance
20 specifications for approval of equipment and reserves the
21 right, for just cause, to add or delete from the developed
22 equipment performance specifications.

23 (3) All equipment performance specifications approved
24 pursuant to the stipulation of settlement shall remain in
25 effect unless and until they are modified, suspended or
26 revoked by this act, regulations promulgated under this act
27 or the equipment performance specifications task force.

28 (e) Definitions.--As used in this section, the following
29 words and phrases shall have the meanings given to them in this
30 subsection:

1 "Permissible equipment." As applied to electric face
2 equipment, all electrically operated equipment taken into or
3 used in or by the last open crosscut of an entry or a room of
4 any coal mine the electrical parts of which equipment,
5 including, but not limited to, associated electrical equipment,
6 components and accessories, are designed, constructed and
7 installed in accordance with the specifications of MSHA to
8 assure that the equipment will not cause a mine explosion or
9 mine fire, and the other features of which are designed and
10 constructed, in accordance with the specifications of the
11 Department of Environmental Protection, to prevent, to the
12 greatest extent possible, other accidents in the use of the
13 equipment.

14 CHAPTER 4

15 DIESEL-POWERED EQUIPMENT

16 Section 401. Underground use.

17 (a) General rule.--Underground use of inby and outby diesel-
18 powered equipment, including mobile equipment, stationary
19 equipment and equipment of all horsepower ratings, shall only be
20 approved, operated and maintained as provided under this
21 chapter, except for emergency fire-fighting equipment to be used
22 specifically for that purpose.

23 (b) Required attendant.--All diesel-powered equipment shall
24 be attended while in operation with the engine running in
25 underground mines. For purposes of this subsection, "attended"
26 shall mean an equipment operator is within sight or sound of the
27 diesel-powered equipment.

28 (c) Required certifications or approvals.--Inby and outby
29 diesel-powered equipment may be used in underground mines if the
30 inby or outby diesel-powered equipment uses an engine approved

1 or certified by MSHA, as applicable, for inby or outby use that,
2 when tested at the maximum fuel-air ratio, does not require a
3 MSHA Part 7 approval plate ventilation rate exceeding 75 c.f.m.
4 per rated horsepower. If MSHA promulgates new regulations that
5 change the MSHA Part 7 approval plate ventilation rate, the
6 c.f.m. requirement per rated horsepower shall be revised either
7 up or down on a direct ratio basis upon recommendation of the
8 technical advisory committee in accordance with section 424.
9 Section 402. Diesel-powered equipment package.

10 (a) Approval.--All diesel-powered equipment shall be
11 approved by the department as a complete diesel-powered
12 equipment package which shall be subject to all of the
13 requirements, standards and procedures set forth under this
14 chapter.

15 (b) Diesel engine approval.--Diesel engines shall be
16 certified or approved, as applicable, by MSHA and maintained in
17 accordance with MSHA certification or approval and approval by
18 the department.

19 Section 403. Exhaust emissions control.

20 (a) Exhaust emissions control systems.--

21 (1) Except as provided in paragraph (3), underground
22 diesel-powered equipment shall include an exhaust emissions
23 control and conditioning system that has been laboratory
24 tested with the diesel engine using the ISO 8178-1 test and
25 has resulted in diesel particulate matter emissions that do
26 not exceed an average concentration of 0.12 mg/m³ when
27 diluted by 100% of the MSHA Part 7 approval plate ventilation
28 rate for that diesel engine. If MSHA promulgates new
29 regulations that change the MSHA Part 7 approval plate
30 ventilation rate, the dilution percentage relative to the

1 approval plate ventilation rate shall be adjusted either up
2 or down on a direct ratio basis upon recommendation of the
3 technical advisory committee in accordance with section 424.

4 (2) Except as provided in paragraph (3), the exhaust
5 emissions control and conditioning system shall be required
6 to successfully complete a single series of laboratory tests
7 for each diesel engine, conducted at a laboratory accepted by
8 the department.

9 (3) An exhaust emissions control and conditioning system
10 may be approved for multiple diesel engine applications
11 through a single series of laboratory tests, known as the ISO
12 8178-1 test, only if data is provided to the technical
13 advisory committee that reliably verifies that the exhaust
14 emissions control and conditioning system meets, for each
15 diesel engine, the in-laboratory diesel particulate matter
16 standard established by this subsection. Data provided to
17 satisfy this paragraph shall include diesel particulate
18 matter production rates for the specified engine as measured
19 during the ISO 8178-1 test, if available. If ISO 8178-1 test
20 data for diesel particulate matter production is not
21 available for a specified engine, comparable data may be
22 provided to the technical advisory committee that reliably
23 verifies that the exhaust emissions control and conditioning
24 system shall meet, for the specified diesel engine, the in-
25 laboratory diesel particulate matter standard established by
26 this subsection. This standard shall only be used for in-
27 laboratory testing for approval of diesel-powered equipment
28 for use underground.

29 (b) Components of exhaust emissions system.--The exhaust
30 emissions control and conditioning system shall include the

1 following:

2 (1) A diesel particulate matter (DPM) filter that has
3 proven capable of a reduction in total diesel particulate
4 matter to a level that does not exceed the requirements of
5 subsection (a)(1). However, the technical advisory committee
6 may evaluate, in accordance with section 424, alternative
7 technologies that have the ability to meet the 0.12 mg/m³
8 standard.

9 (2) An oxidation catalyst or other gaseous emissions
10 control device capable of reducing undiluted carbon monoxide
11 emissions to 100 parts per million or less under all
12 conditions of operation at normal engine operating
13 temperature range.

14 (3) An engine surface temperature control capable of
15 maintaining significant external surface temperatures below
16 302 degrees Fahrenheit.

17 (4) A system capable of reducing the exhaust gas
18 temperature below 302 degrees Fahrenheit.

19 (5) An automatic engine shutdown system that shuts off
20 the engine before the exhaust gas temperature reaches 302
21 degrees Fahrenheit and, if water-jacketed components are
22 used, before the engine coolant temperature reaches 212
23 degrees Fahrenheit. A warning shall be provided to alert the
24 equipment operator prior to engine shutdown.

25 (6) A spark arrestor system.

26 (7) A flame arrestor system.

27 (8) A sampling port for measurement of undiluted and
28 untreated exhaust gases as they leave the engine.

29 (9) A sampling port for measurement of treated undiluted
30 exhaust gases before they enter the mine atmosphere.

1 (10) For permissible diesel equipment, any additional
2 MSHA regulations must be met.

3 (c) Diagnostics systems.--Onboard engine performance and
4 maintenance diagnostics systems shall be capable of continuously
5 monitoring and giving readouts for paragraphs (1), (2), (3),
6 (4), (5), (6), (7) and (8). The diagnostics system shall
7 identify levels that exceed the engine or component
8 manufacturer's recommendation or the applicable MSHA or bureau
9 requirements as to the following:

- 10 (1) Engine speed.
- 11 (2) Operating hour meter.
- 12 (3) Total intake restriction.
- 13 (4) Total exhaust back pressure.
- 14 (5) Cooled exhaust gas temperature.
- 15 (6) Coolant temperature.
- 16 (7) Engine oil pressure.
- 17 (8) Engine oil temperature.

18 Section 404. Ventilation.

19 (a) Minimum quantities.--Minimum quantities of ventilating
20 air where diesel-powered equipment is operated shall be
21 maintained pursuant to this section.

22 (b) Approvals.--Each specific model of diesel-powered
23 equipment shall be approved by the department before it is taken
24 underground. The department shall require that an approval plate
25 be attached to each piece of the diesel-powered equipment. The
26 approval plate shall specify the minimum ventilating air
27 quantity for the specific piece of diesel-powered equipment. The
28 minimum ventilating air quantity shall be determined by the
29 bureau based on the amount of air necessary at all times to
30 maintain the exhaust emissions at levels not exceeding the

1 exposure limits established under section 419.

2 (c) Minimum air quantities.--The minimum quantities of air
3 in any split where any individual unit of diesel-powered
4 equipment is being operated shall be at least that specified on
5 the approval plate for that equipment. Air quantity measurements
6 to determine compliance with this requirement shall be made at
7 the individual unit of diesel-powered equipment.

8 (d) Multiple units in operation.--Where multiple units are
9 operated, the minimum quantity shall be at least the total of
10 100% of MSHA's Part 7 approval plate ventilation rate for each
11 unit operating in that split. Air quantity measurements to
12 determine compliance with this requirement shall be made at the
13 most downwind unit of diesel-powered equipment that is being
14 operated in that air split. If MSHA promulgates new regulations
15 that change the MSHA Part 7 approval plate ventilation rate, the
16 minimum quantity where multiple units are operated shall be
17 revised on a direct ratio basis upon recommendation of the
18 technical advisory committee in accordance with section 424.

19 (e) Minimum quantities of air in certain splits.--The
20 minimum quantities of air in any split where any diesel-powered
21 equipment is operated shall be in accordance with the minimum
22 air quantities required in subsections (a), (b) and (c) and
23 shall be specified in the mine diesel ventilation plan.

24 Section 405. Fuel storage facilities.

25 (a) General rule.--An underground diesel fuel storage
26 facility shall be any facility designed and constructed to
27 provide for the storage of any mobile diesel fuel transportation
28 units or the dispensing of diesel fuel.

29 (b) Diesel fuel standards.--Diesel-powered equipment shall
30 be used underground only with fuel that meets the standards of

1 the most recently approved United States Environmental
2 Protection Agency (EPA) guidelines for over-the-road fuel.
3 Additionally, the fuel shall also meet the ASTM D975 standards
4 with a flash point of 100 degrees Fahrenheit or greater at
5 standard temperature and pressure. The operator shall maintain a
6 copy of the most recent delivery receipt from the supplier to
7 verify that the fuel used underground meets this standard.

8 (c) Requirements.--Underground diesel fuel storage
9 facilities shall meet the following general requirements:

10 (1) Fixed underground diesel fuel storage tanks are
11 prohibited.

12 (2) No more than 500 gallons of diesel fuel shall be
13 stored in each underground diesel fuel storage facility.

14 (d) Location.--Underground diesel fuel storage facilities
15 shall be located as follows:

16 (1) at least 100 feet from shafts, slopes, shops and
17 explosives magazines;

18 (2) at least 25 feet from trolley wires, haulage ways,
19 power cables and electric equipment not necessary for the
20 operation of the storage facilities; and

21 (3) in an area that is as dry as practicable.

22 (e) Construction requirements.--

23 (1) Underground diesel fuel storage facilities shall
24 meet the construction requirements and safety precautions
25 under this subsection.

26 (2) Underground diesel fuel storage facilities shall
27 meet all of the following:

28 (i) Be constructed of noncombustible materials and
29 provided with either self-closing or automatic closing
30 doors.

1 (ii) Be ventilated directly into the return air
2 course using noncombustible materials.

3 (iii) Be equipped with an automatic fire suppression
4 system complying with section 408. The technical advisory
5 committee may recommend for approval an alternate method
6 of complying with this section on a mine-by-mine basis in
7 accordance with section 424.

8 (iv) Be equipped with at least two portable 20-pound
9 multipurpose dry-chemical type fire extinguishers.

10 (v) Be marked with conspicuous signs designating
11 combustible liquid storage.

12 (vi) Be included in the preshift examination.

13 (3) Welding or cutting other than that performed in
14 accordance with paragraph (4) shall not be done within 50
15 feet of a diesel fuel storage facility.

16 (4) When it is necessary to weld, cut or solder
17 pipelines, cylinders, tanks or containers that may have
18 contained diesel fuel, the following requirements shall
19 apply:

20 (i) Cutting or welding shall not be performed on or
21 within containers or tanks that have contained
22 combustible or flammable materials until the containers
23 or tanks have been thoroughly purged and cleaned or
24 rendered inert and a vent or opening is provided to allow
25 for sufficient release of any buildup pressure before
26 heat is applied.

27 (ii) Diesel fuel shall not be allowed to enter
28 pipelines or containers that have been welded, soldered,
29 brazed or cut until the metal has cooled to ambient
30 temperature.

1 Section 406. Transfer of diesel fuel.

2 (a) General rule.--Diesel fuel shall be transferred as
3 provided in this section.

4 (b) Pump transfers.--When diesel fuel is transferred by
5 means of a pump and a hose equipped with a nozzle containing a
6 self-closing valve, a powered pump may be used only if:

7 (1) the hose is equipped with a nozzle containing a
8 self-closing valve without a latch-open device; and

9 (2) the pump is equipped with an accessible emergency
10 shutoff switch.

11 (c) Compressed gas prohibition.--Diesel fuel shall not be
12 transferred using compressed gas.

13 (d) Status of diesel engine.--Diesel fuel shall not be
14 transferred to the fuel tank of diesel-powered equipment while
15 the equipment's engine is running.

16 (e) Dry-system design.--Diesel fuel piping systems shall be
17 designed and operated as dry systems.

18 (f) Standards for pipes, valves and fittings.--All piping,
19 valves and fittings shall meet the following requirements:

20 (1) Be capable of withstanding working pressures and
21 stresses.

22 (2) Be capable of withstanding four times the static
23 pressures.

24 (3) Be compatible with diesel fuel.

25 (4) Be maintained in a manner that prevents leakage.

26 (g) Manual shutoff valves.--Vertical pipelines shall have
27 manual shutoff valves installed at the surface filling point and
28 at the underground discharge point.

29 (h) Exposed fuel pipelines.--Unburied diesel fuel pipelines
30 shall not exceed 300 feet in length and shall have shutoff

1 valves located at each end of the unburied pipeline.

2 (i) Horizontal pipeline prohibition.--Horizontal pipelines
3 shall not be used to distribute fuel throughout a mine.

4 (j) Limitation on piping systems.--Diesel fuel piping
5 systems shall be used only to transport fuel from the surface
6 directly to a single underground diesel fuel transfer point.

7 (k) Restrictions related to boreholes.--When boreholes are
8 used, the diesel fuel piping system shall not be located in a
9 borehole with electric power cables.

10 (l) Inspections.--Diesel fuel pipelines located in any shaft
11 shall be included as part of the required examination of the
12 shaft.

13 (m) Location in entries.--Diesel fuel piping systems located
14 in entries shall not be located on the same side of the entry as
15 electric cables or power lines.

16 (n) Trolley-haulage limitations.--Diesel fuel pipelines
17 shall not be located in any trolley-haulage entry, except that
18 they may cross the entry perpendicular if buried or otherwise
19 protected from damage and sealed.

20 (o) Protection.--Diesel fuel piping systems shall be
21 protected to prevent physical damage.

22 Section 407. Containers.

23 (a) General rule.--Containers for the transport of diesel
24 fuel shall meet the requirements of this section.

25 (b) Limitations on containers.--Diesel fuel shall be
26 transported only in containers specifically designed for the
27 transport of diesel fuel.

28 (c) Limitations on vehicle transport.--No more than one
29 safety can, conspicuously marked, shall be transported on a
30 vehicle at any time.

1 (d) Standards for containers other than safety containers.--
2 Containers, other than safety cans, used to transport diesel
3 fuel shall be provided with the following:

4 (1) Devices for venting.

5 (2) Self-closing caps.

6 (3) Vent pipes at least as large as the fill or
7 withdrawal connection, whichever is larger, but not less than
8 one and one-fourth inch nominal inside diameter.

9 (4) Liquid-tight connections for all container openings
10 that are identified by conspicuous markings and closed when
11 not in use.

12 (5) Shutoff valves located within one inch of the tank
13 shell on each connection through which liquid can normally
14 flow.

15 (e) Tanks with manual gauging.--When tanks are provided with
16 openings for manual gauging, liquid-tight caps or covers shall
17 be provided and shall be kept closed when not open for gauging.

18 (f) Capacity of containers.--Containers used for the
19 transport of diesel fuel shall not exceed a capacity of 500
20 gallons.

21 (g) Certain containers as permanent fixtures.--Containers,
22 other than safety cans, used for the transport of diesel fuel
23 shall be permanently fixed to the transportation unit.

24 (h) Method of transportation.--Diesel fuel transportation
25 units shall be transported individually and not with any other
26 cars, except that two diesel fuel transportation units up to a
27 maximum of 500 gallons each may be transported together.

28 (i) Prohibition.--Diesel fuel shall not be transported on
29 conveyor belts.

30 (j) Fire extinguisher.--When transporting diesel fuel in

1 containers other than safety cans, a fire extinguisher shall be
2 provided on each end of the transportation unit. The fire
3 extinguishers shall be multipurpose type dry-chemical fire
4 extinguishers containing a nominal weight of 20 pounds.

5 (k) Fire suppression systems for diesel transportation
6 units.--Diesel fuel transportation units shall have a fire
7 suppression system that meets the requirements of section 408.

8 (l) Limitations where trolley wires are present.--In mines
9 where trolley wire is used, diesel fuel transportation units
10 shall be provided with insulating material to protect the units
11 from any energized trolley wire, and the distance between the
12 diesel fuel transportation unit and the trolley wire shall not
13 be less than 12 inches, or the trolley wire shall be de-
14 energized when diesel fuel transportation units are transported
15 through the area.

16 (m) Parking restrictions.--Unattended diesel fuel
17 transportation units shall be parked only in underground diesel
18 fuel storage facilities.

19 (n) Emergency fueling restrictions.--Safety cans shall be
20 used for emergency fueling only.

21 (o) Standards for safety cans.--Safety cans shall be clearly
22 marked, have a maximum capacity of five gallons, be constructed
23 of metal and be equipped with a nozzle and self-closing valves.
24 Section 408. Fire suppression for equipment and transportation.

25 (a) General rule.--Fire suppression systems for diesel-
26 powered equipment and fuel transportation units shall meet the
27 requirements of this section.

28 (b) Type system.--The system must be an automatic
29 multipurpose dry-powder type fire suppression system suitable
30 for the intended application and listed or approved by a

1 nationally recognized independent testing laboratory.

2 Installation requirements shall be as follows:

3 (1) The system shall be installed in accordance with the
4 manufacturer's specifications and the limitations of the
5 listing or approval.

6 (2) The system shall be installed in a protected
7 location or guarded to minimize physical damage from routine
8 operations.

9 (3) Suppressant agent distribution tubing or piping of
10 the system shall be secured and protected against damage,
11 including pinching, crimping, stretching, abrasion and
12 corrosion.

13 (4) Discharge nozzles of the system shall be positioned
14 and aimed for maximum fire suppression effectiveness in the
15 protected areas. Nozzles shall also be protected against the
16 entrance of foreign materials, such as mud, coal dust or rock
17 dust that could prevent proper discharge of suppressant
18 agent.

19 (c) Automatic fire detection and suppression.--The fire
20 suppression system shall provide automatic fire detection and
21 suppression for all of the following:

22 (1) The engine, transmission, hydraulic pumps and tanks,
23 fuel tanks, exposed brake units, air compressors and battery
24 areas, as applicable, on all diesel-powered equipment.

25 (2) Fuel containers and electric panels or controls used
26 during fuel transfer operations on fuel transportation units.

27 (d) Fault and fire alarm annunciators.--The fire suppression
28 system shall include a system fault and fire alarm annunciator
29 that can be seen and heard by the equipment operator.

30 (e) Automatic engine shutdown.--The fire suppression system

1 shall provide for automatic engine shutdown. Engine shutdown and
2 discharge of suppressant agent may be delayed for a maximum of
3 15 seconds after the fire alarm annunciator alerts the operator.

4 (f) Manual actuators.--At least two manual actuators shall
5 be provided, with at least one manual actuator at each end of
6 the equipment. If the equipment is provided with an operator's
7 compartment, one of the mechanical actuators shall be located in
8 the compartment within easy reach of the operator. For
9 stationary equipment, the two manual actuators shall be located
10 with at least one actuator on the stationary equipment and at
11 least one actuator a safe distance away from the equipment and
12 in intake air.

13 Section 409. Fire suppression for storage areas.

14 (a) General rule.--Fire suppression systems for diesel fuel
15 storage areas shall meet the requirements of this section.

16 (b) Type system.--The system shall be an automatic
17 multipurpose dry-powder type fire suppression system or other
18 system of equal capability, suitable for the intended
19 application and listed or approved by a nationally recognized
20 independent testing laboratory. The system shall meet the
21 following installation requirements:

22 (1) The system shall be installed in accordance with the
23 manufacturer's specifications and the limitations of the
24 listing or approval.

25 (2) The system shall be installed in a protected
26 location or guarded to minimize physical damage from routine
27 operations.

28 (3) Suppressant agent distribution tubing or piping of
29 the system shall be secured and protected against damage,
30 including pinching, crimping, stretching, abrasion and

1 corrosion.

2 (4) Discharge nozzles of the system shall be positioned
3 and aimed for maximum fire suppression effectiveness in the
4 protected areas. Nozzles shall also be protected against the
5 entrance of foreign materials, such as mud, coal dust and
6 rock dust that could prevent proper discharge of suppressant
7 agent.

8 (c) Automatic fire detection and suppression.--The fire
9 suppressant system shall provide automatic fire detection and
10 suppression for the fuel storage tanks, containers, safety cans,
11 pumps, electrical panels and control equipment in fuel storage
12 areas.

13 (d) Types of alarms.--Audible and visual alarms to warn of
14 fire or system faults shall be provided at the protected area
15 and at a surface location that is always staffed when
16 individuals are underground. A means shall also be provided for
17 warning all endangered individuals in the event of fire.

18 (e) Manual actuators.--Fire suppression systems shall
19 include two manual actuators with at least one located within
20 the fuel storage facility and at least one located a safe
21 distance away from the storage facility and in intake air.

22 (f) System operation.--The fire suppression system shall
23 remain operative in the event of electrical system failure.

24 (g) Monitoring of certain systems.--If electrically
25 operated, the detection and actuation circuits shall be
26 monitored and provided with status indicators showing power and
27 circuit continuity. If not electrically operated, a means shall
28 be provided to indicate the functional readiness status of the
29 system.

30 (h) Weekly visual inspection.--Fire suppression devices

1 shall be visually inspected at least once each week by an
2 individual qualified to make the inspection.

3 (i) Maintenance, testing and records.--Each fire suppression
4 device shall be tested and maintained. A record shall be
5 maintained of the inspection required by this subsection. The
6 record of the weekly inspections shall be maintained at an
7 appropriate location for each fire suppression device.

8 (j) (Reserved).

9 (k) Instructions.--All miners normally assigned to the
10 active workings of a mine shall be instructed about any hazards
11 inherent to the operation of all fire suppression devices
12 installed and, where appropriate, the safeguards available for
13 each device.

14 Section 410. Use of certain starting aids prohibited.

15 The use of volatile or chemical starting aids is prohibited.

16 Section 411. Fueling.

17 (a) Restrictions on fueling locations.--Fueling of diesel-
18 powered equipment shall not be conducted in the intake escape-
19 way unless the mine design and entry configuration make it
20 necessary. In those cases where fueling in the intake escape-way
21 is necessary, the mine operator shall submit a plan for approval
22 to the department, which shall be investigated by the technical
23 advisory committee in accordance with section 424, outlining the
24 special safety precautions that will be taken to insure the
25 protection of miners. The submitted plan shall specify a
26 location, such as the end of the tail piece track or adjacent to
27 the load out point, where fueling shall be conducted in the
28 intake escape-way and all other safety precautions that shall be
29 taken, which shall include an examination of the area for
30 spillage or fire by a qualified individual.

1 (b) Spill cleanup.--Diesel fuel and other combustible
2 materials shall be cleaned up and not be permitted to accumulate
3 anywhere in an underground mine or on diesel-powered or electric
4 equipment located in a mine.

5 (c) Trained individual on duty.--At least one individual
6 specially trained in the cleanup and disposal of diesel fuel
7 spills shall be on duty at the mine when diesel-powered
8 equipment or mobile fuel transportation equipment is being used
9 or when any fueling of diesel-powered equipment is being
10 conducted.

11 Section 412. Fire and safety training.

12 (a) Training of underground employees.--All underground
13 employees at the mine shall receive special instruction related
14 to fighting fires involving diesel fuel. This training may be
15 included in annual refresher training under MSHA regulations at
16 30 CFR Part 48 (relating to training and retraining of miners)
17 or included in the fire drills required under MSHA regulations
18 relating to program of instruction; location and use of fire
19 fighting equipment; location of escape-ways, exits and routes of
20 travel; evacuation procedures; and fire drills.

21 (b) Training of miners.--All miners shall be trained in
22 precautions for safe and healthful handling and disposal of
23 diesel-powered equipment filters. All used intake air filters,
24 exhaust diesel particulate matter filters and engine oil filters
25 shall be placed in their original containers or other suitable
26 enclosed containers and removed from the underground mine to the
27 surface. Arrangements shall be made for safe handling and
28 disposal of these filters within a timely manner after they have
29 reached the surface.

30 Section 413. Maintenance.

1 (a) General rule.--Diesel-powered equipment shall be
2 maintained in an approved and safe condition as described in
3 this chapter or removed from service. Failure of the mine
4 operator to comply with the maintenance requirements of this
5 subsection may result in revocation of the department's approval
6 of the complete diesel-powered equipment package, provided
7 appropriate notification has been given to the mine operator and
8 the procedures of this section have been followed. Upon
9 receiving the appropriate notification, the mine operator shall
10 have 30 days to submit a plan to achieve and maintain
11 compliance. The plan shall be evaluated by the department and,
12 upon approval, the mine operator shall implement the plan. The
13 department shall monitor the mine operator's compliance. If the
14 department then determines that the mine operator is unable or
15 unwilling to comply, the department shall revoke the mine
16 operator's approval.

17 (b) Acquisition and maintenance of approvals.--To acquire
18 and maintain approval of a complete diesel-powered equipment
19 package, the mine operator shall comply with the following
20 requirements:

21 (1) All service, maintenance and repairs of approved
22 complete diesel-powered equipment packages shall be performed
23 by mechanics who are trained and qualified in accordance with
24 section 422.

25 (2) Service and maintenance of approved complete diesel-
26 powered equipment packages shall be performed according to:

27 (i) the specified routine maintenance schedule;

28 (ii) onboard performance and maintenance diagnostics
29 readings;

30 (iii) emissions test results; and

1 (iv) component manufacturers' recommendations.

2 Section 414. Records.

3 (a) General rule.--A record shall be made of all emissions
4 tests, preoperational examinations and maintenance and repairs
5 of complete diesel-powered equipment packages. The records made
6 pursuant to this section shall meet the requirements of this
7 section.

8 (b) Written certification.--The individual performing the
9 emissions test, examination, maintenance or repair shall certify
10 by date, time, engine hour reading and signature that the
11 emissions test, examination, maintenance or repair was made.

12 (c) Results.--Records of emissions tests and examinations
13 shall include the specific results of such tests and
14 examinations.

15 (d) Content.--Records of maintenance and repairs shall
16 include the work that was performed, any fluids or oil added,
17 parts replaced or adjustments made and the results of any
18 subsequently required emissions testing.

19 (e) Preoperational examination record retention.--Records of
20 preoperational examinations shall be retained for the previous
21 100-hour maintenance cycle.

22 (f) Certain records to be countersigned.--Records of
23 emissions tests, 100-hour maintenance tests and repairs shall be
24 countersigned once each week by the certified mine electrician
25 or mine foreman.

26 (g) Other record retention.--Except as specified in
27 subsection (e), all records required by this section shall be
28 retained for at least one year at a surface location at the mine
29 and made available for inspection by the department and by
30 miners and their representatives.

1 Section 415. Duties of equipment operator.

2 (a) Preoperational examination.--Prior to use of a piece of
3 diesel-powered equipment during a shift, an equipment operator
4 shall conduct an examination as follows:

5 (1) Check the exhaust emissions control and conditioning
6 system components to determine that the components are in
7 place and not damaged or leaking.

8 (2) Assure that the equipment is clean and free of
9 accumulations of combustibles.

10 (3) Assure that the machine is loaded safely.

11 (4) Check for external physical damage.

12 (5) Check for loose or missing connections.

13 (6) Check engine oil level.

14 (7) Check transmission oil level.

15 (8) Check other fluid levels, if applicable.

16 (9) Check for hydraulic, coolant and oil leaks.

17 (10) Check fan, water pump and other belts.

18 (11) Check the fan for damage.

19 (12) Check guards.

20 (13) Check the fuel level.

21 (14) Check for fuel leaks.

22 (15) Comply with recordkeeping requirements pursuant to
23 section 414.

24 (b) Operational examination.--After the engine is started
25 and warmed up, the equipment operator shall conduct an
26 examination as follows:

27 (1) Check all onboard engine performance and maintenance
28 diagnostics system gauges for proper operation and in-range
29 readings. The equipment operator shall immediately shut down
30 the engine and notify the operator if the onboard readings

1 indicate any of the following:

2 (i) Intake restriction at full engine speed is
3 greater than the manufacturer's recommendation.

4 (ii) Exhaust restriction at full engine speed is
5 greater than the manufacturer's recommendation.

6 (iii) Coolant temperature is at or near 212 degrees
7 Fahrenheit.

8 (iv) Low engine oil pressure.

9 (v) High engine oil temperature.

10 (2) Check safety features, including, but not limited
11 to, the throttle, brakes, steering, lights and horn.

12 (3) Comply with recordkeeping requirements pursuant to
13 section 414.

14 Section 416. Schedule of maintenance.

15 At intervals not exceeding 100 hours of engine operation, a
16 qualified mechanic shall perform the following maintenance and
17 make all necessary adjustments or repairs or remove the
18 equipment from service:

19 (1) Wash or steam clean the equipment.

20 (2) Check for and remove any accumulations of coal, coal
21 dust or other combustible materials.

22 (3) Check the equipment for damaged or missing
23 components or other visible defects.

24 (4) Conduct electrical and safety component inspections.

25 (5) Replace engine oil and oil filter.

26 (6) Check the transmission oil level and add oil, if
27 necessary.

28 (7) Check hydraulic oil level and add oil, if necessary.

29 (8) Check the engine coolant level and add coolant, if
30 necessary.

1 (9) Check all other fluid levels and add fluid, if
2 necessary.

3 (10) Check for oil, coolant and other fluid leaks.

4 (11) Inspect the cooling fan, radiator and shroud.

5 Remove any obstructions and make necessary repairs.

6 (12) Check all belts. Tighten or replace, if necessary.

7 (13) Check the battery and service as necessary.

8 (14) Check the automatic fire suppression system.

9 (15) Check the portable fire extinguisher.

10 (16) Check the lights.

11 (17) Check the warning devices.

12 (18) With the engine operating, check and replace or
13 repair the following:

14 (i) Oil pressure.

15 (ii) Intake air restriction at full engine speed.

16 (iii) Exhaust gas restriction at full engine speed.

17 (iv) Exhaust flame arrestor.

18 (v) All gauges and controls.

19 (19) Conduct repeatable loaded engine-operating test in
20 accordance with section 418.

21 (20) If the equipment is approved with a nondisposable
22 diesel particulate filter, a smoke dot test of the filtered
23 exhaust must be performed at this time. The results of the
24 smoke dot test shall be recorded on the 100-hour emissions
25 form. If the interpreted smoke dot number is greater than
26 three, the technical advisory committee shall be notified and
27 shall investigate to determine if the filter is functioning
28 properly.

29 (21) Evaluate and interpret the results of all of the
30 above tests and examinations and make all necessary repairs

1 or remove the equipment from service.

2 (22) Comply with the recordkeeping requirements pursuant
3 to section 414.

4 Section 417. Emissions monitoring and control.

5 (a) General rule.--Emissions for diesel-powered equipment
6 shall be monitored and controlled as provided in this section.

7 (b) Determination of baseline emission values.--When any
8 diesel-powered equipment first enters service at a mine,
9 baseline emission values shall be determined by a qualified
10 mechanic. Unless the technical advisory committee in accordance
11 with section 424 recommends an alternate procedure, the
12 qualified mechanic shall:

13 (1) Verify that the seal on the engine fuel injector is
14 in place and that the proper fuel pump is on the equipment.

15 (2) Install a new clean intake air cleaner, measure and
16 record the intake restriction pressure.

17 (3) Check the level of engine oil.

18 (4) Change the engine lubrication oil if not fresh.

19 (5) Check the level of the transmission fluid.

20 (6) Measure and record the exhaust backpressure. If
21 exhaust gas back pressure is above that recommended by the
22 manufacturer, steps must be taken to bring the exhaust gas
23 back pressure within the manufacturer's recommended limit
24 prior to beginning the test described in this subsection.

25 (7) Test the brakes.

26 (8) Place the equipment into an intake entry.

27 (9) Set the brakes and chock the wheels.

28 (10) Install an exhaust gas analyzer into the untreated
29 exhaust gas port.

30 (11) Start the engine and allow it to warm up to

1 operating temperature.

2 (12) Put the engine into a loaded condition. For this
3 section, the loaded condition for the baseline emissions
4 testing shall be determined by the technical advisory
5 committee by determining CO2 values that are representative
6 of the MSHA lug curve readings for that engine model and
7 horsepower.

8 (13) Start the exhaust gas analyzer and allow the engine
9 to operate in the loaded condition for a sufficient length of
10 time not less than a 90-second duration to insure proper CO
11 readings. The qualified mechanic shall record both CO and CO2
12 readings. Note: Baseline CO values shall be determined by the
13 technical advisory committee based upon MSHA lug curve
14 readings for that engine model and horsepower. If the
15 baseline CO values are greater than the MSHA lug curve
16 values, the technical advisory committee shall investigate
17 and either recommend approval or disapproval or recommend
18 alternate methods of meeting the requirements of this
19 section.

20 (14) Comply with recordkeeping requirements pursuant to
21 section 414.

22 (15) An alternative to the testing provided in
23 paragraphs (1) through (14) may be developed by the technical
24 advisory committee in accordance with section 424.

25 (16) Emissions test procedures for this section shall be
26 submitted to the technical advisory committee in accordance
27 with section 424 prior to being implemented for each engine
28 and equipment type.

29 Section 418. Diagnostic testing.

30 (a) Tests.--At intervals not exceeding once every 100 hours

1 of engine operation, a qualified mechanic shall perform
2 equipment maintenance diagnostic testing of each piece of
3 diesel-powered equipment in the mine. The qualified mechanic
4 shall do all of the following:

5 (1) Verify the identification numbers on the equipment.

6 (2) Check the level of the engine lubricating oil.

7 (3) Check the level of the transmission fluid.

8 (4) Set the brakes and chock the wheels.

9 (5) Install the portable carbon monoxide sampling device
10 into the untreated exhaust port coupling provided in the
11 operator's cab.

12 (6) Start the engine and allow it to warm up to
13 operating temperature.

14 (7) Check the intake restriction and the exhaust back
15 pressure at high idle speed.

16 (8) If the intake restriction is more than the
17 manufacturer's maximum recommended intake restriction,
18 replace the intake filter with a clean one.

19 (9) If exhaust gas back pressure is above that
20 recommended by the manufacturer, take steps to bring the
21 exhaust gas back pressure within the manufacturer's
22 recommended limit prior to beginning the test described in
23 this section.

24 (10) Put the engine into a loaded condition. As used in
25 this paragraph, the term loaded condition shall mean a
26 condition in which the carbon dioxide values are
27 representative of the MSHA lug curve values for that engine
28 model and horsepower rating.

29 (11) Take the following steps:

30 (i) Start the exhaust gas analyzer.

1 (ii) Allow the engine to operate for a sufficient
2 time, not less than 90 seconds, to insure proper carbon
3 monoxide readings and record both carbon monoxide and
4 carbon dioxide readings.

5 (12) Install the exhaust gas analyzer into the treated
6 exhaust port and repeat steps set forth in paragraphs (10)
7 and (11).

8 (13) If the average carbon monoxide reading for
9 untreated exhaust gas is greater than twice the baseline
10 established under section 417(b) or if the average carbon
11 monoxide reading for treated exhaust gas is greater than 100
12 parts per million, the equipment has failed and shall be
13 serviced and retested before it is returned to regular
14 service.

15 (14) Comply with recordkeeping requirements under
16 section 414.

17 (b) Procedures.--Emissions test procedures for this section
18 must be submitted to the technical advisory committee under
19 section 424 prior to being implemented for each engine and
20 equipment type.

21 (c) Alternative procedure.--An alternative to the testing
22 provided in subsection (a) may be developed by the technical
23 advisory committee under section 424.

24 Section 419. Exhaust gas monitoring and control.

25 (a) Concentration.--In monitoring and controlling exhaust
26 gases, the ambient concentration of exhaust gases in the mine
27 atmosphere shall not exceed 35 parts per million for carbon
28 monoxide and three parts per million for nitrogen dioxide. The
29 concentration of these exhaust gases shall be measured at the
30 equipment operator's or equipment attendant's position and by

1 the last piece of diesel-powered equipment operating in the same
2 split of air. Measurements shall be made weekly or more often if
3 necessary by a qualified individual and shall be conducted under
4 the requirements of this section.

5 (b) Measurement.--Measurement of exhaust gases shall be made
6 with a sampling instrument no less precise than detector tubes.

7 (c) Changes.--If the concentration of a gas listed in
8 subsection (a) is at least 75% of its exposure limit, changes to
9 the use of the diesel equipment, the mine ventilation or the
10 mining process shall be made.

11 (d) Excessive exposure.--If the concentration of a gas
12 listed in subsection (a) exceeds the exposure limit, the diesel
13 equipment operating in that split shall be removed from service
14 immediately, and corrective action shall be taken. After
15 corrective action has been taken by the mine operator, the
16 diesel equipment may be returned to service in its regular
17 operating mode for emissions testing purposes only; and
18 emissions testing shall be conducted immediately to assure that
19 the concentration does not exceed 75% of the exposure limit.
20 Corrective action shall be taken until the concentration does
21 not exceed 75% of the exposure limit before the diesel equipment
22 can be returned to full operation.

23 (e) Compliance.--The mine operator shall comply with the
24 following requirements:

25 (1) Repair or adjustment of the fuel injection system
26 shall only be performed by qualified mechanics authorized by
27 the engine manufacturer.

28 (2) Complete testing of the emissions system in
29 accordance with section 418 shall be conducted:

30 (i) prior to any piece of diesel-powered equipment

1 being put into service; and

2 (ii) after any repair or adjustment to the fuel
3 delivery system, engine timing or exhaust emissions
4 control and conditioning system.

5 (3) Service and maintenance of the intake air filter,
6 exhaust particulate filter and the exhaust system shall be
7 performed at specific time intervals based on the component
8 manufacturer's recommendation and compliance with the engine
9 or emissions control operation specifications and, as needed,
10 based on the on-board diagnostics or emissions test results.
11 Accurate records shall be maintained of service and
12 maintenance under this paragraph.

13 Section 420. Training and general requirements.

14 (a) Approval.--Training course instructors and training
15 plans required by this section shall be approved by the
16 department. Operator training and qualification shall meet the
17 requirements of this section.

18 (b) Conduct.--

19 (1) Training shall be conducted in the basics of the
20 operation of a diesel engine, Federal and State regulations
21 governing their use, company rules for safe operation,
22 specific features of each piece of equipment and the ability
23 to recognize problems.

24 (2) Training shall be provided to each equipment
25 operator and the mine health and safety committee if one
26 exists. This training shall be designed to bring every
27 operator to a level of good understanding of diesel equipment
28 operation.

29 (3) Each operator shall be qualified by attending a
30 minimum eight-hour course, including classroom training on

1 diesel fundamentals and equipment-specific hands-on training
2 on the job. Training shall include instruction in the
3 following classroom subjects:

4 (i) Engine fundamentals. This subparagraph includes
5 an introduction to the function of a diesel engine and
6 recognition of major components and their functions.

7 (ii) Diesel regulations. This subparagraph includes
8 an introduction to Federal and State regulations
9 governing the use of diesel equipment.

10 (iii) Diesel emissions. This subparagraph includes
11 an introduction to diesel emissions and their adverse
12 health effects.

13 (iv) Factors which affect diesel emissions. This
14 subparagraph includes a detailed presentation of engine
15 faults and diesel fuel quality, their effect on emissions
16 and the preventive actions which can be taken to minimize
17 emissions levels.

18 (v) Emissions control devices. This subparagraph
19 includes a detailed presentation of the different
20 emissions control devices employed to reduce emissions
21 and details about actions the operator must take to keep
22 the devices in working order.

23 (vi) Diagnostic techniques. This subparagraph
24 includes a presentation of techniques which can be
25 employed by the operator to assure the equipment is in
26 safe operating condition and instruction about how to
27 recognize and diagnose certain engine faults which may
28 cause increases in emissions.

29 (vii) Preoperational inspection. This subparagraph
30 includes a presentation of the purpose, benefits and

1 requirements of the preoperational inspection.

2 (viii) Ventilation. This subparagraph includes an
3 introduction to special ventilation requirements for
4 areas where diesel-powered equipment will operate.

5 (ix) Fire suppression system. This subparagraph
6 includes an introduction to the fire suppression system
7 and its function and when and how to activate the fire
8 suppression manually.

9 (x) Operating rules. This subparagraph includes a
10 detailed presentation of the driving rules, safe driving
11 speeds, traffic control devices and equipment
12 limitations.

13 (xi) Emergency procedures. This subparagraph
14 includes discussion of:

15 (A) emergencies, such as fire, diesel fuel
16 spills, component failure, loss of ventilation air
17 and emergency escape procedures; and

18 (B) potential use of the diesel-powered vehicle
19 as an emergency escape vehicle in case of a mine
20 emergency.

21 (xii) Recordkeeping and reporting procedures. This
22 subparagraph includes a presentation on required
23 recordkeeping and reporting procedures for problems or
24 unsafe conditions, high emissions levels and
25 preoperational inspections made by the equipment
26 operator.

27 (c) Certificate.--Upon successful completion of both
28 training sessions, the operator shall be issued a certificate of
29 qualification which qualifies the operator to operate a specific
30 type of diesel-powered equipment. An operator may be qualified

1 to operate more than one type of equipment by completing
2 additional equipment-specific training covering differences
3 specific to each additional type of equipment.

4 (d) Refresher training.--Refresher training, separate from
5 that required by MSHA regulations at 30 CFR Pt. 48 (relating to
6 the training and retraining of miners), shall be required
7 annually.

8 (e) Annual certificate.--A new certificate of qualification
9 shall be issued annually after the equipment operator has
10 received the annual refresher training.

11 Section 421. Equipment-specific training.

12 (a) Approval.--Training course instructors and training
13 plans required by this section must be approved by the
14 department.

15 (b) Description.--

16 (1) Equipment-specific hands-on orientation training
17 shall be given in an area of the mine where the equipment
18 will be operated. This orientation shall be specific to the
19 type and make of the diesel machine and shall be presented in
20 small groups.

21 (2) The following subjects shall be included in the
22 training:

23 (i) Equipment layout. This subparagraph includes
24 familiarization with the layout of the equipment, the
25 operator's compartments and the controls.

26 (ii) Preoperation inspection. This subparagraph
27 includes familiarization with the preoperation inspection
28 procedure and review of specific details of the
29 inspection and location of the components to be
30 inspected.

1 (iii) Equipment limitations. This subparagraph
2 includes instruction relating to equipment performance,
3 speeds, capacities and blind areas.

4 (iv) Operating areas. This subparagraph includes
5 instruction relating to areas in which the equipment may
6 be operated.

7 (v) Operation. This subparagraph includes
8 familiarization with the controls, gauges and warning
9 devices and safe operating limits of all indicating
10 gauges.

11 (vi) Refueling procedure. This subparagraph includes
12 familiarization with fuel handling, permissible refueling
13 areas, spill prevention, cleanup and potential hazards
14 from diesel fuel.

15 (vii) Emergency devices. This subparagraph includes
16 instruction relating to the location and use of the fire
17 extinguisher and fire suppression devices.

18 (viii) Driving practice. This paragraph includes
19 supervised operation of the equipment.

20 Section 422. Diesel mechanic training.

21 (a) Approval.--Training course instructors and training
22 plans required by this section must be approved by the
23 department.

24 (b) General rule.--Diesel mechanic training and
25 qualification shall meet the requirements of this section.

26 (c) Skills.--Diesel mechanics shall be trained and qualified
27 to perform maintenance, repairs and testing of the features of
28 diesel equipment certified by MSHA and the department.

29 (d) Qualification.--To be qualified, a diesel mechanic shall
30 successfully complete a minimum of 16 hours of a training

1 program approved by the department regarding the general
2 function, operation, maintenance and testing of emissions
3 control and conditioning components. The diesel mechanic shall
4 be qualified to perform these tasks on the specific machines
5 used at the mine or mines where they are employed. Additional
6 engine-specific training shall be provided to diesel mechanics
7 in accordance with a plan approved by the department.

8 (e) Retraining.--Annual retraining programs for diesel
9 mechanics shall be required and shall be approved by the
10 department. Retraining shall include refresher training as well
11 as new procedure and new technology training as necessary.
12 Retraining shall be separate from refresher training pursuant to
13 MSHA regulations at 30 CFR Pt. 48 (relating to training and
14 retraining of miners) and electrical training required by MSHA.

15 (f) Programs.--The minimum diesel mechanic training programs
16 shall include training in the following minimum subject
17 requirements:

18 (1) Federal and State requirements regulating the use of
19 diesel equipment.

20 (2) Company policies and rules related to the use of
21 diesel equipment.

22 (3) Emissions control system design and component
23 technical training.

24 (4) Onboard engine performance and maintenance
25 diagnostics system design and component technical training.

26 (5) Service and maintenance procedures and requirements
27 for the emissions control systems.

28 (6) Emissions testing procedures and evaluation and
29 interpretation of test results.

30 (7) Troubleshooting procedures for the emissions control

1 systems.

2 (8) Fire protection systems test and maintenance.

3 (9) Fire and ignition sources and their control and
4 elimination.

5 (10) Fuel system maintenance and safe fueling
6 procedures.

7 (11) Intake air system design and components technical
8 training and maintenance procedures.

9 (12) Engine shutdown device tests and maintenance.

10 (13) Special instructions regarding components, such as
11 the fuel injection system, which may only be repaired and
12 adjusted by a qualified mechanic who has received special
13 training and is authorized to make the repairs or adjustments
14 by the component manufacturer.

15 (14) Instruction on recordkeeping requirements for
16 maintenance procedures and emissions testing.

17 (15) Other subjects determined by the department to be
18 necessary to address specific health and safety needs.

19 Section 423. Operation of diesel-powered equipment.

20 (a) General rule.--In addition to other requirements of this
21 chapter, diesel-powered equipment shall be operated pursuant to
22 the standards set forth in this section.

23 (b) Attended equipment.--Diesel-powered equipment shall be
24 attended while in operation with the engine running in
25 underground mines.

26 (c) Idling.--Unnecessary idling of diesel-powered equipment
27 is prohibited.

28 (d) Access.--Roadways where diesel-powered equipment is
29 operated shall be maintained as free as practicable from bottom
30 irregularities debris and wet or muddy conditions, which affect

1 control of the equipment.

2 (e) Speed.--Operating speeds shall be consistent with
3 conditions of roadways, grades, clearances, visibility and
4 traffic and type of equipment used.

5 (f) Control.--Equipment operators shall have full control of
6 the mobile equipment while it is in motion.

7 (g) Traffic rules.--Traffic rules, including speed, signals
8 and warning signs, shall be standardized at each mine and
9 posted.

10 (h) Maintenance.--

11 (1) Diesel-powered equipment shall be maintained in a
12 safe operating condition which does not threaten health of
13 human beings.

14 (2) Diesel-powered equipment not maintained in
15 accordance with paragraph (1) or not maintained in accordance
16 with the engine or emissions control operating specifications
17 shall be removed from service immediately and shall not be
18 returned to service until all necessary corrective actions
19 have been taken.

20 Section 424. Technical advisory committee.

21 (a) Establishment.--The Technical Advisory Committee on
22 Diesel-Powered Equipment is established.

23 (b) Membership.--The advisory committee shall consist of two
24 members, who shall be residents of this Commonwealth.

25 (1) The Governor shall appoint one member to represent
26 the viewpoint of the coal operators in this Commonwealth
27 within 30 days from receipt of a list containing one or more
28 nominees submitted by the major trade association
29 representing coal operators in this Commonwealth.

30 (2) The Governor shall appoint one member to represent

1 the viewpoint of the working miners in this Commonwealth
2 within 30 days from receipt of a list containing one or more
3 nominees submitted by the highest ranking official within the
4 major employee organization representing coal miners in this
5 Commonwealth.

6 (c) Terms.--Each member of the technical advisory committee
7 shall be appointed for a term of three years. If renominated and
8 reappointed, a member may serve an unlimited number of
9 successive three-year terms.

10 (d) Functions.--The technical advisory committee has the
11 following functions:

12 (1) Advising the department regarding implementation of
13 this chapter.

14 (2) Evaluating alternative technology or methods for
15 meeting the requirements for diesel-powered equipment as set
16 forth in this chapter.

17 (3) Providing technical assistance to operators
18 regarding diesel equipment technologies.

19 (4) Conducting investigations relating to implementation
20 of this chapter.

21 (5) Providing training regarding diesel equipment
22 emission controls and emission testing.

23 (e) Compensation.--Members of the technical advisory
24 committee shall be compensated at the appropriate per diem rate
25 based on the prevailing formula administered by the
26 Commonwealth, but not less than \$150 per day, plus all
27 reasonable expenses incurred while performing their official
28 duties. Compensation shall be adjusted annually by the
29 department to account for inflation based on the rate of
30 inflation identified by the Consumer Price Index for All Urban

1 Consumers, Bureau of Labor Statistics. The individual member may
2 waive his right to all or part of the compensation set forth in
3 this provision.

4 (f) Meetings.--The technical advisory committee shall meet
5 at least twice during each calendar year.

6 (g) Quorum.--Actions of the technical advisory committee
7 require the participation of both members.

8 (h) Support.--

9 (1) The department shall make clerical support and
10 assistance available to enable the technical advisory
11 committee to carry out its duties. Upon the request of both
12 members of the technical advisory committee, the department
13 may draft proposed conditions of use and reports or perform
14 investigations.

15 (2) The department shall purchase for the technical
16 advisory committee equipment for testing diesel engine
17 exhaust emissions and measuring diesel engine surface
18 temperatures and exhaust gas temperatures. Alternative
19 technology or methods recommended by the technical advisory
20 committee or approved by the secretary shall not reduce or
21 compromise the level of health and safety protection afforded
22 by this chapter.

23 (i) Alternative technologies.--

24 (1) Upon application of a coal miner, coal mine operator
25 or diesel-related technology manufacturer, or on its own
26 motion, the technical advisory committee shall consider
27 requests for the use of alternative diesel-related health and
28 safety technologies with general underground mining industry
29 application which are consistent with this chapter. The
30 following apply:

1 (i) Upon receipt of an application, the technical
2 advisory committee shall conduct an investigation, which
3 shall include consultation with a representative of the
4 major trade association representing coal operators in
5 this Commonwealth and with a representative of the major
6 employee organization representing coal miners in this
7 Commonwealth.

8 (ii) Approval of an application made under this
9 subsection shall make the alternative technology or
10 method available for use by a coal mine operator in this
11 Commonwealth but shall not be construed to require that a
12 coal mine operator use the approved alternative
13 technology or method.

14 (2) Upon application of a coal mine operator, the
15 technical advisory committee shall consider site-specific
16 requests for use of alternative diesel-related health and
17 safety technologies. The committee's recommendations on
18 applications submitted under this subsection shall be on a
19 mine-by-mine basis. Upon receipt of a site-specific
20 application, the technical advisory committee shall conduct
21 an investigation, which shall include consultation with the
22 mine operator and the authorized representatives of the
23 miners at the mine. Authorized representatives of the miners
24 shall include a mine health and safety committee elected by
25 miners at the mine and an individual employed by an employee
26 organization representing miners at the mine or an individual
27 authorized as the representative of miners of the mine in
28 accordance with MSHA regulations at 30 CFR Pt. 40 (relating
29 to representative of miners). If there is no authorized
30 representative of the miners, the technical advisory

1 committee shall consult with a reasonable number of miners at
2 the mine.

3 (3) Within 180 days of receipt of an application for use
4 of alternative technologies or methods, the technical
5 advisory committee shall complete its investigation and make
6 a recommendation to the secretary. The technical advisory
7 committee members shall only recommend approval of an
8 application if, at the conclusion of the investigation, the
9 committee members have made a determination that the use of
10 the alternative technology or method will not reduce or
11 compromise the level of health and safety protection afforded
12 by this chapter. The time period under this paragraph may be
13 extended with the consent of the applicant.

14 (4) The technical advisory committee shall forward to
15 the secretary three possible recommendations:

16 (i) A unanimous recommendation to approve the
17 application for use of alternative technologies or
18 methods. A recommendation under this subparagraph must be
19 made in writing and include the results of the
20 investigation and specific conditions of use for the
21 alternative technology or method.

22 (ii) A unanimous recommendation to reject the
23 application for use of alternative technologies or
24 methods. A recommendation under this subparagraph must be
25 made in writing and outline in detail the basis for the
26 rejection.

27 (iii) A divided recommendation in which one member
28 of the technical advisory committee recommends approval
29 of the application for use of alternative technologies or
30 methods and one member of the advisory committee

1 recommends rejection of the application for use of
2 alternative technologies or methods. For a recommendation
3 under this subparagraph, each member of the committee
4 must submit a detailed report to the secretary within 14
5 days of the committee's vote outlining the member's
6 position for or against the application.

7 (5) The secretary shall proceed as follows:

8 (i) Alternative technologies or methods may be
9 approved by the secretary if they do not reduce or
10 compromise the level of health and safety protection
11 afforded by this chapter.

12 (ii) If a recommendation under paragraph (4)(i) or
13 (ii) is forwarded to the secretary by the technical
14 advisory committee, the secretary shall have 30 days in
15 which to render a final decision adopting or rejecting
16 the advisory committee's recommendation and the
17 application.

18 (iii) The secretary may only approve or reject a
19 recommendation under paragraph (4)(i) or (ii) without
20 modification unless the modification is unanimously
21 approved by the technical advisory committee.

22 (iv) If a recommendation under paragraph (4)(iii) is
23 forwarded to the secretary, the secretary shall convene,
24 within 30 days, a meeting with the members of the
25 technical advisory committee to discuss the reasons for
26 the divided recommendation and to determine whether
27 additional information and further discussion might
28 result in a unanimous recommendation by the 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 individuals in
2 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 individual to whom an
8 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 individuals in and about mines.

18 (b) Court.--

19 (1) In a proceeding under subsection (a), the court may
20 do any of the following:

21 (i) Issue an injunction if it finds reasonable cause
22 to believe that the respondent is engaging in conduct
23 which:

24 (A) violates this act; a regulation promulgated
25 under this act or any approval, standard or order
26 issued under this act; or

27 (B) poses a threat to the health and safety of
28 miners and individuals in and about mines.

29 (ii) Levy civil penalties against the respondent.

30 (2) The courts of common pleas and the Commonwealth

1 courts are granted jurisdiction to hear and decide
2 proceedings brought under subsection (a).

3 (c) Bond.--The department is not required to post bond in
4 connection with proceedings brought under this section.

5 Section 503. Administrative penalties.

6 (a) Declaration of threat.--The following actions by mine
7 officials are declared to pose an imminent and substantial
8 threat to the health and safety of miners:

9 (1) Assigning an employee without training or proper
10 certification.

11 (2) Requiring or condoning a violation of this act, a
12 regulation promulgated under this act or any approval,
13 standard or order issued under this act.

14 (3) Failing to perform a required examination.

15 (4) Failing to address promptly the dangers identified
16 through a mine examination or inspection by the department.

17 (5) Supplying inaccurate information to the department.

18 (6) Failing to notify the department as required by this
19 act.

20 (7) Failing to de-energize electrical power as required
21 by this act.

22 (8) Failing to evacuate the mine when required to do so
23 by a provision of this act.

24 (b) Penalty for mine officials and operator liability.--

25 (1) If the department finds that a mine official has
26 engaged in any of the actions under subsection (a), the
27 department may assess an administrative penalty of up to
28 \$2,500 against the mine official. In every instance in which
29 an administrative penalty is assessed against a mine
30 official, the department may assess an administrative penalty

1 of the same amount against the operator of the mine where the
2 violations occurred.

3 (2) If the department finds that the operator directed
4 or condoned an unsafe act or a violation of the act:

5 (i) the department may assess an administrative
6 penalty of not less than \$10,000 and not more than
7 \$200,000 against the operator; and

8 (ii) the individual that directed or condoned the
9 action shall be removed from any position of command and
10 control.

11 (c) Nonexclusive remedy.--Assessment of a penalty under this
12 section does not preclude the department from exercising any
13 other remedy available to it.

14 (d) Factors.--In determining the amount of a penalty, the
15 department shall consider the following:

16 (1) The degree to which the conduct was reckless or
17 intentional.

18 (2) Whether an individual was fatally or seriously
19 injured.

20 (3) The potential for the violation resulting in death
21 or serious injury to an individual.

22 (4) Whether the conduct is in violation of an
23 outstanding order.

24 (5) In the case of an operator, the economic benefit to
25 the operator from not complying with the applicable
26 requirements.

27 (e) Practice and procedure.--A penalty under this section is
28 subject to:

29 (1) 2 Pa.C.S. Chs. 5 Subch. A (relating to practice and
30 procedure of Commonwealth agencies) and 7 Subch. A (relating

1 to judicial review of Commonwealth agency action); and

2 (2) 25 Pa. Code Ch. 1021 (relating to practice and
3 procedures).

4 (3) The act of July 13, 1988 (P.L.530, No.94), known as
5 the Environmental Hearing Board Act.

6 Section 503.1. Process for assessing administrative penalties.

7 (a) Assessment process.--If the department assesses an
8 administrative penalty, it shall inform the operator and mine
9 official, as applicable, of the amount of the penalty. The
10 individual assessed with the penalty shall then have 30 days to
11 pay the penalty in full or, if the individual wishes to contest
12 the amount of the penalty, the individual shall, within the 30-
13 day period, file an appeal of the department's assessment with
14 the Environmental Hearing Board. Failure to appeal within 30
15 days shall result in a waiver of all legal rights to contest the
16 amount of the penalty.

17 (b) Prepayment of administrative penalty.--If the operator
18 or mine official wishes to contest either the amount of the
19 penalty or the violation, the operator or mine official shall
20 forward an amount not greater than \$25,000 to the department for
21 placement in an escrow account with the State Treasurer or any
22 bank located in this Commonwealth, or post an appeal bond in the
23 amount of the proposed penalty provided that the bond shall be
24 executed by a surety licensed to do business in this
25 Commonwealth and is satisfactory to the department. If through
26 administrative or judicial review of the penalty, it is
27 determined that no violation occurred, or that the amount of the
28 penalty should be reduced, the department shall within 30 days
29 remit the appropriate amount to the operator or mine official,
30 with any interest accumulated by the escrow deposit. Failure to

1 forward the money or the appeal bond to the department within 30
2 days shall result in a waiver of all legal rights to contest the
3 violation or the amount of the penalty.

4 (c) Payment of penalty.--The amount assessed after
5 administrative hearing or waiver shall be payable to the
6 Commonwealth of Pennsylvania, Mine Safety Fund and shall be
7 collectible in any manner provided under law for the collection
8 of debts. If any individual liable to pay any penalty neglects
9 or refuses to pay it after demand, the amount together with
10 interest and any costs that may accrue, shall constitute a
11 judgment in favor of the Commonwealth upon the property of the
12 individual from the date it has been entered and docketed or
13 recorded by the prothonotary of the county where such property
14 is situated. The department may, at any time, transmit to the
15 prothonotaries of the respective counties certified copies of
16 the judgments, and it shall be the duty of each prothonotary to
17 enter and docket the judgments in the prothonotary's office, and
18 to index it as judgments are indexed, without requiring the
19 payment of costs as a condition precedent to the entry of the
20 judgment.

21 Section 504. Unlawful conduct.

22 It is unlawful for an individual to do any of the following:

23 (1) Violate this act, a regulation under this act or any
24 approval, standard or order under this act.

25 (2) Cause or assist another in a violation under
26 paragraph (1).

27 (3) Hinder or threaten an agent or employee of the
28 department in the course of performance of a duty under this
29 act, including entry and inspection.

30 (4) Do any of the following on mine property:

- 1 (i) Venture into areas with unsupported roof.
- 2 (ii) Fail to make required gas checks.
- 3 (iii) Work on energized equipment without de-
- 4 energizing, locking out and tagging that equipment.
- 5 (iv) Change approved equipment without obtaining the
- 6 department's approval.
- 7 (v) Circumvent a safety device.
- 8 (vi) Disable an alarm.
- 9 (vii) Possess or use alcohol, drugs or smoking
- 10 materials in an unlawful manner on mine property.
- 11 (viii) Assign an employee without training or proper
- 12 certification to perform the assigned work.
- 13 (ix) Require or condone a violation of this act, a
- 14 regulation under this act or any approval, standard or
- 15 order under this act.
- 16 (x) Require or condone performance of an unsafe act.
- 17 (xi) Fail to perform a required examination.
- 18 (xii) Fail to abate promptly the dangers identified
- 19 through a mine examination or inspection by the
- 20 department.
- 21 (xiii) Supply inaccurate information to the
- 22 department.
- 23 (xiv) Fail to:
- 24 (A) notify the department as required by this
- 25 act;
- 26 (B) de-energize electrical power as required by
- 27 this act; or
- 28 (C) evacuate the mine when required.

29 Section 505. Criminal penalties.

- 30 (a) Prohibition.--An individual commits a felony of the

1 second degree if all of the following apply:

2 (1) The individual:

3 (i) violates this act, a regulation under this act
4 or any approval, standard or order under this act;

5 (ii) submits false information to the department; or

6 (iii) fails to notify the department as required by
7 this act.

8 (2) The action or inaction under paragraph (1):

9 (i) either results in the death of or substantial
10 bodily injury to an individual; or

11 (ii) creates a condition that poses a substantial
12 likelihood of causing death or substantial bodily injury
13 to an individual.

14 Section 506. Inspections.

15 (a) Administrative.--An agent or employee of the department
16 may do any of the following:

17 (1) Inspect a mine, property, building, premises, place,
18 book or record.

19 (2) Secure physical evidence. This paragraph includes
20 photography and videography.

21 (3) Conduct tests. This paragraph includes taking
22 samples.

23 (b) Warrant.--It shall be sufficient probable cause for a
24 court of competent jurisdiction to issue a search warrant if the
25 department establishes all of the following:

26 (1) The action under subsection (a) is pursuant to the
27 department's general inspection of mines and investigations
28 at mines.

29 (2) The agent or employee:

30 (i) has reason to believe that there has been a

1 violation of this act, a regulation under this act or any
2 approval, standard or order under this act of the
3 department has occurred or may occur; or

4 (ii) has been refused access or been prevented from
5 taking action under subsection (a).

6 Section 507. Intervention.

7 An individual having an interest, which is or may be
8 adversely affected, has the right without posting bond to
9 intervene in an action brought by the department or in an appeal
10 before the Environmental Hearing Board under this act.

11 Section 508. Limitation of action.

12 (a) Civil and administrative.--Notwithstanding 42 Pa.C.S.
13 Ch. 55 Subch. B (relating to civil actions and proceedings) or
14 any other statutory provision to the contrary:

15 (1) A civil action under this act shall be commenced
16 within three years from the date the cause of action arises.

17 (2) An administrative action under this act shall be
18 commenced within three years from the date of the violation.

19 (b) Criminal.--Notwithstanding 42 Pa.C.S. Ch. 55 Subch. C
20 (relating to criminal proceedings) or any other statutory
21 provision to the contrary, a criminal action under this act
22 shall be commenced within three years from the date the offense
23 is committed.

24 Section 509. Relation to permit.

25 The following apply if the department finds that an operator
26 has demonstrated a lack of intent or ability to comply with this
27 act, a regulation under this act or any approval, standard or
28 order under this act:

29 (1) The department may take any action it deems
30 appropriate regarding the operator's permits, including

1 denial of applications for new, renewed or amended permits
2 and suspension or revocation of existing permits.

3 (2) Before taking action under paragraph (1), the
4 department shall provide the operator with an opportunity to
5 demonstrate to the department the operator's intent and
6 ability to comply.

7 Section 510. Certification actions.

8 (a) Denial.--The department shall not issue a certification
9 if, after investigation and an opportunity for an informal
10 hearing, it finds that the applicant lacks the ability or intent
11 to comply with this act.

12 (b) Sanctions.--

13 (1) The department may modify, suspend or revoke a
14 certification under this act if it determines that the holder
15 has done any of the following:

16 (i) Failed to comply with this act; a regulation
17 under this act or any approval, standard or order under
18 this act.

19 (ii) Interfered with the safe and lawful operation
20 of any mine.

21 (iii) Engaged in unlawful conduct under this act.

22 (2) An appeal to the Environmental Hearing Board shall
23 be treated as a petition for a supersedeas.

24 (3) An action under this subsection shall be taken only
25 if the monetary penalty under section 503 is inadequate.

26 (4) This subsection is subject to 2 Pa.C.S. Chs. 5
27 Subch. A (relating to practice and procedure of Commonwealth
28 agencies) and 7 Subch. A (relating to judicial review of
29 Commonwealth agency action) and the act of July 13, 1988
30 (P.L.530, No.94), known as the Environmental Hearing Board

1 Act.

2 (c) Retesting.--A mine official whose certificate has been
3 revoked shall have the right after five years of work experience
4 in an underground bituminous coal mine, two years of which must
5 be in a working section, to be reexamined and upon receipt of a
6 satisfactory score on the examination, the mine official shall
7 be given another certificate of qualification.

8 (d) Other remedies.--This section is in addition to any
9 other remedy afforded the department under this act or any other
10 provision of law.

11 Section 511. Withdrawal of certification.

12 If a superintendent receives information that any mine
13 foreman, assistant mine foreman, mine examiner or mine
14 electrician neglects duties or is incapacitated, the
15 superintendent shall make a thorough investigation. If the
16 superintendent finds evidence to sustain neglect or incapacity,
17 the superintendent shall suspend the individual and inform the
18 department.

19 CHAPTER 6

20 EMERGENCY MEDICAL PERSONNEL

21 Section 601. Definitions.

22 The following words and phrases when used in this chapter
23 shall have the meanings given to them in this section unless the
24 context clearly indicates otherwise:

25 "Emergency medical technician." A coal mine employee who has
26 successfully completed the course on emergency first aid care
27 and transportation of the sick and injured recommended by the
28 American Academy of Orthopedic Surgeons or an equivalent
29 organization and who has been certified by the Department of
30 Health to provide emergency care.

1 "Emergency medical technician paramedic." An individual who
2 has been certified by the Department of Health to provide
3 emergency medical treatment.

4 Section 602. Emergency medical personnel.

5 Emergency medical personnel shall be employed at every mine
6 as follows:

7 (1) At least one emergency medical technician shall be
8 on duty at any time when miners at that mine are engaged in
9 the extraction, production or preparation of coal. Emergency
10 medical technicians shall be on duty at a mine in sufficient
11 numbers to assure that no miner shall work in a mine location
12 which cannot be reached in 30 minutes by an emergency medical
13 technician. Emergency medical technicians shall be employed
14 at their regular duties at locations convenient for quick
15 response to emergencies and shall have available to them at
16 all times necessary equipment in compliance with Federal
17 regulations.

18 (2) Telephone services or the equivalent facilities
19 shall be installed which shall provide two-way voice
20 communications between the emergency medical technician at
21 the mine and medical personnel outside or away from the mine
22 who provide emergency medical services on a regular basis.

23 (3) Operators shall make adequate provisions so that at
24 least one emergency medical technician paramedic, registered
25 nurse, physician or physician assistant is available to
26 provide care at a mine at any time that individuals are
27 engaged in extraction, production or preparation of coal.
28 Emergency medical personnel under this paragraph shall be on
29 call to reach the entrance of the mine within 30 minutes.

30 Section 603. Regulations for training and certification.

1 The Department of Health shall promulgate regulations to
2 train and certify emergency medical technicians and emergency
3 medical technician paramedics.

4 Section 604. First aid training of mine employees.

5 Each operator shall provide every new employee who has not
6 received first aid training required by the department within
7 the six months prior to the date of employment with the training
8 required by the department. The department shall consult with
9 the Department of Health, MSHA and representatives of miners and
10 representatives of operators in determining the training to be
11 required under this section. Each mine employee shall be
12 provided with five hours of refresher first aid training within
13 each 24-month period of employment. Each employee shall be paid
14 regular wages or overtime pay, if applicable, for all periods of
15 first aid training.

16 Section 605. Continuing training.

17 The department, after consultation with the Department of
18 Health regarding the content of instruction courses, shall
19 provide for necessary training on a continuing basis of
20 emergency medical technicians and emergency medical technician
21 paramedics in sufficient numbers to satisfy the requirements of
22 this chapter.

23 Section 606. Regulations.

24 The board, after consultation with the Department of Health,
25 shall promulgate regulations to implement the operational
26 provisions of this chapter.

27 Section 607. Certification.

28 The Department of Health shall promulgate regulations to
29 prescribe procedures necessary to certify emergency medical
30 technicians and emergency medical technician paramedics and

1 consult with the department as may be required under this
2 chapter.

3 Section 608. Liability.

4 (a) Physicians.--

5 (1) Except as set forth in paragraph (2), a physician
6 who in good faith gives instructions to a certified emergency
7 medical technician or emergency medical technician paramedic,
8 a registered nurse or physician assistant shall not be liable
9 for civil damages as a result of issuing the instructions.

10 (2) Paragraph (1) does not apply where the actions
11 constitute gross negligence, reckless misconduct or
12 intentional misconduct.

13 (b) Other medical personnel.--

14 (1) Except as set forth in paragraph (2), a certified
15 emergency medical technician, emergency medical technician
16 paramedic, registered nurse or physician assistant who in
17 good faith attempts to render emergency care to a sick or
18 injured individual in or about a mine shall not be liable for
19 civil damages as a result of any acts or omissions.

20 (2) Paragraph (1) does not apply where the actions
21 constitute gross negligence, reckless misconduct or
22 intentional misconduct.

23 Section 609. Equivalent training.

24 If the department determines that an operator is presently
25 providing emergency medical care for its employees which is
26 equivalent to or superior to the emergency medical care provided
27 for under this chapter, the department shall make a finding that
28 the operator is in compliance with this chapter.

29 CHAPTER 7

30 SAFETY ZONES AND ENTOMBED WORKMEN

1 Section 701. Establishment.

2 A safety zone is established beneath and adjacent to every
3 stream, river and natural or artificial body of water in this
4 Commonwealth that is sufficiently large to constitute a hazard
5 to mining in the opinion and discretion of the department. In
6 the case of a stream or river, the safety zone shall extend
7 horizontally 200 feet from the high-water mark of each bank. In
8 the case of any other body of water sufficiently large to, in
9 the department's discretion, constitute a hazard to mining, the
10 safety zone shall extend horizontally 200 feet from the known
11 perimeter. Each safety zone shall extend downward to the limit
12 of the workable beds.

13 Section 702. Written authorization.

14 (a) Requirement.--No mining or removal of minerals shall be
15 permitted within the safety zone unless authorization is
16 specifically granted in advance and in writing by the
17 department.

18 (b) Procedure.--Authorization shall only be granted upon
19 application of the operator. Application shall be accompanied by
20 four copies of a plan of the proposed mining operation. The plan
21 shall indicate the thickness of the unconsolidated strata, the
22 thickness of the rock strata and coal beds overlying the bed to
23 be mined, the thickness of the bed, the width of the mine
24 openings, the width of the pillars to be left and any other
25 special features that may be deemed necessary as affecting the
26 contemplated first mining.

27 (c) Examinations.--The department shall make periodic
28 examinations to determine the accuracy of plans, maps and
29 drawings submitted to it under the provisions of this section.

30 Section 703. Pillar recovery.

1 Pillar recovery may not be undertaken until the pillar plan
2 is approved by the department. Applications for pillar recovery
3 must be accompanied by four copies of a plan, which must include
4 such information as shall be determined by the department. The
5 approval or disapproval of the plan shall be based on the
6 factors of depth, the thickness of the bed, the percentage of
7 pillars proposed to be extracted and to be left, the effect on
8 pillars remaining in overlying beds and any other special
9 features deemed necessary by the department.

10 Section 704. Proof of rock cover.

11 (a) Requirement.--Proof of the existence of 35 feet of rock
12 cover must accompany any plan submitted under this chapter.

13 (b) Sufficiency.--Proof of rock cover is to be ascertained
14 by testing holes drilled on:

15 (1) intersecting lines forming rectangles or squares
16 where the cover thickness is less than 50 feet; and

17 (2) on spacing of not more than 35-foot centers.

18 Section 705. Verification.

19 Plans and proof of rock cover under this chapter must be
20 signed by a registered professional mining engineer representing
21 the operator and a registered professional mining engineer
22 representing the lessor or the owner.

23 Section 706. Approval or disapproval of plans.

24 (a) Approval.--If, after review, the department approves the
25 plan, it shall send copies of the approved plan to the
26 registered professional mining engineer representing the
27 operator and to the registered professional mining engineer
28 representing the lessor or the owner.

29 (b) Disapproval.--If, after review, the department
30 disapproves the plan, it shall send copies of the disapproval,

1 identifying its reasons for that action, to the registered
2 professional mining engineer representing the operator and a
3 registered professional mining engineer representing the lessor
4 or the owner.

5 Section 707. Notice.

6 After approval of the plan by the department, mining or
7 removal of minerals shall not begin within the safety zone until
8 the mine foreman has conspicuously posted a notice on the
9 outside of the mine and has orally notified each miner affected
10 that the miner is working within the safety zone.

11 Section 708. Entombed workmen.

12 If a workman is enclosed, entombed or buried in any coal mine
13 in this Commonwealth, the department, on its own initiative or
14 upon request of a relative of the workman or the department, may
15 petition a court of competent jurisdiction to order recovery of
16 the body and to make a decree that the workman is dead.

17 CHAPTER 31

18 MISCELLANEOUS PROVISIONS

19 Section 3101. Repeals.

20 (a) Absolute.--The following acts or parts of acts are
21 repealed absolutely:

22 (1) The act of June 30, 1947 (P.L.1177, No.490), known
23 as The Coal Mine Sealing Act of 1947.

24 (2) The act of July 17, 1961 (P.L.659, No.339), known as
25 the Pennsylvania Bituminous Coal Mine Act.

26 (b) Inconsistent.--The following acts and parts of acts are
27 repealed to the extent they apply to bituminous coal mines:

28 (1) The act of May 9, 1889 (P.L.154, No.171), entitled
29 "An act to provide for the recovery of the bodies of workmen
30 enclosed, buried or entombed in coal mines."

1 (2) The act of June 3, 1943 (P.L.848, No.357), entitled
2 "An act providing that every mine foreman, assistant mine
3 foreman and fire boss, under the Bituminous Mining Laws and
4 the Anthracite Mining Laws of the Commonwealth, represents
5 and is an officer of the Commonwealth in the mine in which
6 employed, for the suspension or cancellation of the
7 certificates of such officials as shall hold same, and for
8 the disqualification of such as are uncertificated by the
9 Secretary of Mines after or prior to hearing, for failure or
10 refusal to perform his respective duties; defining the
11 procedure in such hearing and the powers of the Secretary of
12 Mines, with respect thereto, and providing for a review of
13 his decisions by courts of common pleas and the Superior
14 Court; providing for re-examination by the examining board of
15 any person whose certificate has been cancelled, and for
16 reinstatement of such as are uncertificated; and prohibiting
17 the employment by any operator in such capacity of any mine
18 foreman, assistant mine foreman or fire boss not possessing
19 the requisite certificate or whose certificate is suspended
20 or who has been disqualified."

21 (3) The act of December 22, 1959 (P.L.1994, No.729),
22 entitled "An act prohibiting mining in certain areas without
23 prior approval by the Department of Mines and Mineral
24 Industries; establishing standards for the approval of plans
25 for mining in such areas; imposing powers and duties on the
26 mine foremen and the Department of Mines and Mineral
27 Industries; and providing penalties."

28 (4) The act of July 9, 1976 (P.L.931, No.178), referred
29 to as the Coal Mine Emergency Medical Personnel Law.

30 Section 3102. Effective date.

1 This act shall take effect in 180 days.