
THE GENERAL ASSEMBLY OF PENNSYLVANIA

SENATE BILL

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WOZNIAK AND REGOLA, JANUARY 11, 2008

AS AMENDED ON THIRD CONSIDERATION, FEBRUARY 6, 2008

AN ACT

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

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

17 CHAPTER 1

18 PRELIMINARY PROVISIONS

19 Section 101. Short title.

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

22 Section 102. Application.

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

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

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

28 (3) All individuals at underground bituminous coal
29 mines.

30 Section 103. Findings and purpose.

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

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

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

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

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24 becoming outdated and lacks an effective mechanism to modify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

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

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

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

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

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

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

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

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

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

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

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

1 this Commonwealth.

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

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

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

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

17 Section 104. Definitions.

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

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

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

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

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

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

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

1 gas.

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

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

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

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

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

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

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

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

18 (ii) Causes individuals to evacuate an area.

19 (12) Failure of an impoundment OR refuse pile or ~~culm~~ <—
20 ~~bank~~.

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

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

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

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

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

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

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

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

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

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

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

1 incident to such purposes.

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

4 "DPEP." Diesel-powered equipment package.

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

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

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

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

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

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

1 surface coal mine.

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

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

7 (1) The inside workings of a mine.

8 (2) An individual in a mine.

9 (3) A visitor to the inside of a mine, except for
10 Federal and State Government representatives, mine inspectors
11 and other representatives.

12 "Mine official." Any of the following:

13 (1) Superintendent.

14 (2) Mine foreman.

15 (3) Assistant mine foreman.

16 (4) Mine examiner.

17 (5) Mine electrician.

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

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

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

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

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

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

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

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

13 "Representative of the miners." A miner employed at the mine
14 who is authorized by a vote of two or more miners working at the
15 same mine to perform the duties specified in this act.

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

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

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

24 "Secretary." The Secretary of Environmental Protection of
25 the Commonwealth or the designee of the secretary.

26 "Shaft." A vertical opening through the strata that is or
27 may be used for the purpose of ventilation or drainage or for
28 hoisting men or material, or both, in connection with the mining
29 of coal or for other purposes related to mining.

30 "Slope and drift." An incline or opening used for the same

1 purpose as a shaft.

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

4 "Superintendent." An individual appointed by an operator to
5 manage a mine.

6 "Survey line." A representation of the line of survey from
7 survey station spad to survey station spad as shown on the
8 official mine map.

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

11 "Underground bituminous coal mine." A mine and the surface
12 facilities that are physically connected to a mine, including
13 preparation plants and loadouts at a mine, in this Commonwealth
14 and not included in anthracite boundaries.

15 "Ventilation apparatus." All equipment, materials and
16 devices used to establish, provide or support movement of air
17 through a mine.

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

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

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

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

29 Section 105. Powers and duties of department.

30 The department shall have the power and duty to administer a

1 mine safety program for individuals employed at mines. The
2 department has the power and duty to do all of the following:

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

9 (2) Conduct investigations and interviews of individuals
10 at a mine or elsewhere.

11 (3) Issue orders to implement and enforce the provisions
12 of this act.

13 (4) Institute proceedings and actions to implement the
14 provisions and effectuate the purposes of this act, including
15 suits seeking equitable relief or declaratory judgments and
16 suits to recover costs incurred by the department.

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

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

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

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

28 (9) Receive and act upon complaints.

29 (10) Conduct, review and, if funds are allocated for
30 such purposes, commission scientific and other research

1 directed to the purposes of this act.

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

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

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

18 (14) Establish a mine map repository.

19 (15) Serve as the agency of the Commonwealth for the
20 receipt of funds from the Federal Government or other public
21 agencies and expend the funds for studies and research with
22 respect to and for the enforcement and administration of the
23 purposes and provisions of this act and the regulations
24 promulgated under this act.

25 (16) Assess civil penalties.

26 (17) Encourage and promote industry-based mine rescue
27 capabilities.

28 (18) Provide training for department personnel and
29 individuals who work in or who wish to work in the mining
30 industry.

1 (19) Administer, deposit and expend funds from the Mine
2 Safety Fund.

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

5 (21) Perform any act not inconsistent with any provision
6 of this act, which it may deem necessary or proper for the
7 effective administration or enforcement of this act and the
8 rules or regulations promulgated under this act.

9 Section 106. Board of Coal Mine Safety.

10 (a) Establishment.--The Board of Coal Mine Safety is
11 established and shall develop all of the following:

12 (1) Proposed amendments to the interim mandatory safety
13 standards.

14 (2) Additional regulations with respect to mine safety
15 if the board determines that existing Federal and State
16 regulations do not adequately address a specific hazard.

17 (3) Other regulations as specifically authorized under
18 this act.

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

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

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

26 (c) Terms.--All appointments shall be subject to the
27 following:

28 (1) The initial appointments after the effective date of
29 this section shall have staggered terms so that, for each
30 group of appointments under subsection (b), one member shall

1 serve a term of one year, one member shall serve a term of
2 two years and one member shall serve a term of three years.
3 All subsequent appointments shall be for terms of three
4 years.

5 (2) Members shall be eligible for reappointment.

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

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

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

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

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

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

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

28 (g) Service.--Members shall serve at the pleasure of the
29 Governor.

30 (h) Compensation.--Members of the board shall be compensated

1 at the appropriate per diem rate based on the prevailing formula
2 administered by the Commonwealth, but not less than \$150 per
3 day, plus reasonable expenses incurred while performing their
4 official duties. The compensation shall be adjusted annually by
5 the department to account for inflation based on the Consumer
6 Price Index published by the United States Department of Labor.
7 An individual board member may waive his or her right to all or
8 part of the compensation.

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

13 (j) Access.--In performing its functions, the board shall
14 have access to the services of the department. The department
15 shall make clerical support and assistance available to enable
16 the board to carry out its duties.

17 (k) Funding.--Funding for the operation of the board and
18 implementation of the provisions of this chapter shall be
19 derived from the general government appropriation of the
20 department.

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

24 (1) In the case of an appointment to fill a vacancy, a
25 list of nominees under subsection (e) shall be requested by
26 and submitted to the Governor within 30 days after the
27 vacancy occurs by the major trade association or major labor
28 organization which nominated the individual whose seat on the
29 board is vacant.

30 (2) The vacancy shall be filled by the Governor within

1 30 days of the receipt of the list of nominees.

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

5 Section 106.1. Rulemaking.

6 (a) Authority.--The board shall have the authority to
7 promulgate regulations that are necessary or appropriate to
8 implement the requirements of this act and to protect the
9 health, safety and welfare of miners and other individuals in
10 and about mines.

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

13 (1) Existing as of the effective date of this section
14 and that are not included in interim mandatory safety
15 standards.

16 (2) New standards, except for standards concerning
17 diesel equipment, promulgated after the effective date of
18 this section.

19 (c) Regulations.--Within 250 days of the effective date of
20 this section, the board shall begin to consider the standards
21 under subsection (b)(1) for promulgation as regulations. If
22 final regulations are not promulgated by the board within three
23 years of the effective date of this section, the department may
24 promulgate final regulations consistent with Federal standards.

25 (d) New standards.--Within 70 days of the effective date of
26 new mine safety standards under subsection (b)(2), the board
27 shall begin to consider standards for promulgation as
28 regulations. If the regulations are not promulgated as final by
29 the board within three years of the effective date of the
30 promulgation of the new standards, the department may promulgate

1 final regulations consistent with Federal standards.

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

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

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

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

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

18 (4) The establishment of fees for services in amounts
19 sufficient to cover the department's costs of administering
20 this act. The fees established by the board may be increased
21 each year after implementation by the percentage, if any, by
22 which the Consumer Price Index for the most recent calendar
23 year exceeds the Consumer Price Index for the calendar year
24 1989. For the purposes of this paragraph, the Consumer Price
25 Index for any calendar year shall mean the average of the
26 Consumer Price Index for All Urban Consumers, published by
27 the United States Department of Labor, as of the close of the
28 12-month period ending on August 31 of each calendar year.

29 (g) Safety.--No regulation promulgated by the board shall
30 reduce or compromise the level of safety or protection afforded

1 mine workers under this act. The department may disapprove a
2 final regulation approved by the board which the department
3 determines would reduce or compromise the level of safety or
4 protection afforded mine workers under this act if the
5 department describes the basis for the disapproval.

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

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

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

15 (3) If MSHA fails to promulgate regulations regarding
16 emergency shelters and chambers, the board shall promulgate
17 regulations.

18 (4) Regulations shall be no less stringent than the
19 Federal mine safety standards

20 (i) Action.--The board shall take action on the tests and
21 evaluations performed by the mining industry under section
22 334(b) and (c).

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

25 Section 106.2. Emergency shelters and chambers.

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

28 (1) Provide a minimum of 48 hours of life support,
29 including air, water, emergency medical supplies and food,
30 for the maximum number of miners reasonably expected to be on

1 the working section.

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

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

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

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

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

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

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

21 (9) Provide a minimum of eight quarts of water per
22 miner.

23 (10) Provide a minimum of 4,000 calories of food per
24 miner.

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

27 (12) Provide a first aid kit.

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

30 (14) Contain manufacturer-recommended repair materials.

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

4 (16) Provide provisions for communication to the
5 surface.

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

8 Section 106.3. Notice to operators and miners.

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

18 Section 106.4. Standards for surface facilities.

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

26 Section 107. Safety issues.

27 The department shall consider the safety of miners in
28 reviewing and acting on applications for permits issued to and
29 for mines and shall include conditions addressing safety in
30 issuing the permits. If the department determines that any

1 aspect of the contemplated activity at an existing or proposed
2 mine might constitute a threat to the health and safety of
3 miners or individuals in and about mines, the department shall
4 require the applicant or operator to eliminate the threat. If
5 the applicant or operator does not eliminate the threat to the
6 department's satisfaction, the department shall deny the
7 application or applications or shall unilaterally modify the
8 terms of the permit or suspend or revoke the permit.

9 Section 108. Inspections.

10 The department shall make frequent inspections of mines. Each
11 mine shall be inspected at least semiannually for electrical
12 purposes and at least quarterly for general purposes.

13 Inspections shall be conducted more frequently when the
14 department determines that more frequent inspections are
15 necessary or desirable. Inspections shall be conducted for the
16 purposes of:

17 (1) Obtaining, utilizing and disseminating information
18 relating to health and safety conditions, the causes of
19 accidents and the causes of diseases and physical impairments
20 originating in mines.

21 (2) Gathering information with respect to health or
22 safety standards established or regulations promulgated under
23 this act.

24 (3) Determining whether a danger exists.

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

29 Section 109. Accidents.

30 (a) Duties of operator.--In the event of an accident

1 occurring at a mine, an operator shall do all of the following:

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

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

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

15 (4) Conduct its own investigation of the accident and
16 develop a written report of the investigation. The report
17 shall include all of the following:

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

19 (ii) The date the investigation began.

20 (iii) The names of the individuals participating in
21 the investigation.

22 (iv) A description of the accident site.

23 (v) An explanation of the accident or injury,
24 including a description of any equipment involved and
25 relevant events before and after the accident.

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

27 (vii) An explanation of the cause of any injury
28 sustained due to the accident.

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

1 (ix) A sketch depicting the accident, including
2 dimensions where pertinent.

3 (x) A description of steps taken to prevent a
4 similar accident in the future.

5 (b) Duties of department.--In the event of an accident
6 occurring at a mine, the department shall do all of the
7 following:

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

12 (2) Promptly decide whether to conduct an investigation
13 of the accident and inform the operator and the
14 representative of the miners of its decision.

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

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

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

28 Section 110. Mine officials' certification.

29 (a) Administration.--After evaluating the examinations, the
30 department shall issue certificates to those candidates who have

1 met the established criteria for each certification category.

2 (b) Committee.--

3 (1) The department shall appoint a committee to annually
4 review and update the department's database of examination
5 questions and answers. The committee shall be made up of an
6 equal number of persons representing the viewpoints of the
7 department, operators and miners.

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

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

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

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

24 Section 111. Classification of mines as gassy.

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

29 Section 112. Reports.

30 (a) Questionnaire.--The operator of an underground mine

1 shall submit to the department a completed or revised deep mine
2 questionnaire in the following instances:

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

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

8 (a.1) Notice.--Upon discontinuance of the operation of an
9 underground mine, the operator shall immediately notify the
10 department.

11 (b) Quarterly reports.--

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

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

18 (ii) Identification of the mine superintendent and
19 mine foreman.

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

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

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

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

1 corrected quarterly reports.

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

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

17 Section 113. Mine rescue program.

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

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

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

29 (b) Equipment.--The department shall purchase and maintain
30 adequate quantities of emergency response vehicles, specialized

1 equipment, supplies and services necessary to assure rapid and
2 effective response to mine emergencies, including mine fires,
3 mine explosions, mine inundations, entrapments and mine recovery
4 operations.

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

12 Section 114. Direction of mine rescue work.

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

21 Section 115. Recovery of funds.

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

25 Section 116. Mine Safety Fund.

26 There is created a special fund known as the Mine Safety
27 Fund. All moneys received by the department under this act and
28 all moneys recovered from operators for expenses incurred in
29 responding to a mine emergency shall be deposited by the State
30 Treasurer into the Mine Safety Fund. All moneys deposited in the

1 fund are hereby appropriated, upon approval of the Governor, to
2 the department for mine safety activities and the administration
3 of this act.

4 Section 117. Bituminous mine inspector.

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

9 (1) Be a resident of this Commonwealth.

10 (2) Be an individual of good moral character and known
11 temperate habits.

12 (3) Be physically capable of entering and inspecting a
13 coal mine.

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

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

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

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

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

23 Section 118. Bituminous mine electrical inspector.

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

28 (1) Be a resident of this Commonwealth.

29 (2) Be an individual of good moral character and known
30 temperate habits.

1 (3) Be physically capable of entering and inspecting a
2 coal mine.

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

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

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

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

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

13 Section 119. Availability of mine maps.

14 (a) Authorization.--The department is authorized and
15 directed to obtain and copy all maps of mining conducted in this
16 Commonwealth.

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

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

24 Section 120. Mine map repository.

25 The department shall develop and maintain a repository of all
26 mine maps it has obtained or has had an opportunity to copy. The
27 department shall organize and catalog the mine maps in the
28 repository to enable the department, other government agencies,
29 mine operators and the general public to review the mine maps
30 and to determine the location of mine workings. All mine maps

1 and copies of mine maps held by the department shall be open for
2 public inspection and made available for review upon request
3 during the department's normal business hours.

4 Section 121. Applicability.

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

7 CHAPTER 2

8 GENERAL REQUIREMENTS FOR UNDERGROUND BITUMINOUS MINES

9 Section 201. General safety requirements.

10 The following are general safety requirements:

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

12 (2) All equipment must be maintained in safe operating
13 condition.

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

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

1 with the department in implementing the provisions of this
2 act and effectuating the purposes of this act.

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

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

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

1 the mine.

2 Section 202. Qualifications for certification.

3 (a) General requirements.--

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

7 (i) An applicant must demonstrate the following
8 levels of work experience in an underground bituminous
9 coal mine:

10 (A) Mine foreman or mine electrician, five
11 years.

12 (B) Assistant mine foreman, four years.

13 (C) Mine examiner, three years.

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

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

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

29 (A) Mine foreman or mine electrician, four
30 years.

1 (B) Assistant mine foreman, three years.

2 (C) Mine examiner, two years.

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

6 (b) Additional requirements.--The following additional
7 requirements shall apply:

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

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

22 (3) Certificates of qualification as assistant mine
23 foremen shall be granted to individuals who have given to the
24 department satisfactory evidence of their ability to perform
25 the duties of assistant mine foreman and who have received
26 training by individuals approved by the department in
27 determining the presence of explosive and noxious gases, and
28 in the use and mechanics of all gas detection devices, and
29 who have received an average of at least 70% in the
30 examination.

1 (4) Certificates of qualification as mine examiners
2 shall be granted to individuals who have given to the
3 department satisfactory evidence of their ability to perform
4 the duties of mine examiners and who have received training
5 by individuals approved by the department in determining the
6 presence of explosive and noxious gases, and in the use and
7 mechanics of all gas detection devices, and who have received
8 an average of at least 75% in the mine examiners examination.

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

17 (6) Certificates of qualification or service granted
18 prior to the effective date of this act shall have equal
19 value with certificates of qualification granted under this
20 act.

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

1 shall be maintained at the mine.

2 Section 203. Emergency use of mine examiner as assistant mine
3 foreman.

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

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

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

12 (3) A mine foreman may act as an assistant mine foreman,
13 a mine examiner or a miner. An assistant mine foreman may act
14 as a mine examiner or a miner. A mine examiner may act as a
15 miner.

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

20 Section 204. Certification of miners.

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

1 Section 205. Qualifications for certification as miners.

2 The following shall apply:

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

5 (2) No individual shall be qualified to take the
6 examination unless the individual produces evidence of having
7 had not less than one year's experience in bituminous coal
8 mines.

9 (3) All individuals possessing certificates of
10 qualification issued by the Commonwealth entitling them to
11 act as mine foremen, assistant mine foremen, mine examiners
12 or mine electricians shall be eligible to engage at any time
13 as miners in bituminous coal mines of this Commonwealth.

14 Section 206. Issuance of miners' certificates.

15 The form and manner of issuing miners' certificates shall be
16 designated by the department. Certificates granted shall entitle
17 the certificate holder to be employed as and do the work of a
18 miner in the bituminous coal mines of this Commonwealth. A
19 certificate granted shall not be transferable and a transfer
20 shall be deemed a violation of this act.

21 Section 207. Certification of mining machine operators and
22 shot-firers.

23 (a) General rule.--It shall be unlawful to employ as a
24 mining machine operator or shot-firer in any bituminous coal
25 mine any individual who has not given evidence to the department
26 as to his fitness and competency to handle and use an approved
27 gas detection device and his ability to determine the presence
28 or absence of explosive gas and other dangerous conditions. The
29 manner of determining fitness and competency shall be prescribed
30 by the department. The department shall issue a certificate to

1 those found competent, on a form prescribed by the department.
2 The cost of the examination and certification shall be borne by
3 the candidates.

4 (b) Eligibility.--An individual possessing a certificate of
5 qualification issued by the Commonwealth entitling the
6 individual to act as a mine foreman, assistant mine foreman,
7 mine examiner or mine electrician is eligible to engage as a
8 mining machine operator in a bituminous coal mine.

9 Section 208. Employment of mine foremen.

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

26 Section 209. Employment of mine electricians.

27 Each mine shall employ a certified mine electrician, who
28 shall have full charge of the electrical apparatus at the mine,
29 but shall be subject to the authority of the mine foreman. It
30 shall be the duty of the mine electrician to assist the mine

1 foreman in carrying out all the provisions of the bituminous
2 mining laws bearing on the use and installation of electricity
3 inside bituminous coal mines and the equipment powered thereby,
4 and the mine electrician shall be subject to the same penalties
5 as the mine foreman for any violation of these laws.

6 Section 210. Employment of assistant mine foremen.

7 When mine workings become so extensive that the mine foreman
8 is unable personally to carry out the requirements of this act
9 pertaining to duties, the mine foreman shall have the right to
10 employ a sufficient number of competent individuals to act as
11 his assistants, who shall be under his instruction and the
12 operator's or the superintendent's instruction in carrying out
13 the provisions of this act. In each mine the mine foreman's
14 assistants must possess assistant mine foreman certificates. In
15 case of the necessary temporary absence of the mine foreman, the
16 mine foreman may deputize his responsibilities, for the time
17 being, to an assistant mine foreman, who shall perform all the
18 duties of the mine foreman. Any mine foreman, assistant mine
19 foreman, mine examiner or mine electrician may supervise and
20 direct the work of a maximum of two noncertified miners, and
21 shall instruct the individuals how safely and properly to
22 perform their work.

23 Section 211. Ventilation responsibilities of mine foreman.

24 The following shall apply:

25 (1) A mine foreman shall devote the whole of his time to
26 his duties in the mine when the mine is in operation, shall
27 keep careful watch over the ventilating apparatus, the
28 ventilation, airways and travelways and shall see that all
29 stoppings along airways are properly built.

30 (2) A mine foreman shall ensure that proper cut-throughs

1 are made in the pillars of all rooms and entries, and that
2 they are closed when necessary or when required by the
3 department, so that the ventilating current can be conducted
4 in sufficient quantity through the last cut-through to the
5 face of each room and entry. A mine foreman shall not permit
6 any room or entry to be turned in advance of the ventilating
7 current or in advance of the last cut-through in the entry.

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

18 (4) The following pertain to fan stoppage:

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

22 (A) The power in by the loading point shall be
23 immediately disconnected and all men shall be
24 withdrawn from the face areas of the mine to a point
25 out by the loading point on the main travelway with
26 established communications.

27 (B) As soon as it is known that the ventilation
28 has been interrupted, all permissible battery-powered
29 equipment shall be removed from the immediate face
30 area and moved to a safe location out by the last

1 open crosscut. All other battery-powered mobile
2 equipment, except transportation equipment necessary
3 for evacuation if located in a safe area, shall not
4 be used after a ventilation interruption occurs. If
5 possible, battery terminal leads shall be
6 disconnected. If leads are not disconnected, all
7 switches shall be turned off.

8 (C) If the interruption is less than 15 minutes,
9 the working places, adjacent places and all other
10 active working areas where methane may accumulate
11 will be examined by a certified mine foreman,
12 assistant mine foreman or mine examiner to determine
13 if methane in the amount of 1.0 volume percent or
14 more exists before power is restored and the men are
15 permitted to resume mining operations.

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

18 (A) The power to all underground areas shall be
19 disconnected.

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

22 (C) If ventilation is restored before the
23 evacuation is completed, the certified mine foreman,
24 assistant mine foreman or mine examiner may start the
25 reexamination of the mine, but all other individuals
26 must continue to evacuate.

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

29 (iii) As an alternative to evacuating the men on
30 foot, a mine operator may propose to utilize mechanical

1 equipment during the evacuation. To justify this proposal
2 the operator must perform a survey that shows explosive
3 gas will not migrate to or accumulate in the designated
4 haulageways that will be used to evacuate the mine. The
5 duration of the survey shall be at least twice the travel
6 time from the farthest face to the surface. The operator
7 shall provide the representative of the miners, if
8 applicable, an opportunity to participate in the survey.
9 The department will approve the survey criteria. Trolley
10 equipment will not be used during a fan stoppage. If the
11 survey provides affirmative results, which shall be
12 provided to the department, the department shall approve
13 a plan that provides:

14 (A) That permissible transportation equipment
15 shall be used if available.

16 (B) That evacuations shall begin within 15
17 minutes after a ventilation interruption and shall
18 proceed in an orderly and expedient manner.

19 (C) That the minimum number of vehicles will be
20 used for the evacuation.

21 (D) That, during transportation, a certified
22 individual qualified to perform methane examinations
23 riding in each vehicle shall continuously monitor for
24 methane using a handheld detector and at specific
25 locations designated by the operator based on the
26 survey results. The speed of the vehicles shall not
27 be so fast as to negate the detector's ability to
28 accurately measure methane levels.

29 (E) That, if at any time during the evacuation
30 methane is detected in an amount of .25% or more, the

1 transportation vehicles will be deenergized and the
2 evacuation completed on foot.

3 (F) That the operator, the department and the
4 representative of the miners, if applicable, shall
5 review the plan annually or more frequently if
6 conditions warrant.

7 (iv) If ventilation is restored to normal water
8 gauge before the evacuation is completed, a certified
9 mine foreman, assistant mine foreman or mine examiner may
10 start the reexamination of the mine, but all OTHER ←
11 individuals must continue to evacuate.

12 (v) The reexamination shall be made of the mine in
13 the same manner as a preshift examination for a coal-
14 producing shift before any power underground is
15 energized, including battery-powered or diesel-powered
16 equipment, or before individuals are permitted to enter
17 the mine. The examination shall be made on foot, except
18 an operator may use permissible transportation equipment
19 on intake travelways only for reexamination after a fan
20 stoppage if the examination is started within the time
21 period established by the survey. The examination shall
22 be recorded in the official mine record books used for
23 examinations under section 218.

24 (5) The mine foreman shall notify the superintendent in
25 writing whenever in his opinion the mine is becoming
26 dangerous through the lack of ample ventilation at the face
27 of entries, rooms and other portions of the mine, caused by
28 the undue length of entries and airways or from any other
29 cause, resulting in the accumulation of gas or coal dust, or
30 both, in various portions of the mine. The superintendent

1 shall thoroughly investigate the mine foreman's report and,
2 if substantiated, order necessary work done to put the
3 affected area in safe operating condition. It shall be the
4 duty of the superintendent to immediately notify the
5 department of the condition.

6 (6) The mine foreman shall see that every mine releasing
7 explosive gas is kept free of standing methane, but any
8 accumulation of explosive or noxious gases in the worked-out
9 or abandoned portions of any mine shall be removed as soon as
10 possible after its discovery, if it is practicable to remove
11 it. No individual endangered by the presence of explosive or
12 noxious gases shall be allowed in that portion of the mine
13 until the gases have been removed. The mine foreman shall
14 direct and see that all dangerous places and the entrance or
15 entrances to worked-out and abandoned places in all mines are
16 properly fenced off across the openings so that no individual
17 can enter, and that danger ~~signals~~ SIGNS are posted upon said <—
18 fencing to warn individuals of the existing danger.

19 (7) When operations are temporarily suspended in a mine,
20 the mine foreman shall see that danger ~~signals~~ SIGNS are <—
21 placed across the mine entrance, which signals shall be
22 sufficient warning for unauthorized individuals not to enter
23 the mine. If the circulation of air through the mine be
24 stopped, each entrance to the mine shall be fenced off in
25 such a manner as will ordinarily prevent individuals from
26 entering the mine, and a danger ~~signal~~ SIGN shall be <—
27 displayed upon the fence at each entrance and maintained in
28 good condition. The mine foreman shall see that all danger
29 ~~signals~~ SIGNS used in the mine are in good condition and if <—
30 any become defective, he shall notify the superintendent.

1 Section 212. Mine foreman's responsibility for working place
2 safety.

3 The following shall apply:

4 (1) The mine foreman or assistant mine foreman shall
5 direct and see that every working place is properly secured
6 and shall see that no individual is directed or permitted to
7 work in an unsafe place, unless it be for the purpose of
8 making it safe. The mine foreman shall see that workmen are
9 provided with sufficient roof support materials delivered to
10 their working place or places. When timbers are used for roof
11 support, they shall be cut square on both ends and as near as
12 practicable to proper length.

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

22 (3) The mine foreman or assistant mine foreman shall
23 direct and see that, as the miners advance in their
24 excavation, all dangerous and doubtful pieces of coal, slate
25 and rock are taken down or immediately carefully secured
26 against falling on the workmen. Any workman who neglects to
27 carry out or disobeys the instructions of the mine foreman or
28 assistant mine foreman, in regard to securing his working
29 place, shall be suspended or discharged by the mine foreman,
30 and if such negligence or disobedience results in serious

1 injury or loss of life to any individual, the mine foreman
2 shall report the name of that workman to the department for
3 prosecution under the requirements of this act.

4 (4) The mine foreman shall give prompt attention to the
5 removal of all dangers reported to him by his assistants, the
6 mine examiner or any other individual working in the mine,
7 and in case it is impracticable to immediately remove the
8 danger, he shall notify every individual whose safety is
9 threatened to remain away from the area of the mine where the
10 dangerous conditions exist.

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

16 (6) It shall be the duty of the mine foreman to see that
17 approved gas detection devices are used when and where
18 required by this act. No approved gas detection device shall
19 be entrusted to any individual for use in a mine until the
20 individual has given satisfactory evidence to the mine
21 foreman that he understands the proper use of the device and
22 the danger of tampering with the device. The transportation
23 of tools into and out of the mine shall be under the
24 direction of the mine foreman or an assistant mine foreman.

25 (7) Instructions shall be given by the mine foreman,
26 assistant mine foreman or mine examiner, or other authorized
27 individual, as to when, where and how roof supports shall be
28 placed in order to avoid accidents from falls and to mine
29 coal with safety to themselves and others. In addition, the
30 mine foreman or assistant mine foreman shall give special

1 care and attention to drawing pillars, particularly when
2 falls are thereby being made.

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

4 The following shall apply:

5 (1) The mine foreman shall direct that the coal is
6 properly mined before it is blasted, shot or broken. For
7 purposes of this paragraph, the term "properly mined" shall
8 mean that the coal shall be undercut, centercut, overcut or
9 sheared by pick or machine, and in any case the cutting shall
10 be as deep as the holes are laid.

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

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

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

22 The following shall apply:

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

27 (2) Whenever any working place in a mine approaches
28 within 50 feet of abandoned workings, as shown by surveys
29 certified by a registered engineer or surveyor, or within 500
30 feet of any other abandoned workings of the mine, which

1 cannot be inspected and which may contain dangerous
2 accumulations of water or gas, or within 500 feet of any
3 workings of an adjacent mine, a test drilling plan which
4 provides for the safety of all individuals must be submitted
5 by the operator to the department for approval. The
6 department may increase the setback distances under this
7 paragraph.

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

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

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

27 Section 215. Mine foreman's responsibility for employment of
28 competent individuals.

29 A noncertified individual may not be employed to operate
30 equipment in a mine until the individual has completed a

1 training program approved by the department and has given the
2 mine foreman satisfactory proof that the individual can do the
3 assigned work without endangering anyone.

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

6 The following shall apply:

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

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

1 also each day read carefully and countersign in ink all
2 reports entered in the record book of the mine examiners.

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

20 (4) It shall be the duty of the mine foreman or
21 assistant mine foreman, or an authorized individual
22 designated by the mine foreman, to examine daily IN A GENERAL ←
23 WAY all electrical equipment and other machinery under his
24 jurisdiction to see that it is in safe operating condition
25 and make a report in the assistant mine foreman's daily
26 report book. It shall be the duty of the mine electrician to
27 make and sign a written report once each week in a record
28 book provided for that purpose, stating the condition of
29 electrical equipment and other machinery in the mine. The
30 report shall be countersigned by the mine foreman.

1 Section 217. Employment of mine examiners.

2 The mine foreman shall employ a sufficient number of mine
3 examiners to ensure that each mine can be examined in accordance
4 with the provisions of this act. The mine foreman or the
5 assistant mine foreman shall ensure that the mine examiner has
6 initialed, including date and time, the places examined or
7 reported as examined.

8 Section 218. Duties of mine examiners.

9 (a) Examination of mine.--Within three hours immediately
10 preceding the beginning of a coal-producing shift and before any
11 workmen in such shift, other than those who may be designated to
12 make the examination under this section, enter the underground
13 areas of the mine, the mine foreman, assistant mine foreman or
14 mine examiner designated by the mine foreman shall make an
15 examination of the areas AS PRESCRIBED IN THIS SECTION. Each <—
16 individual designated to act as a mine examiner shall be
17 directed to examine a definite underground area of the mine and
18 shall inspect every active working place and places immediately
19 adjacent in the area and make tests with an approved gas
20 detection device for accumulations of methane and oxygen-
21 deficiency in the air. The mine examiner shall examine seals and
22 doors to determine whether they are functioning properly;
23 inspect and test the roof, face and rib conditions in the
24 working places; inspect active roadways, every unfenced roadway,
25 travelways, approaches to abandoned workings, and accessible
26 falls in active sections for explosive gas and other hazards;
27 and inspect to determine whether the air in each split is
28 traveling in its proper course and in normal volume. The mine
29 examiner shall initial and date the face of each place he
30 examines or in a nearby location. If the mine examiner finds a

1 condition which the mine examiner considers to be dangerous to
2 individuals who may enter or be in such area, he shall post a
3 "danger" sign conspicuously at a point which individuals
4 entering such dangerous place would be required to pass. No
5 individual, other than Federal or State mine inspectors, or the
6 mine foreman or assistant mine foreman, or individuals
7 authorized by the mine foreman or assistant mine foreman to
8 enter the place for the purpose of eliminating the dangerous
9 condition, shall enter the place while the sign is posted.

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

1 examiners to sign the report entered in the record book in the
2 mine office on the surface. The record books of the mine
3 examiners shall at all times during working hours be accessible
4 to the department and any individual working in the mine.

5 (c) Second examination.--A second examination by the same or
6 other mine examiner shall be made during working hours of every
7 working place where men are employed, and a report of the
8 examination shall be made in the mine examiner report book in
9 the same manner as the first examination. No individual on a
10 noncoal-producing shift, other than a certified individual
11 designated under this section, shall enter any underground area
12 in a mine, unless the area, which shall include all places on
13 that particular split of air, has been examined as prescribed in
14 this section within three hours immediately preceding his
15 entrance into the area.

16 Section 219. Management of mine.

17 The right to hire and discharge employees, management of the
18 mine and the direction of the working forces are vested
19 exclusively in the operator. No individual, association,
20 organization or corporation shall interfere with or attempt to
21 interfere with, abridge or attempt to abridge, in any manner
22 whatsoever, these rights, provided that these rights do not
23 invalidate any existing or future contract.

24 Section 220. Duties of superintendent.

25 (a) General rule.--It shall be the duty of every
26 superintendent, on behalf and at the expense of the operator, to
27 keep on hand at each mine at all times a sufficient quantity of
28 all materials and supplies required to preserve the health and
29 safety of the employees, as ordered by the mine foreman and
30 required by this act. If, for any reason, the superintendent

1 cannot procure the necessary materials or supplies, he shall
2 immediately notify the mine foreman, whose duty it shall be to
3 withdraw all individuals from the mine, or portion of the mine,
4 until the materials or supplies are received.

5 (b) Examination.--The superintendent shall, at least once
6 every week, read, examine and countersign all reports entered in
7 the mine record book. If the superintendent determines that the
8 law is being violated, the superintendent shall order the mine
9 foreman to stop the violation and ensure compliance with that
10 order.

11 Section 221. Qualifications and general responsibility of
12 superintendent.

13 The following shall apply:

14 (1) Beginning one year after the effective date of this
15 paragraph, no individual may be appointed as a superintendent
16 at any mine in this Commonwealth unless the individual holds
17 a current, valid mine foreman certificate. In the event that
18 a superintendent is found by the department to be in breach
19 of his or her responsibilities as superintendent, the
20 department may suspend or revoke the superintendent's mine
21 foreman certificate.

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

24 (3) The superintendent shall not obstruct the mine
25 foreman or other official in the fulfillment of his duties as
26 required by this act. The superintendent shall ensure that
27 the mine foreman and all other employees of the mine comply
28 with the law. The superintendent shall immediately respond to
29 a violation of this act upon notification by the department.

30 The superintendent shall be responsible for all the outside

1 workings and all individuals employed at the mine. At a mine
2 where a superintendent is not employed, the mine foreman
3 shall have all the duties and responsibilities otherwise
4 given to the superintendent in addition to the regular duties
5 of the mine foreman.

6 Section 222. Danger ~~signals~~ SIGNS. <—

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

16 Section 223. Supply of record books.

17 The superintendent shall keep on hand at the mine a supply of
18 the record books required by this act and shall ensure that
19 record books are delivered to the proper individuals at the mine
20 and that they are properly cared for.

21 Section 224. Mapping requirements and surveying standards.

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

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

30 (2) An accurate delineation of the current extent of the

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

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

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

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

23 (6) Areas where the pillars or longwall panels have been
24 removed.

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

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

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

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

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

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

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

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

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

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

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

23 (b) Accuracy standards.--The following accuracy standards
24 must be met:

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

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

29 Minimum angular and coordinate ties for raw data would be an
30 angular tie of less than one minute and a coordinate time of

1 greater than 1 to 10,000 for any given closed loop survey.

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

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

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

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

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

1 recorded in the field book and shown on the mine map. Field
2 books shall be available for inspection. If lateral and face
3 take-ups are not completed, the area inby the last survey
4 station spad must be identified on the map with dashed lines.
5 The survey station spads located in each mining section, butt
6 or room shall be tied to a check survey station.

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

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

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

20 Section 225. Availability of copy of map.

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

30 Section 226. Excavations on map.

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

6 Section 227. Furnishing copies of maps.

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

18 Section 228. Duties upon abandonment of mine.

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

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

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

18 Section 229. Survey by department.

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

23 Section 230. Ventilation requirements.

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

30 (b) Specification.--The quantity of air reaching the last

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

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

9 (1) The following requirements apply:

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

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

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

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

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

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

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

1 standards.

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

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

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

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

27 (viii) When the belt ventilation current travels
28 away from the working section, no ignition sources,
29 except equipment necessary to maintain the escapeway and
30 personnel carriers, shall be permitted in the intake

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

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

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

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

27 (2) Working places and intake air courses.

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

1 mechanized mining equipment is being installed or
2 removed:

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

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

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

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

18 (A) Except for Federal or State mine inspectors,
19 the mine foreman or assistant mine foreman or
20 individuals authorized by the mine foreman or
21 assistant mine foreman, all individuals shall be
22 withdrawn from the affected area.

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

26 (3) Return air split.

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

1 ventilate seals or worked-out areas, changes or
2 adjustments shall be made immediately to the ventilation
3 system to reduce the concentration of methane in the
4 return air to less than 1%.

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

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

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

21 (4) Return air split alternative.

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

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

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

1 working section when the methane in the return air
2 reaches 1.5% and the methane content is monitored as
3 specified in the approved ventilation plan.

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

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

13 (A) Changes or adjustments shall be made
14 immediately to the ventilation system to reduce the
15 concentration of methane in the return air less than
16 1.5%.

17 (B) Except for Federal or State mine inspectors,
18 the mine foreman or assistant mine foreman or
19 individuals authorized by the mine foreman or
20 assistant mine foreman, all individuals shall be
21 withdrawn from the affected area.

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

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

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

30 (1) If either the concentration of methane in a bleeder

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

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

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

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

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

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

1 to MSHA as quickly as possible.

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

4 Section 231. Crosscuts and stoppings.

5 (a) Maximum distance.--

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

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

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

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

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

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

1 line brattice or other adequate means.

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

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

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

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

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

6 Section 232. Overcasts and undercasts.

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

15 (b) Doors.--

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

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

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

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

1 Section 233. Line brattice.

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

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

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

14 Section 234. Auxiliary blowers and fans.

15 (a) Procedure.--

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

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

22 (i) Approve the plan.

23 (ii) Request additional information.

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

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

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

30 (ii) Operated continuously while any work is being

1 performed in the area being ventilated by the blower or
2 fan.

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

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

8 Section 235. Unused and abandoned parts of mines.

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

13 Section 236. Sewage dumping prohibited.

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

20 Section 237. Fans.

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

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

28 (c), a main fan shall be:

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

1 opening.

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

4 (3) Operated from a separate power circuit.

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

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

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

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

15 (d) Recordkeeping and inspections.--

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

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

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

27 Section 238. Measurement of methane.

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

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

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

10 (a) Method of removal.--

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

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

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

26 (b) Specifications.--

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

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

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

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

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

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

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

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

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

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

1 thereafter.

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

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

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

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

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

25 Section 241. Roof support.

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

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

2 (1) approve it;

3 (2) request additional information; or

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

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

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

16 Section 242. Authorized explosives.

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

19 Section 243. (Reserved).

20 Section 244. Underground storage of explosives.

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

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

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

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

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

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

7 (a) Requirements.--

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

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

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

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

28 (5) No shots shall be fired:

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

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

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

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

10 (c) Prohibitions.--

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

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

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

21 ~~(e)~~ (D) Blasting and shooting cables.--

←

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

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

1 blasting unit.

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

4 Section 246. Transportation of explosives.

5 (a) Construction of containers.--

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

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

18 (b) Prohibitions.--

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

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

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

1 nonconductive material.

2 Section 247. Electrical shot-firing.

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

5 Section 248. General shot-firing rules.

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

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

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

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

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

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

26 (2) All individuals have been moved to a place of
27 safety.

28 (3) No individual other than the shot-firer has made the
29 connection.

30 (f) Firing machine or battery in possession of shot-firer.--

1 The shot-firer shall keep the firing machine or battery in his
2 possession at all times while blasting.

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

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

9 Section 249. Hoisting equipment and operations.

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

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

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

16 (ii) A standard means of signaling.

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

19 (iv) A sufficient cover on every cage used for
20 lowering or hoisting individuals.

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

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

25 (2) The operator shall have the machinery used for
26 lowering and hoisting individuals into or out of the mine
27 kept in safe condition and equipped with a reliable
28 indicator. Cages and elevators shall be inspected once in
29 each 24 hours by a competent individual of the company or by
30 a manufacturer's representative and a safety catch test made

1 every two months, a record kept thereof and a copy sent to
2 the department.

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

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

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

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

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

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

28 (b) Duties of mine foreman.--

29 (1) When hoisting or lowering of individuals occurs
30 during darkness, at any mine operated by shaft, the mine

1 foreman shall provide and maintain, at the shaft mouth, a
2 light of stationary character sufficient to show the landing
3 and all surrounding objects distinctly and sufficient light
4 of a stationary character shall be located at the bottom of
5 the shaft so that individuals going to the bottom may clearly
6 discern the cages, elevators and other objects contiguous
7 thereto.

8 (2) The mine foreman shall see that:

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

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

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

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

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

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

29 (3) All ropes, links and chains shall be carefully
30 examined at least once every 24 hours by a competent

1 individual delegated for that purpose by the superintendent.

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

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

12 (d) Cage requirements.--

13 (1) (i) The operator or superintendent shall provide
14 every cage used for lowering or hoisting individuals with
15 handrails at sides or overhead or additional suitable
16 devices and with a bar or gate at ends.

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

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

24 (e) Signaling system.--

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

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

30 (ii) One signal to stop the car or cage when in

1 motion.

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

3 (iv) Three signals to hoist individuals.

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

7 Section 250. Bottom person.

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

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

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

17 (3) Not allow any tools to be placed on the same cage
18 with individuals or on either cage when they are being
19 hoisted out of the mine, except for the purpose of repairing
20 the shaft or machinery in the shaft. Individuals shall place
21 their tools in containers or cars provided for that purpose,
22 which containers or cars shall be hoisted before or after the
23 individuals have been hoisted.

24 (4) Immediately inform the mine foreman of any
25 violation.

26 (5) Not attempt to withdraw the car until the cage comes
27 to a rest.

28 (6) When putting the full car on the cage, see that the
29 springs or catches are properly adjusted so as to keep the
30 car in its proper place, before giving the signal to the

1 hoist operator.

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

4 Section 251. Number of individuals to be hoisted.

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

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

19 Section 252. Top person.

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

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

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

30 (3) Not allow any tools to be placed on the same cage

1 with persons or on either cage when persons are being lowered
2 into the mine, except for the purpose of repairing the shaft
3 or the machinery in the shaft. Individuals shall place their
4 tools in containers or cars provided for that purpose, which
5 containers or cars shall be lowered before or after the
6 individuals have been lowered.

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

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

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

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

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

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

27 (c) Reporting of individuals crowding or pushing.--Any
28 individual crowding or pushing to get on or off a cage, elevator
29 or car, thereby endangering life, shall be reported by any
30 individual to the superintendent, who in turn shall report the

1 incident to the department for appropriate action.

2 Section 253. Use of competent hoist operators.

3 (a) Prohibitions.--

4 (1) No operator or superintendent of any bituminous coal
5 mine worked by shaft, slope or incline shall place in charge
6 of any hoist used for lowering or hoisting individuals in the
7 mine ~~competent~~ hoisting operators who are under 21 years of ←
8 age.

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

13 (3) No individual shall interfere with or intimidate the
14 hoist operator in the discharge of the duties of the hoist
15 operators.

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

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

23 Section 254. Clearances and shelter holes.

24 (a) Specifications for clearances.--

25 (1) Track switches, except room and entry development
26 switches, shall be provided with properly installed throws,
27 bridle bars and guard rails.

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

30 (3) Haulage roads shall have a continuous unobstructed

1 clearance of at least 30 inches from the widest extension of
2 regular coal transportation equipment on the clearance side.
3 On haulage roads where trolley lines are used, the clearance
4 shall be on the side opposite the trolley lines. The
5 clearance space on all haulage roads shall be kept free of
6 loose rock, coal, supplies or other materials, provided that
7 not more than 30 inches need be kept free of such
8 obstructions.

9 (4) Ample clearance shall be provided at all points
10 where supplies are loaded or unloaded along haulage roads or
11 conveyors.

12 (b) Specifications for shelter holes.--

13 (1) (i) Shelter holes shall be provided on the
14 clearance side along designated travelways, which are
15 also used as haulage entries, other than belt conveyor
16 haulage entries.

17 (ii) Subparagraph (i) shall not apply to face area
18 or room haulageways.

19 (2) Shelter holes shall be spaced not more than 105 feet
20 apart unless otherwise approved by the department. Shelter
21 holes shall be at least five feet in depth, not more than
22 four feet in width, level with the roadway and at least four
23 feet in height.

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

27 (4) Shelter holes shall be kept clear of refuse and
28 other obstructions.

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

1 Section 255. Underground haulage equipment.

2 (a) Maintenance.--Underground haulage equipment shall be
3 maintained in a safe operating condition. An audible warning
4 device and headlights shall be provided on each locomotive and
5 each shuttle car. Rerailing devices shall be provided on all
6 locomotives.

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

11 Section 256. Operation of haulage equipment.

12 (a) Duties of motormen and trip riders.--Motormen and trip
13 riders shall:

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

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

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

20 (b) Prohibitions.--

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

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

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

27 (4) No individual shall fly or run switches or ride on
28 the front bumper of a car. Back poling shall be permitted
29 only to the nearest turning point or when going up extremely
30 steep grades and then only cautiously and at slow speed. The

1 operator of a shuttle car shall face in the direction of
2 travel except during the loading operation when he may face
3 the loading machine.

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

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

10 (2) Inspect locomotives and report any mechanical
11 defects found to the proper mine official prior to operation.
12 The locomotive may not be operated until the defects are
13 corrected.

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

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

23 Section 257. Trip rider and ~~hooker~~ on BOTTOM INDIVIDUAL on rope ←
24 haulage.

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

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

8 Section 258. Transportation of individuals.

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

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

18 (1) Ride under the trolley wire unless suitable covered
19 mantrips are used.

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

23 (c) Adequate clearance and proper illumination.--Adequate
24 clearance and proper illumination shall be provided where
25 individuals load or unload mantrips.

26 (d) Adequate precautions.--Adequate precautions shall be
27 taken so that moving trips and standing cars are subject to
28 proper control by derailing or braking devices.

29 Section 259. Conveyor belts and conveyor equipment.

30 (a) Specifications.--

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

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

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

25 (c) Automatic stop control.--Conveyors shall be equipped
26 with an automatic control that will stop the driving motor in
27 case of slipping on the drive pulley, and the control shall be
28 tested each operating shift to ascertain that it is in good
29 operating condition.

30 (d) Electric wires and cables.--All electric wires or

1 electric cables in completed portions of conveyor entries shall
2 be carried on insulators.

3 (e) Control lines.--Control lines shall be installed the
4 full length of the belt.

5 (f) Point type heat sensors.--Point type heat sensors shall
6 not be used as the primary type of fire sensors in any mine
7 opened more than six months after the effective date of this
8 section.

9 Section 260. Blowtorches and fuel.

10 No blowtorch may be used in a mine.

11 Section 261. Oxygen and gas containers.

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

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

18 Section 262. Transportation of oxygen and gas.

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

24 (b) Marking of empty tanks and cylinders.--Empty oxygen and
25 gas tanks or cylinders shall be marked "empty" and shall be
26 removed from the mine promptly in proper containers. The valve
27 protection caps shall be placed on all tanks or cylinders for
28 which caps are provided when not in use and when being
29 transported. No oxygen and gas tanks or cylinders shall be
30 transported with the hoses and gauges attached.

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

3 Section 263. Storage of oxygen and gas.

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

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

18 Section 264. Use of oxygen and gas.

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

21 (b) Training and clothing.--An individual assigned to use
22 and work with oxygen or gas shall be properly trained and
23 skilled in its use and shall be fully conversant with the danger
24 of its misuse. Any individual using oxygen or gas in and about a
25 bituminous coal mine shall be provided with goggles or shields,
26 and the clothing of such individual shall be reasonably free of
27 oil and grease.

28 (c) Lighting of torches.--Only a safe type of spark-lighter
29 shall be used for lighting torches. The use of matches,
30 cigarette lighters, electric arcs or hot metal to light or

1 relight a torch is prohibited.

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

8 (e) Multiple units permitted.--

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

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

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

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

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

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

4 (3) No individual shall be permitted inby the point in
5 the working section where cutting or welding operations are
6 being performed.

7 (h) Safety requirements.--

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

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

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

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

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

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

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

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

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

21 Section 266. Protective clothing.

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

26 (b) Snug-fitting clothing.--Employees engaged in haulage
27 operations and all other individuals employed around moving
28 equipment on the surface and underground shall wear snug-fitting
29 clothing.

30 (c) Gloves.--Protective gloves shall be worn when material

1 which may injure hands is handled, but gloves with gauntlet
2 cuffs shall not be worn around moving equipment.

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

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

9 Section 267. Checking systems.

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

19 Section 268. Prohibitions regarding endangering security of
20 mine.

21 (a) Prohibitions regarding ventilation.--No miner, worker or
22 other individual shall knowingly damage, obstruct or remove any
23 shaft, lamp, instrument, air course or other equipment, obstruct
24 or disrupt any portion of the mine's ventilation, carry open
25 lights, open a door closed for directing ventilation and not
26 close it again or enter any part of a mine that has been
27 endangered off. No individual shall deface, pull down or destroy
28 any notice boards, record books or mine maps.

29 (b) Smoking prohibition.--Open lights, smoking and smokers'
30 articles, including matches, are prohibited in bituminous coal

1 mines. No individual shall at any time enter a mine with or
2 carry into the mine any matches, pipes, cigars, cigarettes or
3 any device for making lights or fire not approved. In all mines
4 the operator may search or cause to be searched any individual,
5 including his clothing and material belongings, entering or
6 about to enter the mine, or inside the mine, to prevent such
7 individual from taking or carrying into the mine any of the
8 articles prohibited by this subsection.

9 (c) Intoxicated individuals.--No individual under the
10 influence of alcohol or a controlled substance shall enter into
11 or loiter about any mine. No individual shall have in his
12 possession alcohol or controlled substances while in or about
13 the mine premises. This provision shall not apply to the use of
14 medication as prescribed for that individual.

15 Section 269. Responsibility for care and maintenance of
16 equipment.

17 Equipment operators shall exercise reasonable care in the
18 operation of the equipment entrusted to them and shall promptly
19 report defects known to them.

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

21 Individuals exposed for short periods to gas, dust, fume and
22 mist inhalation hazards shall wear approved respiratory
23 equipment. When exposure is for prolonged periods, dust shall be
24 controlled by the use of approved dust collectors or by water or
25 other approved methods.

26 Section 271. Safeguards for mechanical equipment.

27 (a) Locking.--The cutting devices of mining machines shall
28 be locked securely by mechanical means or electrical interlocks
29 while the machines are parked or being trammed. Loading machines
30 shall not be trammed with loading arms in motion except when

1 loading materials.

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

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

20 Section 272. First aid equipment.

21 In every bituminous coal mine where individuals are employed
22 underground and in every active section of the mine, it shall be
23 the duty of the operator or superintendent of the mine to keep
24 on hand properly constructed stretchers, woolen and waterproof
25 blankets and all requisites for use in case of emergency. No
26 first aid material shall be removed or diverted without
27 authorization, except in case of accident in or about the mine.
28 It shall be the duty of the operator or superintendent to have
29 adequate ambulance service available promptly in the event of
30 injury to any employee.

1 Section 273. Fire protection.

2 (a) Firefighting equipment.--Each mine shall be provided
3 with suitable firefighting equipment adapted for the size and
4 conditions of the mine.

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

7 (1) Waterlines shall be capable of delivering 50 gallons
8 of water per minute at a nozzle pressure of 50 pounds per
9 square inch.

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

15 (3) A portable chemical car shall carry enough chemicals
16 to provide a fire extinguishing capacity equivalent to that
17 of a portable water car.

18 (4) A portable foam-generating machine or device shall
19 have facilities and equipment for supplying the machine with
20 30 gallons of water per minute at 30 pounds per square inch
21 for a period of 35 minutes.

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

23 (i) A multipurpose dry chemical type containing a
24 nominal weight of five pounds of dry powder and enough
25 expellant to apply the powder.

26 (ii) A foam-producing type containing at least 2.5
27 gallons of foam-producing liquids and enough expellant to
28 supply the foam.

29 (6) Only fire extinguishers approved by the Underwriters
30 Laboratories, Inc., or Factory Mutual Research Corp.,

1 carrying appropriate labels as to the type and purpose shall
2 be used. All portable fire extinguishers shall have a 2A 10
3 BC or higher rating.

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

12 (c) Working sections.--

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

20 (i) two portable water cars;

21 (ii) two portable chemical cars; or

22 (iii) one portable water car or one portable
23 chemical car, and either:

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

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

28 (2) Each working section of a mine producing less than
29 300 tons of coal per shift shall be provided with:

30 (i) Two portable fire extinguishers.

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

3 (iii) At least 500 gallons of water and at least
4 three pails of ten-quart capacity. In lieu of the 500-
5 gallon water supply, a water line with sufficient hose to
6 reach the working places, a portable water car with a
7 500-gallon capacity or a portable all-purpose dry powder
8 chemical car of at least 125 pounds capacity may be
9 provided.

10 (d) Belt conveyors.--In all mines, water lines shall be
11 installed parallel to the entire length of belt conveyors and
12 shall be equipped with fire hose outlets with valves at 300-foot
13 intervals along each belt conveyor and at tailpieces. At least
14 500 feet of fire hose with fittings suitable for connection with
15 each belt conveyor water line system shall be stored at
16 strategic locations along the belt conveyor. Water lines may be
17 installed in entries adjacent to the conveyor entry belt as long
18 as the outlets project into the belt conveyor entry.

19 (e) Haulage tracks.--

20 (1) In a mine producing 300 tons of coal or more per
21 shift, water lines shall be installed parallel to all haulage
22 tracks using mechanized equipment in the track or adjacent
23 entry and shall extend to the loading point of each working
24 section. Water lines shall be equipped with outlet valves at
25 intervals of not more than 500 feet, and 500 feet of fire
26 hose with fittings suitable for connection with such water
27 lines shall be provided at strategic locations. Two portable
28 water cars, readily available, may be used in lieu of water
29 lines prescribed under this paragraph.

30 (2) In a mine producing less than 300 tons of coal per

1 shift, there shall be provided at 500-foot intervals in all
2 main and secondary haulage roads:

3 (i) a tank of water of at least 55-gallon capacity
4 with at least three pails of not less than ten-quart
5 capacity; or

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

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

10 (g) Electrical installations.--

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

15 (2) One portable fire extinguisher and 240 pounds of
16 rock dust shall be provided at each temporary electrical
17 installation.

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

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

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

1 side.

2 (k) Emergency materials.--

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

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

8 (ii) Two rolls of brattice cloth.

9 (iii) Two handsaws.

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

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

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

13 (vii) Three claw hammers.

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

16 (ix) Five tons of rock dust.

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

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

27 All firefighting equipment shall be maintained in a usable and
28 operative condition. Chemical extinguishers shall be examined
29 every six months, and the date of the examination shall be
30 written on a permanent tag attached to the extinguisher.

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

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

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

9 (2) Foam generator systems shall be equipped with a fire
10 sensor which actuates the system, and each system shall be
11 capable of producing and delivering the following amounts of
12 foam within five minutes:

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

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

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

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

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

30 (o) Water sprinkler systems.--Water sprinkler systems may be

1 installed to protect main and secondary belt-conveyor drives,
2 however, where such systems are employed, they shall be
3 installed and maintained in accordance with subsections (p),
4 (q), (r), (s) and (t).

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

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

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

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

21 (q) Arrangement of sprinklers.--

22 (1) At least one sprinkler shall be installed above each
23 belt drive, belt take-up, electrical control and gear-
24 reducing unit, and individual sprinklers shall be installed
25 at intervals of no more than eight feet along all conveyor
26 branch lines.

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

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

8 (4) Each individual sprinkler shall be activated at a
9 temperature of not less than 150 degrees Fahrenheit and not
10 more than 300 degrees Fahrenheit.

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

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

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

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

24 (u) Equivalent dry-pipe system.--Where water sprinkler
25 systems are installed to protect main and secondary belt
26 conveyor drives and freezing temperatures prevail, an equivalent
27 dry-pipe system may be installed.

28 (v) Dry-powder chemical systems.--Self-contained dry-powder
29 chemical systems may be installed to protect main and secondary
30 belt conveyor drives; however, where self-contained dry-powder

1 chemical systems are employed, they shall be installed and
2 maintained in accordance with the provisions of subsections (w),
3 (x), (y), (z), (aa), (bb), (cc) and (dd).

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

5 (1) Self-contained dry-powder chemical systems shall be
6 installed to protect each beltdrive, belt take-up, electrical
7 controls, gear-reducing units and 50 feet of fire-resistant
8 belt or 150 feet of non-fire-resistant belt adjacent to the
9 belt drive.

10 (2) The fire control components of each dry-powder
11 chemical system shall be a type approved by the Underwriters
12 Laboratories, Inc., or Factory Mutual Engineering
13 Corporation.

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

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

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

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

24 (3) Hose shall be protected by wire braid or its
25 equivalent.

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

29 (5) Each belt shall be protected on the top surface of
30 both the top and bottom belts and the bottom surface of the

1 top belt.

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

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

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

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

15 (4) Each fire suppression system shall be equipped with
16 a manually operated control valve which shall be independent
17 of the sensor.

18 (z) Dry powder requirements.--Each dry powder chemical
19 system shall contain the following minimum amounts of
20 multipurpose dry powder:

21 (1) One hundred and twenty-five pounds of dry powder for
22 fire resistant belts.

23 (2) Two hundred and twenty-five pounds of dry powder for
24 non-fire-resistant belts.

25 (aa) Nozzles, flow rate and direction.--The nozzles of each
26 dry-powder chemical system shall be capable of discharging all
27 powder within one minute after actuation of the system, and such
28 nozzles shall be directed so as to minimize the effect of
29 ventilation upon fire control.

30 (bb) Safeguards for dry-powder chemical systems.--Adequate

1 guards shall be provided along all belt conveyors in the
2 vicinity of each dry-powder chemical system to protect
3 individuals whose vision is restricted by a discharge of powder
4 from the system. Handrails shall be installed in these areas to
5 provide assistance to those passing along the conveyor after a
6 powder discharge.

7 (cc) Backup water system.--One fire hose outlet, together
8 with a length of hose capable of extending to the belt drive,
9 shall be provided within 300 feet of each belt drive.

10 (dd) Inspection of dry-powder chemical systems.--

11 (1) Each dry-powder chemical system shall be examined
12 weekly, and a functional test of the complete system shall be
13 conducted at least once each year.

14 (2) Where the dry-powder chemical system has been
15 actuated, all components of the system shall be cleaned
16 immediately by flushing all powder from pipes and hoses, and
17 all hose damaged by fire shall be replaced.

18 Section 274. Mine openings or outlets.

19 (a) Mine openings or outlets.--It shall be unlawful for the
20 operator, superintendent or mine foreman of a mine to employ any
21 individual to work in the mine unless there are two openings or
22 outlets to the surface from every seam of coal being worked, and
23 available from every seam of coal entry, which openings or
24 outlets shall have distinct means of ingress and egress
25 available at all times for the use by the employees. The two
26 openings to the surface required by this section shall not be at
27 a common shaft, slope, or drift opening, except that multiple
28 compartment shafts or slopes separated by substantially
29 constructed walls of noncombustible material shall be considered
30 as two separate and distinct openings. The distance between two

1 shafts shall not be less than 200 feet, the distance between the
2 openings to the surface of slopes shall not be less than 150
3 feet and the distance between drifts shall not be less than 50
4 feet, provided that the distance between the openings shall
5 apply only to mines opened after the effective date of this act.
6 The distances specified may be less with the written consent of
7 the department. The passageways between the two shafts shall at
8 all times be maintained in safe and available condition for the
9 employees to travel, and the pillars in entries between the
10 ~~shafts~~ TWO OPENINGS shall not be removed without the approval of ←
11 the department.

12 (b) Openings.--The requirements of subsection (a) shall not
13 apply to the openings of a new mine, or to the openings of a new
14 entry of an existing mine, that is being worked for the purpose
15 of making connection between the two outlets, as long as not
16 more than 20 individuals are employed at any one time in making
17 the connection or driving the second opening. The requirements
18 of subsection (a) shall not apply to any mine in which the
19 second opening has been rendered unavailable by reason of the
20 final robbing or removing of pillars, as long as not more than
21 20 individuals are employed in the mine at any one time.

22 (c) Safe egress.--Safe means of egress shall be available at
23 all times for the individuals employed in a mine that has no
24 second outlet available.

25 (d) Entries.--Every mine shall have at least five main
26 entries, two of which shall lead from the main opening and two
27 of which shall lead from the second opening into the body of the
28 mine. The fifth, which may be connected with an opening to the
29 surface or with the intake airway at or near the main intake
30 opening, shall be used exclusively as a travelingway for the

1 employees.

2 (e) Intake and return entries.--The intake and return
3 entries shall be kept reasonably drained and reasonably free
4 from refuse and obstructions of all kinds, so that individuals
5 may safely travel throughout their whole length and have a safe
6 means of egress from workings in case of emergency. The entries
7 shall be separated by pillars of coal of sufficient strength.
8 When the coal seam height is less than four and one-half feet,
9 employees shall be provided a means of transportation in and out
10 of the mine.

11 (f) Passageway between workings.--In every slope with
12 workings on both sides, an overpass or underpass not less than
13 five feet wide and five feet high shall be provided as a
14 passageway for the use of employees to cross from one side of
15 the slope to the other. The overpass or underpass shall connect
16 with available passageways leading to the workings on both sides
17 of the slope. The intervening strata between the slope and the
18 overpass or underpass shall be of sufficient strength at all
19 points to insure safety to the employees, provided, however,
20 that if it is impracticable to drive an overpass or an underpass
21 in the solid, an overpass or underpass, if substantially built
22 with masonry or other incombustible material, will be deemed
23 sufficient.

24 (g) Shafts less than 100 feet deep.--If the opening or
25 outlet other than the main opening is a shaft not more than 100
26 feet in depth and is used by employees for the purpose of
27 ingress to or egress from the mine, it shall be kept available
28 and in safe condition, free from dangerous gases and all
29 obstruction, and shall be fitted with safe and convenient
30 stairways, with steps of an average tread of ten inches and a

1 rise of nine inches, not less than two feet in width and not to
2 exceed an angle of 45 degrees, and with landings not less than
3 24 inches in width and four feet in length, at easy and
4 convenient distances. Stairways shall be made safe by having
5 handrails of suitable material placed on one side, or on both
6 sides when requested by the department, and shall be inspected
7 every 24 hours by a certified mine official employed for that
8 purpose. Water that may come from the surface or from the strata
9 in the shaft shall be conducted away so it will not fall on the
10 stairways or on individuals while descending or ascending them.

11 (h) Shafts more than 100 feet deep.--When a mine is operated
12 by a shaft more than 100 feet in depth, the individuals employed
13 in the shaft shall be lowered and hoisted by means of machinery
14 unless the second opening is a drift or a slope. When the
15 employees are lowered into or hoisted from the mine at the main
16 shaft opening, the second opening, if a shaft, shall be supplied
17 with a stairway, constructed in the manner designated in this
18 section or with suitable machinery for safely lowering and
19 hoisting individuals in case of an emergency.

20 (i) Slope openings.--At any mine where one of the openings
21 required is a slope and is used as a means of ingress and egress
22 by the employees, and where the angle of descent of the slope
23 exceeds 15 degrees and its length from the mouth of the opening
24 exceeds 1,000 feet, the employees shall be lowered into and
25 hoisted from the mine at a speed not to exceed six miles per
26 hour. At any mine where the angle of descent of the slope
27 averages from five to 15 degrees and its length exceeds 3,000
28 feet, the employees shall be lowered into and hoisted from the
29 mine at a speed not to exceed six miles per hour, provided,
30 however, that when a separate travelingway is provided at any

1 such slope, the owner or operator may, at the owner's or
2 operator's option, be exempt from the requirements of this
3 section if the angle of the travelingway does not exceed 20
4 degrees.

5 Section 275. Mining close to abandoned workings.

6 The superintendent shall not permit the mining of coal in any
7 seam the entire distance to a permit boundary, not including
8 boundaries around reservations or along crop lines, when on the
9 adjoining property there are mine workings in the seam within
10 3,000 feet of the permit boundary. A barrier pillar shall be
11 left, from the operation to the permit boundary, of not less
12 than ten feet plus two feet for every foot or part of a foot of
13 thickness of the bed measured from the roof to the floor, plus
14 five feet for each 100 feet or part of 100 feet of cover over
15 the bed at the permit boundary. If the coal on one side of the
16 permit boundary has been mined, prior to the effective date of
17 this section, closer to the permit boundary than permitted, the
18 barrier pillar to be left in the mine approaching the permit
19 boundary shall be at least equal, when added to that already
20 left in the adjoining mine, to that required on both sides of
21 the permit boundary. If, in the opinion of the department or the
22 superintendent of either mining property, the barrier pillar is
23 deemed insufficient, after due notice to the operator of the
24 adjoining mining property, one-half of the barrier pillar shall
25 be left on each side of the permit boundary, except as provided
26 in this section. The department, the superintendent or owner of
27 either mining property shall determine the thickness necessary
28 to afford safety and protection. If it is agreed by the
29 department and superintendents of the adjoining coal mining
30 properties that the permit boundary is so located that there is

1 no danger to property or lives in mining coal on either or both
2 sides of the permit boundary up to the permit boundary, then
3 mining to the permit boundary shall be lawful if all danger from
4 accumulated water and gas shall have first been removed by
5 driving a passageway to tap and drain off any accumulations of
6 water and gas, as provided for in this act.

7 Section 276. Lubrication and storage of flammable lubricants.

8 The oiling or greasing of any cars inside any mine is
9 strictly prohibited unless the place where the oil or grease is
10 used is thoroughly cleaned at least once a day to prevent the
11 accumulation of waste oil or grease. Not more than two days'
12 supply of flammable oil or lubricant shall be stored in any
13 portion of a mine unless it is kept in a fireproof building or a
14 structure cut out of solid rock. Oil or grease stored in the
15 face area shall be kept in approved containers and away from
16 power wires and electric equipment. Accumulations of spilled oil
17 or grease shall be rendered harmless. Excessive accumulations
18 shall be removed from the mine. Closed metal containers shall be
19 provided for the storage of oily rags or waste until removed for
20 disposal. If any flammable oil or lubricants are stored
21 underground, all reasonable safety practices shall be observed
22 in order to minimize any dangers of fire.

23 Section 277. Approved lighting and gas detection devices in
24 mines.

25 (a) Lighting.--It shall be unlawful to use open lights in
26 mines, and only approved electric cap lamps, approved
27 flashlights, approved safety lamps and other approved lighting
28 equipment shall be used in mines.

29 (b) Gas detection devices.--All approved gas detection
30 devices used for examining mines shall be in the care of the

1 mine foreman or some other competent individual appointed by the
2 mine foreman, who shall have a duty to examine, test and deliver
3 them in a safe condition to the individuals when entering the
4 mine and to receive gas detection devices from the individuals
5 when returning from work.

6 (c) Number of devices.--At every mine, a sufficient number
7 of approved gas detection devices shall be kept in good
8 condition for use in case of emergency.

9 (d) Entrusting of devices.--No approved gas detection
10 devices shall be entrusted to any individual for use in a mine
11 until the individual has given satisfactory evidence to the mine
12 foreman that he understands the proper use of the gas detection
13 device and the danger of tampering with the device.

14 (e) Duty to return device.--It shall be the duty of every
15 individual who knows their approved gas detection device is
16 defective to return it immediately to a mine official.

17 Section 278. Unauthorized entry into mine.

18 Any individual who enters a mine without authorization from
19 the superintendent commits a misdemeanor of the second degree.
20 This section shall not be applicable to any individual who
21 enters a mine in the performance of any duty imposed upon him by
22 this act.

23 Section 279. Passing by or removing danger ~~signals~~ SIGNS. <—

24 Except as specifically authorized in this act, no employee or
25 other individual shall pass by any danger ~~signal~~ SIGN into any <—
26 mine, or into any portion of any mine, or remove any danger
27 ~~signal~~ SIGN before the mine or portion of the mine has been <—
28 examined and reported to be safe. Any employee or other
29 individual shall not pass by any danger ~~signal~~ SIGN placed at <—
30 the entrance to a working place, or any other place in the mine,

1 or remove the danger ~~signal~~ SIGN without permission from the
2 mine foreman, the assistant mine foreman or the mine examiner.
3 Section 280. Miners to remain in work areas.

4 Each miner shall remain during working hours in the work area
5 assigned by the mine foreman or the assistant mine foreman.

6 Section 281. Sealing openings.

7 (a) Permanently abandoned shafts.--Every shaft permanently
8 abandoned shall be filled for its entire depth. The fill shall
9 extend from the bottom of the coal seam to a height of 50 feet
10 with incombustible material.

11 (b) Out of service openings.--Every slope, drift or tunnel
12 permanently taken out of service shall be filled for a distance
13 of 25 feet with incombustible material.

14 (c) Drillholes and boreholes.--All drillholes and boreholes
15 permanently taken out of service after the effective date of
16 this act shall be effectively plugged or sealed.

17 (d) Openings available for future use.--Every shaft, slope,
18 drift or tunnel, temporarily taken out of service, which may be
19 used for future mining purposes shall be properly sealed or
20 fenced.

21 Section 282. Ladders in mines.

22 Permanently installed ladders in mines that are more than ten
23 feet in length and set on an angle of 60 degrees or more with
24 the horizontal shall be provided with substantial backguards,
25 and all ladders shall be maintained in good repair.

26 Section 283. Inside structures to be of incombustible
27 materials.

28 All buildings or structures in any bituminous coal mine shall
29 be constructed of incombustible materials.

30 Section 284. Washhouses.

1 It shall be the duty of the operator or superintendent of a
2 mine to provide a suitable building, convenient to the principal
3 entrance of the mine, for the use of employees of the mine to
4 wash and change clothes. The building shall be maintained in
5 good order and be properly lighted and heated, shall be provided
6 with hot and cold running water and facilities for individuals
7 to wash and shall include adequate sanitary facilities. The cost
8 of providing and maintaining the conveniences and facilities
9 shall be defrayed by the owner or operator of mine.

10 CHAPTER 3

11 ELECTRICAL EQUIPMENT

12 Section 301. Duties of mine foreman and superintendent.

13 It shall be the duty of the mine foreman and superintendent
14 to see that the requirements of this chapter for the
15 installation and maintenance of electrical equipment are
16 observed in and around coal mines.

17 Section 302. Definitions.

18 As used in this chapter, the following words and terms shall
19 have the meanings given to them in this section unless the
20 context clearly indicates otherwise:

21 "Armored cable." A cable provided with a wrapping of metal,
22 usually steel wires or tapes, primarily for the purpose of
23 mechanical protection.

24 "Borehole cable." A cable designed for vertical suspension
25 in a borehole or shaft and is used for power circuits in a mine.

26 "Branch circuit." A tap taken off a main circuit.

27 "Cable sheath." A covering consisting of composition tapes,
28 compound jackets of natural or synthetic rubber, or
29 thermoplastic or fiber braids applied over the conductor
30 assembly and insulation of multiple conductor cables.

1 "Circuit breaker." A device which may be controlled by
2 relaying or protective equipment for interrupting a circuit
3 between separable contacts under normal or abnormal conditions.

4 "Delta-connected." A delta-connected power system is one in
5 which the windings of transformers or AC generators are
6 connected to form a triangular phase relationship, with the
7 phase conductors connected to each point of the triangle.

8 "Difference of potential." The difference of electrical
9 pressure or electromotive force existing between any two points
10 of an electrical system, or between any point of a system and
11 the earth, as determined by a voltmeter or other suitable
12 instrument.

13 "Effectively grounded." Grounded through a grounding
14 connection of sufficiently low impedance, inherent or
15 intentionally added, or both, so that fault grounds which may
16 occur cannot build up voltages in excess of limits established
17 for apparatus, circuits or systems so grounded.

18 "Electrical face equipment." Mobile or portable mining
19 machinery having electric motors or accessory equipment normally
20 installed or operated in by the last open crosscut in any entry
21 or room.

22 "Electric system." All electric equipment and circuits that
23 pertain to the operation of the mine and are under control of
24 the mine management.

25 "Explosion-proof or flame-proof." Casings or enclosures
26 which, when completely filled with a mixture of methane and air
27 and the same exploded, are capable of either entirely confining
28 the products of the explosion within the casing or discharging
29 them from the casing so that they cannot ignite a mixture of
30 methane and air, combined in proportions most sensitive to

1 ignition and entirely surrounding the points of discharge, and
2 in most intimate proximity with the points of discharge.

3 "Flame-resistant cable." A cable that meets the MSHA testing
4 requirements for flame resistance and has been assigned an
5 approval. A cable shall also be considered flame-resistant if it
6 meets the criteria for flame resistance by a nationally
7 recognized testing lab that is equivalent to the MSHA testing
8 criteria and that is appropriately identified. All flame-
9 resistant cables used underground shall have the approval number
10 embossed or indented on the jacket at intervals not to exceed 12
11 feet.

12 "Ground." A conducting connection, whether intentional or
13 accidental, between an electric circuit or equipment and earth
14 or to some conducting body which serves in place of the earth.

15 "Grounding conductor." A metallic conductor used to connect
16 the metal frame or enclosure of an equipment, device or wiring
17 system with an effective grounding medium.

18 "High voltage." Voltage higher than 1,000 volts nominal.

19 "Lightning arrestor." A protective device for limiting surge
20 voltages on equipment by discharging or bypassing surge current
21 and for preventing continued flow of current to ground.

22 "Low voltage." Voltage up to 660 volts nominal.

23 "Machine operator." An individual who possesses a machine
24 runners certification and is placed in charge of a portable or
25 mobile face machine of any sort where a gas examination is
26 required under this act or regulations promulgated under this
27 act.

28 "Medium voltage." Voltage from 661 to 1,000 volts nominal.

29 "Mine power center." A combined transformer and distribution
30 unit which may include a rectifier, complete within a metal

1 enclosure, from which one or more low-voltage, medium-voltage or
2 high-voltage power circuits are taken.

3 "Neutral." A neutral point of connection established through
4 the use of a grounding or zig-zag transformer with a normally
5 ungrounded delta power system.

6 "Neutral point." The connection point of transformer or
7 generator windings from which the voltage to ground is nominally
8 zero and is the point generally used for system grounding in a
9 wye-connected AC power system.

10 Nonmetallic armor." A tough outer covering or cable sheath
11 of rubber, rubber compound or thermoplastic designed to protect
12 the cable conductors and insulation from abrasion or other
13 damage from external sources.

14 "Portable trailing cable." A flexible cable or cord used for
15 connecting mobile, portable or stationary equipment in mines to
16 a trolley system or other external source of electric energy
17 where permanent mine wiring is prohibited or impracticable.

18 "Potential of a circuit." The voltage of a circuit machine
19 or any piece of electrical apparatus is the potential difference
20 normally existing between the conductors of such circuit or the
21 terminals of the machine or apparatus.

22 "Primary ground." A low impedance ground bed or system
23 consisting of several interconnected ground rods or buried
24 conducting mesh, or both, located near an outdoor substation and
25 used as a lightning arrestor or station ground or, separately,
26 as a basic ground for one conductor of a power transmission or
27 distribution system. A single ground rod of any length is not
28 considered a primary ground.

29 "Protection." Fuses or other suitable automatic circuit-
30 interrupting devices for preventing damage to circuits,

1 equipment and personnel by abnormal conditions, such as over-
2 current, high or low voltage and single phasing.

3 "Rectifiers." Alternating current to direct-current power
4 conversion devices of the mercury-arc, silicon, selenium or
5 other type.

6 "Shielded cable." A cable in which the insulated conductor is
7 covered with a conductive material for the purpose of clearing
8 ground faults.

9 "Voltage." The phase-to-phase or line-to-line root-mean-
10 square value assigned to a circuit or system for designation as
11 its voltage class. Actual voltage at which the circuit or
12 systems operated may vary from the normal voltage with a range,
13 which permits satisfactory operation of the equipment. The
14 difference of electrical pressure or electromotive force
15 existing between any two points of an electrical system, or
16 between any point of a system and earth, as determined by a volt
17 meter or other instrument. The term shall be synonymous with the
18 term potential and shall mean electrical pressure.

19 "Wye-connected." A system in which one end of each phase
20 winding of transformers or AC generators are connected together
21 to form a neutral point, and the other ends of the windings are
22 connected to the phase conductors.

23 "Zig-zag transformer." A three-phase transformer used to
24 provide a neutral point on delta systems and capable of carrying
25 continuously the maximum ground fault current of the system.

26 Section 303. Plan of electrical system.

27 A plan shall be kept at the mine showing the location of all
28 stationary electrical apparatus in connection with the mine
29 electrical system, including permanent cables, conductors,
30 switches and trolley lines. The plan shall be of sufficient size

1 to show clearly the position of the apparatus, and the scale
2 shall not be less than 500 feet per inch. There shall be stated
3 on the plan the capacity in horsepower of each motor, and in
4 kilowatts of each generator, rectifier or transformer, and the
5 nature of its duty. The plans shall be corrected as often as may
6 be necessary to keep them up to date or at intervals not
7 exceeding six months.

8 Section 304. Protection against shock.

9 (a) Electrical work.--No electrical work shall be performed
10 on low-voltage, medium-voltage or high-voltage distribution
11 circuits or equipment except by a qualified individual or by an
12 individual trained to perform electrical work and to maintain
13 electrical equipment under the direct supervision of a qualified
14 individual. Disconnecting devices shall be locked out and
15 suitably tagged by the individuals who perform the work, except
16 that in cases where locking out is not possible, the devices
17 shall be opened and suitably tagged by such individuals. Locks
18 or tags shall be removed only by the individual who installed
19 them or, if the individuals are unavailable, by an individual
20 authorized by the operator or the operator's agent.

21 (b) Insulating materials.--Mats of rubber, insulated
22 platform or other suitable insulating materials shall be
23 provided at all stationary transformers, rectifiers, motors and
24 generators and their controls, except portable and mobile
25 equipment. Gloves or mats of rubber or other suitable insulating
26 material shall be provided by the operator and used by qualified
27 individuals when energized parts of electrical apparatus have to
28 be handled for the purpose of adjustment.

29 Section 305. Restoration from shock.

30 Instruction shall be posted in every generating, transforming

1 and motor room and at the entrance to the mine containing
2 directions as to the restoration of individuals suffering from
3 electric shock. All employees working in connection with
4 electrical apparatus shall be familiar with and competent to
5 carry out the instructions.

6 Section 306. Report of defective equipment.

7 In the event of a breakdown or damage or injury to any
8 portion of the electrical equipment in a mine, overheating, the
9 appearance of sparks or arcs outside enclosed casings or in the
10 event of any portion of the equipment not a part of the
11 electrical circuit becoming energized, the equipment shall be
12 disconnected from its source of power, the occurrence shall be
13 promptly reported to a mine official and the equipment shall not
14 be used again until necessary repairs are made.

15 Section 307. Damage or alteration to mine electrical system.

16 No individual shall willfully damage or without authority
17 alter or make connections to any portion of a mine electrical
18 system.

19 Section 308. Capacity.

20 All electrical apparatus and conductors shall be sufficient
21 in size and power for the work they may be called upon to do
22 and, as prescribed in this act, be efficiently covered or
23 safeguarded. The electrical apparatus and conductors shall be
24 installed, operated and maintained to reduce danger from
25 accidental shock or fire to the minimum and shall be constructed
26 and operated so that the rise in temperature caused by ordinary
27 operation will not injure the insulating materials. Where these
28 conditions are not met, affected equipment shall be removed from
29 service until corrective action is taken.

30 Section 309. Joints in conductors.

1 All joints in conductors shall be mechanically and
2 electrically efficient. Suitable connectors or screw clamps
3 shall be used. All joints in insulated wire shall, after the
4 joint is complete, be reinsulated to at least the same extent as
5 the remainder of the wire.

6 Section 310. Cables entering fittings.

7 The exposed ends of cables where they enter fittings of any
8 description shall be protected and finished off so that moisture
9 cannot enter the cable, or the insulating material, if of an
10 oily or viscous nature, leak. Where unarmored cables or wires
11 pass through metal frames or into boxes or motor casings, the
12 holes shall be substantially bushed with insulating bushings
13 and, where necessary or required, with gas-tight bushings which
14 cannot readily become displaced.

15 Section 311. Switches, fuses and circuit breakers.

16 (a) Construction.--Fuses and automatic circuit breakers
17 shall be constructed as to effectively interrupt the current on
18 short circuit or when the current through them exceeds a
19 predetermined value. Open type fuses shall be provided with
20 terminals. Circuit breakers shall be of adequate interrupting
21 capacity.

22 (b) Trip setting.--Circuit breakers used to protect feeder
23 circuits shall be set to trip when the current exceeds by more
24 than 50% of the rated capacity of the feeder. In case the feeder
25 is subjected to overloads sufficient to trip the circuit breaker
26 but of short duration, the circuit breaker may be equipped with
27 a device which will prevent its acting unless the overload
28 persists for period longer than ten seconds. Trip current shall
29 be indicated at the circuit breaker.

30 (c) Fuses.--Fuses shall be stamped or marked or shall have a

1 label attached indicating the maximum current which they are
2 intended to carry. Fuses shall only be adjusted or replaced by a
3 competent individual authorized by the mine foreman.

4 (d) Protective fuses.--Fuses used to protect feeders shall
5 be a less current rating than the feeder.

6 (e) Incombustible base requirement.--All switches, circuit
7 breakers and fuses shall have incombustible bases.

8 Section 312. Lightning protection.

9 If the surface transmission lines of low voltage or medium
10 voltage from the generating station are overhead, there shall be
11 lightning arrestors installed at the generating station. If the
12 distance from the generating station to the point where the line
13 enters the mine is more than 500 feet, an additional arrestor
14 shall be installed at that point.

15 Section 313. Underground power supply.

16 (a) Ground detectors.--All underground systems of
17 distribution that are completely insulated from earth shall be
18 equipped with properly installed ground detectors of suitable
19 design which will trip the circuit breaker when a ground fault
20 is detected. The ground detectors shall be maintained in working
21 condition.

22 (b) Protection of circuits leading underground.--

23 (1) In every completely insulated feeder circuit in
24 excess of 25 kilowatts capacity, leading underground and
25 operating at a potential not exceeding the limits of medium
26 voltage, there shall be provided above ground a circuit
27 breaker arranged to open simultaneously each ungrounded
28 conductor. In addition, a positive disconnect means shall be
29 installed outby the circuit breaker. Overload protection
30 shall be provided to open the circuit breaker in case of

1 overload on any conductor. Fuses may be substituted for
2 circuit breakers in circuits transmitting 25 kilowatts or
3 less. Each power circuit in excess of 50 kilowatts leading
4 underground shall be provided with a suitable ammeter.

5 (2) Every alternating current feeder circuit leading
6 underground and operating at a potential exceeding the limits
7 of medium voltage shall be provided above ground with a
8 suitable circuit breaker. The breaker shall be equipped with
9 automatic overload trip, arranged to open simultaneously each
10 ungrounded power-carrying conductor. Each circuit shall also
11 be provided with a suitable ammeter.

12 (c) Cables in shafts, slopes and boreholes.--

13 (1) All cables passing underground through inclines,
14 boreholes and shafts shall be installed in a manner that will
15 prevent undue strain in the sheath, insulation or conductors
16 and damage by chafing of cables against each other or against
17 the borehole casing or shaft. All ungrounded power conductors
18 in shafts, boreholes and inclines shall be covered with
19 suitable insulating materials and installed to provide a
20 minimum tensile factor of safety of five. Conductors shall be
21 securely fastened and properly supported out of contact with
22 combustible materials. When the weight, length and
23 construction of a cable are such that suspension from its
24 upper end only would subject the cable to possible damage, it
25 shall be supported at intervals necessary to prevent undue
26 strains in the sheath, insulation and conductors and to
27 provide a minimum tensile factor of safety of five. Adequate
28 protection shall be provided so that no damage can result
29 from water, electrolysis, moving cages, skips, ice, coal or
30 other falling or moving materials.

1 (2) Installation of direct-current and alternating-
2 current cables carrying in excess of 25 kilowatts in the same
3 borehole shall require approval of the department.

4 (d) High-voltage underground transmission systems.--High-
5 voltage conductors or cables leading underground and extending
6 underground shall be of the flame-resistant type with either a
7 rubber, plastic or armor sheath meeting the requirements of the
8 department for flame resistance. When the cable is fed by high-
9 voltage systems other than that described in this chapter, it
10 shall be either metallic armored, installed in rigid steel
11 conduit or buried one foot below combustible material. When
12 circuit and protective requirements are met, the cable
13 construction and method of installation may be that described in
14 this chapter. Cables shall be adequate for the intended current
15 and voltage. Splices made in cable shall provide continuity of
16 all components and shall be made in accordance with cable
17 manufacturers' recommendations. A competent individual
18 designated by the mine electrician shall supervise the making of
19 the splices.

20 (e) Braid covered cable.--

21 (1) No power wires or cables having what is commonly
22 termed as weatherproof insulation or insulation consisting of
23 braided covering, which is susceptible to moisture absorption
24 from the outer surface to the conductor, shall be installed
25 in a mine.

26 (2) All insulated power cables purchased for use in a
27 mine shall be protected by a flame-resistant jacket and
28 assigned an approval number unless either armored or
29 installed in rigid steel conduit, a metal enclosure or a
30 fireproof room.

1 (f) Ventilation.--

2 (1) Bare power conductors shall not be installed in an
3 air current that has passed through or by the first working
4 place in the air split.

5 (2) High-voltage transmission cable, high-voltage motors
6 and high-voltage transformers shall not be installed in any
7 air current that has passed through or by the first working
8 place in the air split.

9 (g) Underground cables in haulage roads.--

10 (1) Where the cables or feed wires, other than trolley
11 wires, in main haulage roads cannot be kept at least 12
12 inches from any part of a mine car or locomotive, they shall
13 be specially protected by proper guards.

14 (2) Cables and wires, except trailing or portable cables
15 or bare return cables, shall be installed on roofs, ribs,
16 walls or timbers by means of efficient insulators. All
17 electric cables constantly kept in rooms or pillars or other
18 work areas shall be carried on suitable supports to within 70
19 feet of the face of each work area. In no instance shall the
20 method of support damage the cable jacket or armor.

21 (3) When main or other roads are being repaired or
22 blasting is being carried on, suitable temporary protection
23 from damage shall be given to the cables.

24 (4) All other wires, except telephone, shot-firing and
25 signal wires, shall be on the same side of the road as the
26 trolley wire.

27 (5) Haulage block signal circuits and other control
28 circuits powered from the trolley shall be located on the
29 same side of the road as the trolley.

30 (h) Branch circuit protection.--When the potential of a

1 branch circuit exceeds the limit of medium voltage, it shall be
2 protected by a circuit breaker, except as otherwise permitted
3 under section 331(h). The circuit breaker shall be equipped with
4 an automatic overload trip arranged to open simultaneously each
5 ungrounded power carrying conductor. Provisions for positive
6 disconnection of the branch circuit shall be included.

7 (i) Underground transformer and substation rooms.--

8 (1) Any motor-generator, rectifier except those
9 described in subsection (r), rotary converter or oil-filled
10 transformer installed in a mine shall be enclosed in a
11 fireproof chamber of masonry or in an effectively grounded
12 approved steel structure. These buildings shall be provided
13 with automatically closing fire doors, but the automatic
14 features of fire doors may be omitted if a substation
15 attendant is employed. The openings of the doors shall be
16 safeguarded by grillwork so that only authorized individuals
17 may enter the room. No electrical equipment containing
18 inflammable material shall be placed within eight feet of a
19 door or opening in the underground building. All underground
20 substations containing rotary machinery shall have an
21 attendant constantly on duty while rotating machinery is in
22 operation, unless adequate control and protection of the
23 equipment is assured by the use of suitable automatic
24 devices. No transformer, circuit breaker, controller or other
25 device containing more than 20 gallons of inflammable liquid
26 shall be placed in any underground substation. A separate
27 split of air shall adequately ventilate the substation. No
28 substation shall be built in any mine until the location,
29 material, construction and method of ventilation for the
30 substation has received the approval of the department.

1 (2) Main and distribution switch and fuse boards shall
2 be made of incombustible, moisture-resistant, insulating
3 material and fixed in as dry a situation as practicable or
4 shall be of suitable metal construction, exposed portions of
5 which shall be effectively grounded. All switches, circuit
6 breakers, rheostats, fuses and instruments used in connection
7 with underground motor-generators, rotary-converters, high-
8 voltage motors, transformers, and low-voltage and medium-
9 voltage motors of more than 50 horsepower or 50 KVA capacity
10 shall be installed upon a suitable switchboard or in a metal-
11 clad switchgear structure. Similar equipment for low-voltage
12 and medium-voltage motors of 50 horsepower and less may be
13 separately installed if mounted upon insulating bases of
14 suitable material or effectively metal clad.

15 (j) Clearances.--

16 (1) In underground stations where switchboards are
17 installed, there shall be a passageway in front of the
18 switchboard not less than three feet in width, and, if there
19 are any high-voltage connections at the back of the
20 switchboard, any passageway behind the switchboard shall not
21 be less than three feet. The floor at the back of the
22 switchboard shall be properly floored and insulated with
23 nonconducting material, accessible from each end. In the case
24 of high-voltage, switchboards shall be kept locked, but the
25 lock shall allow the door being opened from the inside
26 without the use of a key.

27 (2) Where the supply is at a voltage exceeding the
28 limits of medium voltage, there shall be no live metal work
29 on the front of the main switchboard within seven feet of the
30 floor or platform, and the space provided under paragraph (1)

1 shall not be less than four feet. Insulating floors or mats
2 shall be provided for medium-voltage boards where live metal
3 work is on the front.

4 (k) Transformers.--The primary of each underground power
5 transformer shall be protected by a suitable circuit breaker
6 equipped with automatic overload trip arranged to open
7 simultaneously each ungrounded power conductor. The primary of a
8 transformer of less than 25 KVA capacity operated at a potential
9 lower than high voltage may be protected by fuses. When a
10 transformer is the only load on a branch circuit, the branch
11 circuit protection can be considered the transformer protection.

12 (l) Outgoing feeder protection.--Main circuits leaving
13 underground substations or transformer stations shall be
14 protected by circuit breakers.

15 (m) Grounding.--All metallic coverings, metal armoring of
16 cables and the frames and bedplates of generators, transformers
17 and motors shall be effectively grounded.

18 (n) Identification of hazard.--All high-voltage machines and
19 apparatus shall be marked to clearly indicate that they are
20 dangerous, by the use of the words "Danger, High Voltage."

21 (o) Protection of terminals.--All terminals on machines,
22 motors or equipment over medium-voltage underground shall be
23 protected with insulating covers or metal covers effectively
24 connected to the ground.

25 (p) Unauthorized individuals.--No individual, other than one
26 authorized by the mine foreman or mine electrician, shall enter
27 a station or transformer room or interfere with the working of
28 any connected apparatus.

29 (q) Fire protection.--Rock dust or fire extinguishers
30 suitable for extinguishing electrical fires shall be kept ready

1 for immediate use at electrical stations and transformer rooms.

2 (r) Fireproof rectifiers and transformers.--A portable
3 rectifier with a dry-type transformer, except those using pumped
4 tubes or glass bulb mercury arc tubes or a dry-type transformer
5 designed for underground use with adequate automatic electrical
6 protection and substantially of fireproof construction, fully
7 metal clad, which will not be in the same location in excess of
8 one year, may be installed in any intake air current, not beyond
9 the last open crosscut and not closer than 250 feet along the
10 air route to pillar workings. The location where the fireproof
11 rectifier or transformer is installed need not be made fireproof
12 with masonry or steel, but shall be equipped with doors,
13 grillwork or otherwise to prevent entry or access by
14 unauthorized individuals.

15 Section 314. Storage battery equipment.

16 (a) General rule.--All storage battery equipment and
17 charging stations shall be designed, operated and ventilated so
18 that gas from the batteries will be safely diluted. Storage
19 battery charging stations shall be on a separate split of air.

20 (b) Flammable materials.--The presence of flammable
21 materials is not permitted in any storage battery room or
22 charging station. Signs to this effect shall be posted in all
23 battery rooms or charging stations.

24 (c) Use in face areas.--Storage battery-operated equipment
25 may be used in face areas when all electrical parts that are
26 practicable to enclose are enclosed in explosion-proof casings
27 and the batteries are adequately ventilated.

28 Section 315. (Reserved).

29 Section 316. Electrical equipment.

30 (a) Voltage restriction.--Hand-held tools shall be

1 restricted to a maximum of 300 volts.

2 (b) Grounding.--The frame of all off-track equipment shall
3 be effectively grounded through a safety ground conductor in its
4 trailing cable.

5 (c) Hand-held tools.--Electric drills and other electrically
6 operated rotating tools intended to be hand held shall be
7 equipped with an integrally mounted electric switch designed to
8 break the circuit when the hand releases the switch.

9 (d) Trailing cables.--

10 (1) Trailing cables for equipment shall be safely and
11 efficiently insulated and constructed with an outer sheath or
12 jacket of flame-resistant material as approved by the
13 department.

14 (2) Cables for hand-held tools shall be especially
15 flexible, heavily insulated and effectively protected from
16 damage.

17 (3) Each trailing cable on mobile equipment in use shall
18 be examined within two hours of the beginning of each shift
19 by the machine operator for abrasions and other defects. The
20 machine operator shall also carefully observe the trailing
21 cable while in use and shall immediately report any defect to
22 the mine official in charge.

23 (4) In the event of the trailing cable in service
24 breaking down or becoming damaged in any way, or of it
25 inflicting a shock upon any individual, it shall be put out
26 of service at once. The faulty cable shall not be used again
27 until it has been repaired and tested by a properly
28 authorized individual.

29 (5) The trailing cable shall be divided at the machine
30 to which it is supplying power, but only for such length as

1 is necessary for making connection to the machine terminals.
2 The trailing cable, with its outer covering complete, shall
3 be securely clamped to the machine frame in a manner that
4 will protect the cable from injury and prevent any mechanical
5 strains on the single ends connected to the machine
6 terminals.

7 (6) No more than five temporary splices shall be made in
8 any trailing cable. After the fifth splice is made, the cable
9 shall be changed before the machine is operated on the
10 following shift. Trailing cables on equipment without a cable
11 reel shall have no temporary splices within 50 feet of the
12 machine before the machine is operated on the following
13 shift. Cable jacket repairs not involving conductors or
14 conductor insulation are not considered temporary splices.

15 (7) Trailing cables shall be hung or adequately
16 protected to prevent them from being run over and damaged by
17 mobile machinery.

18 (8) Trailing cables on off-track equipment shall contain
19 a safety ground conductor, which shall be solidly connected
20 to the machine frame. Cables found to contain defective
21 grounds shall be repaired before use or shall be replaced.
22 The safety ground conductor shall have a cross-sectional area
23 of at least 50% of that of a single power conductor unless
24 used with ground trip protective systems employing ground
25 fault current limiting devices, in which case a smaller
26 safety ground may be used.

27 (e) Motors.--In all mines electrical equipment in use in by
28 the last open crosscut shall have all current-carrying parts
29 completely enclosed in explosion-proof enclosures. This
30 requirement shall not include trailing cable, except where

1 terminated, and shall not include flexible cable as required
2 between motors, controllers, terminal boxes and other
3 auxiliaries. The enclosures shall not be opened except by an
4 authorized individual and then only when the power is switched
5 off. The power shall not be switched on while the enclosures are
6 open. Only permissible equipment is permitted in by the last
7 permanent stopping, except in rooms where open-type equipment
8 may be used only in intake travelways. This exception does not
9 include power distribution equipment.

10 (f) Safeguarding.--The individual in charge of mobile
11 electrical equipment shall not leave the equipment while it is
12 working and shall, before leaving the work area, see that power
13 is cut off the trailing cables.

14 (g) Explosion-tested compartments.--All explosion-tested
15 compartments and packing glands shall be maintained as approved
16 by the department.

17 (h) Detection of gas.--

18 (1) In working places, an approved hand-held gas
19 detection device shall be provided for use with each machine
20 when working. If methane gas is detected in an amount of 1%
21 or greater, the individual in charge shall immediately stop
22 the machine, cut off the current at the nearest switch and
23 report the matter to a mine official.

24 (2) When not in use, equipment shall be parked away from
25 the face. No electrically operated permissible face equipment
26 shall be taken in by the last open breakthrough until the
27 machine operator assures that an inspection for gas has been
28 made in the place where the machine is to be in operation. If
29 methane gas is detected in an amount of 1% or greater by a
30 gas detection device, the machine shall not be taken in. The

1 place shall be dangered off until the gas has been removed or
2 rendered harmless.

3 (3) No electrically operated equipment shall be in use
4 for a period longer than 20 minutes without a check for
5 methane gas as required under this subsection. If methane gas
6 is found at 1% or greater, the individual in charge shall
7 immediately stop the machine, cut off the current at the
8 nearest switch and report the matter to a mine official.

9 (4) The individual finding gas shall at once report the
10 fact to the mine foreman, assistant mine foreman or mine
11 examiner, and the machine shall not again be started in that
12 place until the mine examiner or an individual duly
13 authorized by the mine foreman has examined it and pronounced
14 it safe.

15 (5) If any electric sparking or arc is produced outside
16 a coal-cutting or other portable motor, or by the cables or
17 rails, the machine shall be stopped, disconnected from the
18 power supply and not be worked again until the defect is
19 repaired and the occurrence shall be reported to a mine
20 official.

21 (i) Methane monitors.--

22 (1) Methane monitors shall be installed on all face-
23 cutting machines and other mechanized equipment used to
24 extract or load coal in a mine. The sensing device for
25 methane monitors shall be installed at the return end of the
26 longwall face. An additional sensing device shall also be
27 installed on the longwall shearing machine, down wind and as
28 close to the cutting head as is practicable. The sensing
29 devices for methane on other types of machines shall be
30 installed as close to the working face as is practicable.

1 Methane monitors shall be maintained in permissible and
2 proper operating conditions and shall be calibrated with a
3 known air-methane mixture at least once every 31 days. To
4 assure that methane monitors are properly maintained and
5 calibrated, the operators shall do all of the following:

6 (i) Use individuals properly trained in the
7 maintenance, calibration and permissibility of methane
8 monitors to calibrate and maintain the devices.

9 (ii) Maintain a record of all calibration tests of
10 methane monitors. Records shall be maintained in a secure
11 book that is not susceptible to alteration or
12 electronically in a computer system so as to be secure
13 and not subject to alteration.

14 (iii) Retain the record of calibration tests for one
15 year from the date of the test. Records shall be retained
16 at a surface location at the mine and made available to
17 department representatives and representatives of the
18 mine workers.

19 (2) When the methane concentrations at any methane
20 monitor reach 1%, the monitor shall give a warning signal.
21 The warning signal of the methane monitor shall be visible to
22 the mining machine operator, who can de-energize electric
23 equipment or shut down diesel equipment on which the monitor
24 is mounted. A gas check shall be completed in accordance with
25 this act if at any time the methane concentrations at any
26 methane monitor reach 1.5%. This shall only apply if the
27 methane monitor maintains a warning signal for methane
28 concentrations of 1.5%.

29 (3) The methane monitor shall automatically de-energize
30 electric equipment or shut down diesel-powered equipment when

1 the methane accumulation reaches 2% or the methane monitor is
2 not operating properly.

3 Section 317. Inspection of equipment.

4 (a) Inspection required.--All electrical equipment shall be
5 inspected by the mine electrician or individual designated by
6 the mine electrician weekly and, where necessary, shall be
7 cleaned and repaired.

8 (b) Removal of coal dust.--All electric motors and cables in
9 mechanical sections shall have all excessive coal dust removed
10 from their exterior surfaces once each operating shift.

11 Section 318. Stationary motors.

12 Every stationary motor underground, together with its
13 starting equipment, shall be protected by a fuse or circuit-
14 breaking device on each ungrounded pole and by switches arranged
15 to entirely cut off the power from the motor. The devices shall
16 be installed in a convenient position near the motor, and every
17 stationary underground motor of 100 brake horsepower or over
18 shall be provided with a suitable meter to indicate the load on
19 the machine.

20 Section 319. Permanent underground installation.

21 All electrical equipment not covered elsewhere under this
22 act, and except room hoists and gathering pumps which will
23 remain in the same location for a period of one year or more,
24 shall be completely housed in an incombustible structure built
25 of tile, brick, stone, concrete or grounded steel plates not
26 less than one-eighth inch in thickness, securely joined.

27 Section 320. Underground illumination.

28 (a) Sockets.--In all mines, the sockets of fixed electric
29 lamps shall be of so-called weatherproof type, the exterior of
30 which shall be entirely nonmetallic. Flexible lamp cord

1 connections are prohibited, except for portable lamps as
2 provided under subsection (c).

3 (b) Lamps.--Electric lamps shall be placed so they cannot
4 come in contact with combustible material.

5 (c) Portable electric lamps.--Portable electric lamps, other
6 than battery lamps, shall not be used in connection with the
7 repair and inspection of machines and equipment in face areas.
8 When used elsewhere, they shall be protected by a heavy wire
9 cage completely enclosing both lamp and socket and shall be
10 provided with a handle to which both cage and socket are firmly
11 attached and through which the lead-in wires are carried.

12 (d) Electric lamp enclosure.--Electric lamps, when used in
13 face areas of any mine, shall be installed in explosion-proof
14 enclosures.

15 (e) Electric lamp replacement.--Electric lamps shall be
16 replaced by a competent individual. In face areas, a qualified
17 individual shall be utilized after an examination for gas has
18 been made with an approved gas detection device.

19 (f) Underground photography.--Underground photography using
20 flash bulbs or other sources of artificial illumination shall be
21 prohibited unless immediately preceded by an examination for gas
22 by a mine foreman, assistant mine foreman or mine examiner and
23 the place found safe.

24 Section 321. Telephones and signaling.

25 (a) Telephone service.--Telephone service or equivalent two-
26 way communication facilities shall be provided in all mines
27 between the surface and each working section that is more than
28 1,500 feet from the main portal.

29 (b) Telephone lines.--Telephone lines shall be carried on
30 insulators, installed on the opposite side from power or trolley

1 wires and insulated adequately where they cross power or trolley
2 wires.

3 (c) Lightning arrestors.--Lightning arrestors shall be
4 provided at points where telephone circuits enter the mine.

5 (d) Telephone cables.--Telephone cables permanently
6 installed in power boreholes containing unarmored power cables
7 shall be either armored or protected at top and bottom by
8 insulating transformers.

9 (e) Precautions.--All proper precautions shall be taken to
10 prevent electric signal and telephone wires from coming into
11 contact with other electric conductors, whether insulated or
12 not.

13 (f) Standards generally.--Bells, wires, insulators, contact
14 makers and other apparatus used in connection with electric
15 signaling underground shall be of suitable design and of
16 substantial and reliable construction and erected in such a
17 manner as to reduce the liability of failures or false signals
18 to a minimum.

19 (g) Potential.--In the face areas of any mine, the potential
20 used for signal purposes shall not exceed 24 volts, and bare
21 wires shall not be used for signal circuits.

22 (h) Voltage on signal circuits.--The voltage on signal
23 circuits confined to intake air and using insulated conductors
24 may be greater than 24 volts, but shall not exceed 125 volts
25 average. This shall not apply to haulage block signal systems.
26 Section 322. Grounding.

27 (a) General rule.--In a direct-current electrical system,
28 grounding shall consist in so connecting any part of an
29 electrical system, including frames, to the earth that there
30 shall be no difference of potential between them.

1 (b) Negative side to be grounded.--Only the negative side of
2 the direct-current circuit shall be grounded.

3 (c) Rectifier diodes.--Rectifier diodes used at any
4 bituminous coal mine shall be connected to the supply circuit
5 through an isolating winding in order that isolation between
6 alternating current and direct-current systems is effective.

7 (d) Initial installation.--The initial installation of
8 rectifiers at any bituminous coal mine shall be approved by the
9 department before being energized.

10 Section 323. Voltage limitation.

11 In no case shall the potential used in the trolley system be
12 higher than 600 volts.

13 Section 324. Incoming feeder-disconnect switches.

14 Disconnecting switches shall be installed underground in all
15 main direct-current power circuits within 500 feet of the bottom
16 of shafts, boreholes or at other places where main power
17 circuits enter a mine.

18 Section 325. Bonding.

19 Where air or water pipes parallel the grounded return of
20 power circuits, the return shall be securely bonded to the pipes
21 at frequent intervals to eliminate the possibility of a
22 difference of voltage between rails and pipes and to prevent
23 electrolysis of the pipes. The rail return shall be of
24 sufficient capacity for the current used, independent of the
25 capacity of the pipes. On main haulage roads, both rails shall
26 be bonded, except welded track, and cross bonds shall be placed
27 at points not to exceed 200 feet apart. On secondary haulage
28 roads, one rail shall be bonded continuously.

29 Section 326. Trolley installation.

30 (a) Trolley wires and feeder lines.--All trolley wires and

1 feeder lines installed on underground haulage roads shall be
2 placed as far to one side of the passageway as is practicable,
3 but not less than six inches outside of line of rail, and
4 securely supported upon hangers which shall not be more than 24
5 feet apart and efficiently insulated.

6 (b) Prohibition.--In all mines, trolley and feeder wires
7 shall not extend beyond the last open crosscut and shall be kept
8 at least 150 feet from open pillar workings.

9 (c) Switches or circuit breakers.--All branch trolley lines
10 shall be fitted with either a trolley switch, circuit breaker or
11 section insulator and line switch or some other device that will
12 allow the current to be shut off from the branch headings.

13 Switches or circuit breakers shall be provided on haulage roads
14 to de-energize all trolley and feeder lines at intervals not to
15 exceed 2,000 feet.

16 Section 327. Connections to trolley.

17 (a) Permanent connections.--All permanent connections to
18 trolley feeder circuits shall be made with suitable mechanical
19 connectors. No temporary or permanent connection shall be
20 wrapped or tied.

21 (b) Temporary connections.--Temporary connections for
22 portable equipment may be made through fused trolley taps.

23 (c) Safety ground and negative connections.--Safety ground
24 and negative connections for temporary or permanent
25 installations shall be made at two separate points, at least six
26 inches apart, and shall be made directly to the track, a bond or
27 the system ground.

28 Section 328. Guarding.

29 At all landings and partings or other places where
30 individuals are required to regularly work or pass under trolley

1 or other bare power wires, which are placed less than six and
2 one-half feet above top of rail, a suitable protection shall be
3 provided. This protection shall consist of placing boards along
4 the wire, which boards shall not be more than five inches apart
5 nor less than two inches below the lowest point of the wire. The
6 distance between boards on curves may exceed five inches, but
7 shall not exceed eight inches. This does not prohibit the use of
8 other approved devices or methods furnishing equal or better
9 protection.

10 Section 329. Locomotives.

11 (a) Electric haulage.--Electric haulage by trolley
12 locomotive is not permitted except on intake air.

13 (b) Certain operation prohibited.--It shall be unlawful to
14 run or operate a locomotive, fed directly or indirectly from a
15 trolley wire, by the open entrances to worked out places wherein
16 the pillars have been drawn or places in which the pillars have
17 not been drawn but in places where the roof has collapsed.

18 (c) Certain use proscribed.--No open-type electric
19 locomotive or open-type electric machine of whatsoever type
20 shall be taken into a working place. Main return airways or
21 passageways shall not be used as haulageways for electric
22 locomotives operated from a trolley wire.

23 Section 330. Outdoor substation.

24 The outdoor substation shall be built in accordance with
25 current Institute of Electrical and Electronics Engineers'
26 standards and department equipment performance specification and
27 shall include:

- 28 (1) Protective fence or enclosure.
- 29 (2) Primary or incoming line lightning arrestors.
- 30 (3) Positive disconnecting means on the incoming or

1 primary line with a circuit breaker or fuses to interrupt
2 safely any current, normal or abnormal, which might be
3 encountered.

4 (4) Transformer bank to convert the incoming or primary
5 voltage to the transmission voltage. The use of auto-
6 transformers for this purpose is prohibited. Secondary or
7 underground transmission voltage shall not exceed 15,000
8 volts, nominal, phase to phase. The transformer may be
9 connected delta-wye, wye-delta or delta-delta. Wye-wye
10 connections shall not be used because of voltage instability
11 under some conditions of load. In the event that the
12 secondary winding is delta-connected, the neutral necessary
13 for the four-wire transmission circuit shall be derived by
14 the use of a three-phase zig-zag or grounding transformer.
15 Where grounding transformers are used, they shall be of
16 sufficient capacity to carry maximum ground fault current
17 continuously. Should the substation primary or supply voltage
18 equal the mine transmission voltage, the main transformer
19 bank may be omitted and the zig-zag transformer used to
20 derive a system neutral if one is not otherwise available.

21 (5) Secondary lightning arrestors.

22 (6) Ground fault-current limiting resistor capable of
23 continuously limiting ground fault current to 25 amperes or
24 less. The resistor shall be adequately insulated and shall be
25 protected by a grounded fence or screen unless mounted eight
26 feet or more above ground.

27 (7) Secondary or mine feeder circuit breaker with
28 interrupting capacity adequate for any possible condition of
29 fault and no less than the short circuit capacity of the
30 system supplying power to the breaker. Positive disconnect

1 means shall be provided on the input and output side of the
2 breaker. Use of automatic reclosing circuit breakers is
3 prohibited. Breaker automatic tripping shall be through
4 protective relays and shall provide, as a minimum, tripping
5 by undervoltage, instantaneous and inverse time limit phase
6 overcurrent, ground fault current not exceeding 15 amperes
7 and ground-continuity check not exceeding seven amperes. The
8 ground-continuity check circuit shall continuously monitor
9 the integrity of the neutral circuit leading underground and
10 shall cause the breaker to open when either the ground or
11 pilot check wire is broken. An ammeter capable of reading
12 current in each phase and a voltmeter capable of reading
13 phase-to-phase voltage shall be provided at the circuit
14 breaker.

15 (8) Surge protection or station ground bed to which
16 shall be connected all lightning arrestor grounds, substation
17 equipment frame grounds, fence, if metallic, and substation
18 structure, if metallic. There shall be no direct connection
19 between this ground bed and either the grounded side of the
20 mine direct-current system or the neutral ground bed
21 described below.

22 (9) Neutral or primary ground bed located at least 25
23 feet away from the station ground at its closest point and to
24 which shall be connected only the inby or load end of the
25 neutral current limiting resistor. To prevent current
26 transformer core saturation by stray direct current return
27 currents, or neutral conductor damage, there shall be no
28 direct or metallic connection between any point of the high-
29 voltage alternating current neutral circuit and the mine
30 direct-current ground.

1 (10) Ground bed resistance shall be measured at least
2 every six months and appropriate action taken to assure the
3 maintenance of four ohms or less of ground bed resistance. A
4 record of these resistance measurements shall be kept in a
5 book provided for that purpose.

6 Section 331. High-voltage underground transmission system.

7 (a) Underground.--High-voltage cables leading underground
8 and extending underground shall be of the multiple conductor
9 flame-resistant type with a rubber, plastic or armor sheath
10 meeting the requirements of the department for flame resistance.
11 They shall be equipped with metallic shields around each power
12 conductor. One or more ground conductors shall be provided of a
13 total size either:

14 (1) not less than one-half the power conductor size; or

15 (2) capable of carrying two times the maximum ground
16 fault current.

17 There shall also be provided an insulated conductor not smaller
18 than No. 10 AWG for the ground-continuity check circuit. Cables
19 shall be adequate for the intended current and voltage. Splices
20 made in the cable shall provide continuity of all components and
21 shall be made in accordance with the cable manufacturers'
22 recommendations. A competent individual designated by the mine
23 electrician shall supervise the making of splices.

24 (b) Subject to flexing.--High-voltage cables subject to
25 repeated flexing shall be similar in construction to type SH-D
26 in accordance with Insulated Power Cable Engineers Association
27 standard S-19-81.

28 (c) Couplers.--If couplers are used, they shall be of the
29 three-phase type with a full metallic shell and shall be
30 adequate for the voltage and current expected. All exposed metal

1 on the couplers shall be grounded to the ground conductor in the
2 cable. The coupler shall be constructed so that the ground
3 continuity conductor shall be broken first and the ground
4 conductor shall be broken last when the coupler is being
5 uncoupled.

6 (d) Equipment passing over or under cable.--At locations
7 where cables cross haulageways or travelways or where equipment
8 must pass over or under the cable, the cables shall be either
9 installed in a trench in the roof, protected by some mechanical
10 means or buried at least 12 inches below combustible material
11 and adequately protected from crushing by the weight of
12 equipment passing over it.

13 (e) Location of installation.--High-voltage cables shall be
14 installed only in intake airways. They may be installed on
15 intake haulageways only with the approval of the department. The
16 cable may be installed by hanging on suitable hooks or clamps,
17 supported by a suitable messenger cable, burying or installing
18 in metal conduit. When suspended, the distance between supports
19 shall not exceed 20 feet, and they shall be so placed that they
20 do not damage the cable jacket. When hung in a haulage entry
21 containing a trolley wire, the cable shall be installed at least
22 12 inches from the trolley wire or feeder wires and away from
23 the track.

24 (f) Excess cable.--Any excess cable which is connected and
25 supplying a load shall be coiled, stored on a reel or otherwise
26 stored at a place near the load where it can be protected by
27 danging off the storage area. The cable shall not exceed 1,000
28 feet in length.

29 (g) Frames and enclosures.--Frames and enclosures of high-
30 voltage switch units, transformers, metallic cable couplers and

1 splice boxes shall be grounded to the common or primary ground
2 for the system in the high-voltage cable.

3 (h) Taps or branch circuits.--Taps or branch circuits from
4 the high-voltage feeder shall be made through circuit breakers
5 or suitable load break switches.

6 (i) Nonload breaking disconnect switches.--When nonload
7 breaking disconnect switches are used for sectionalizing high-
8 voltage circuits, they shall be fully metal clad, equipped with
9 a door interlock to break the ground-continuity check circuit,
10 thus tripping the feeding breaker when the door is open, and a
11 voltmeter or indicating lights to verify that the circuit is
12 deenergized before the disconnected switches are opened.

13 (j) Applicability.--For the purpose of interpretation and
14 compliance with subsection (h) and section 313(h), the following
15 apply:

16 (1) A branch circuit is a subportion of the high-voltage
17 system, serving one or more loads. The branch circuit begins
18 at the junction or splitting of the high-voltage system. The
19 junction consists of the following distinct elements:

20 (i) Input feeder, which delivers power from the
21 source.

22 (ii) Output feeder, which may extend the feeder to
23 other parts of the high-voltage system.

24 (iii) Branch circuit.

25 The output feeder is not considered as a branch circuit and
26 is not required to have electrical protection at the
27 junction, but receives electrical protection either at the
28 source substation or at some place between the source
29 substation and the junction. The branch circuit is required
30 to have protection at the junction.

1 (2) A tap supplies power to the high-voltage loads
2 located entirely within the enclosure where the connection is
3 made. Where no splitting of the feeder cable occurs, neither
4 a tap nor branch is created.

5 (3) A suitable load-break switch, which may be used in
6 lieu of a circuit breaker, is a gang-operated switch with a
7 voltage rating not less than the system voltage, capable of
8 interrupting a current equal to its continuous full load
9 rating and to be used in conjunction with fuses to provide
10 overload and short circuit protection for the load being
11 served.

12 Section 332. Load center.

13 Transmission voltage shall be reduced to machine utilization
14 voltage by a portable transformer or load center of adequate
15 capacity for the equipment powered by it. The transformer shall
16 be of the dry type, ventilated, nonventilated or sealed,
17 substantially constructed and completely enclosed in a metal
18 case. The metal enclosure shall be connected to the high-voltage
19 system ground conductor in the high-voltage cable. Complete load
20 center construction shall render it essentially fireproof. In
21 addition to these requirements, the following shall be observed:

22 (1) Connection of the high-voltage cable to the load
23 center shall be made through a cable coupler of the type
24 described in section 331(c).

25 (2) The load center shall be equipped with a positive
26 disconnect means on the incoming or high-voltage circuit.
27 This may consist of a circuit breaker, load-break switch,
28 disconnect switch or other device. The following apply:

29 (i) If a circuit breaker is used for this purpose,
30 it shall be equipped with instantaneous and inverse time

1 limit phase overcurrent and undervoltage relaying
2 protection.

3 (ii) If a device other than a circuit breaker is
4 used, it shall be so arranged that it cannot be operated
5 until the ground continuity check circuit in the high-
6 voltage cable has opened causing the nearest feeding
7 circuit breaker to trip.

8 (3) The restriction of section 330(4) pertaining to
9 transformer connections and use of zig-zag grounding
10 transformers also apply to the load center.

11 (4) The transformer secondary neutral, direct or
12 derived, shall be connected to machine trailing cable safety
13 ground conductors through a ground current limiting resistor
14 capable of limiting ground fault current to 25 amperes or
15 less. The inby side of the resistor shall be grounded to the
16 load center frame if no DC equipment powered from a common
17 mine DC system can contact the frames of AC equipment powered
18 by this load center. In the event there is a possibility of
19 frame contact between AC equipment and DC equipment supplied
20 from a common DC mine system, the inby side of the resistor
21 may be insulated from the load center frame and shall be
22 solidly connected to the DC ground system.

23 (5) The load center shall be equipped with a main
24 secondary breaker of adequate interrupting capacity with
25 tripping devices which shall feed individual machine breakers
26 located either in the load center or external to it in a
27 separate distribution center. External utilization voltage
28 connections shall be made through receptacles arranged so
29 that they cannot be uncoupled under load.

30 (6) Load centers shall be located on intake air only.

1 Load centers shall not be located beyond the last open
2 crosscut or located closer than 250 feet along the air route
3 to pillar workings.

4 Section 333. Distribution centers.

5 (a) General rule.--Distribution centers may be used to
6 distribute utilization power to portable equipment. The
7 distribution center may be connected to the load center through
8 one or more cables or conductors protected by flame-resistant
9 jackets with combined capacity sufficient to carry the maximum
10 loads that may be encountered. The distribution center shall
11 contain breakers adequate to interrupt any fault current that
12 might occur, which shall feed each unit of equipment that is
13 connected to the distribution center. Each breaker shall be
14 equipped with tripping devices that will function, on overload,
15 phase fault and ground fault. Distribution centers shall be
16 located on intake air only, and shall not be located beyond the
17 last open crosscut or closer than 150 feet from pillar workings
18 unless the distribution center shall have an approved explosion-
19 proof enclosure.

20 (b) Cables.--Utilization voltage cables shall be fitted with
21 plug couplers and provision made so that cables cannot be
22 uncoupled under load. All plugs and sockets shall be
23 substantially constructed, and any exposed metal portions shall
24 be grounded. Couplers shall be constructed so that the ground
25 conductor connection is broken last during uncoupling.

26 (c) Ground conductors.--Utilization voltage conductors,
27 cables or conductor groups shall contain one or more ground
28 conductors which when combined shall be able to carry safely and
29 continuously at least twice the maximum ground fault current.

30 (d) Option.--A combined alternating and direct-current

1 distribution or load center complete within a substantially
2 fireproof metal enclosure, with a dry type transformer and solid
3 state rectifier and adequate automatic electrical protection,
4 may be used to distribute alternating and direct current
5 utilization power. The power supply to this unit may be low,
6 medium or high voltage. When high voltage is utilized, the
7 requirements of section 332 shall apply. When medium or low
8 voltage is utilized, this section shall apply. However, when an
9 external DC distribution device is employed, the rectifier
10 output may be taken through a main DC circuit breaker to that
11 device without the use of a plug and receptacle system.

12 Section 334. Mandatory safety components of electrical
13 equipment.

14 (a) Requirement.--Low-voltage, medium-voltage and high-
15 voltage resistance ground systems shall have ground wire
16 monitors to continuously monitor the continuity of the grounding
17 circuits to the equipment affected, except for:

18 (1) Low-voltage and medium-voltage circuits supplying
19 power to longwall illumination systems.

20 (2) Low-voltage and medium-voltage stationary equipment
21 installed in accordance with all of the following:

22 (i) The equipment is permanently installed at a
23 fixed location.

24 (ii) All load components are securely attached to a
25 common metallic frame or structure.

26 (iii) Each component of the equipment is grounded by
27 two independent equipment safety grounding, each sized
28 appropriately.

29 (iv) At least one of the equipment safety ground
30 conductors to each component is visible for its entire

1 length. High-voltage resistance grounded systems shall
2 have ground wire monitors to continuously monitor the
3 continuity of the grounding circuits. All ground wire
4 monitors shall be designed and constructed to be
5 failsafe.

6 (b) Study.--The mining industry shall initiate a study to
7 enhance the safety of underground direct-current machine cables.
8 The program shall include an evaluation of ground wire monitors
9 for use on all direct-current equipment. The program shall
10 include laboratory and underground testing. The test results
11 shall be documented and presented to the Board of Coal Mine
12 Safety no later than 365 days after the effective date of this
13 act for action by the board.

14 (c) Additional study.--The mining industry shall initiate a
15 study to enhance the safety of underground cables. The program
16 shall include an evaluation of metallic shielded cable,
17 nonmetallic shielded cable and more sensitive ground fault
18 limiting and detection. The program shall include laboratory and
19 underground testing. The results shall be documented and
20 presented to the Board of Coal Mine Safety no later than 365
21 days after the effective date of this act for action by the
22 board.

23 (d) Plugs.--If plugs are used on any cable in a mine, the
24 plugs must be interlocked.

25 Section 335. High-voltage longwalls.

26 Sections 336 through 344 are electrical safety standards that
27 apply to high-voltage longwall circuits and equipment. All other
28 standards established under this act also apply to longwall
29 circuits and equipment when appropriate. The department shall
30 consider existing Federal interpretations of comparable

1 standards when implementing and enforcing these requirements.

2 Section 336. Longwall electrical protection.

3 (a) High-voltage circuits.--High-voltage circuits must be
4 protected against short circuits, overloads, ground faults and
5 undervoltages by circuit-interrupting devices of adequate
6 interrupting capacity as follows:

7 (1) Current settings of short-circuit protective devices
8 must not exceed the setting specified in approval
9 documentation or 75% of the minimum available phase-to-phase
10 short-circuit current, whichever is less.

11 (2) Time-delay settings of short-circuit protective
12 devices used to protect any cable extending from the section
13 power center to a motor-starter enclosure must not exceed the
14 settings specified in approval documentation or one-quarter
15 second, whichever is less. Time-delay settings of short-
16 circuit protective devices used to protect motor and shearer
17 circuits must not exceed the settings specified in approval
18 documentation or three cycles, whichever is less.

19 (3) Ground-fault currents must be limited by a neutral
20 grounding resistor to not more than:

21 (i) six and one-half amperes when the nominal
22 voltage of the power circuit is 2,400 volts or less; or

23 (ii) three and three-quarters of an ampere when the
24 nominal voltage of the power circuit exceeds 2,400 volts.

25 (4) High-voltage circuits extending from the section
26 power center must be provided with all of the following:

27 (i) Ground-fault protection set to cause de-
28 energization at not more than 40% of the current rating
29 of the neutral grounding resistor.

30 (ii) A backup ground-fault detection device to cause

1 de-energization when a ground fault occurs with the
2 neutral grounding resistor open.

3 (iii) Thermal protection for the grounding resistor
4 that will de-energize the longwall power center if the
5 resistor is subjected to a sustained ground fault. The
6 thermal protection must operate at either 50% of the
7 maximum temperature rise of the grounding resistor or 150
8 Centigrade or 302 Fahrenheit, whichever is less, and must
9 open the ground-wire monitor circuit for the high-voltage
10 circuit supplying the section power center. The thermal
11 protection must not be dependent upon control power and
12 may consist of a current transformer and overcurrent
13 relay.

14 (5) High-voltage motor and shearer circuits must be
15 provided with instantaneous ground-fault protection set at
16 not more than 0.125 of an ampere.

17 (6) Time-delay settings of ground-fault protective
18 devices used to provide coordination with the instantaneous
19 ground-fault protection of motor and shearer circuits shall
20 not exceed one-quarter second.

21 (7) Undervoltage protection shall be provided by a
22 device which operates on low voltage to cause and maintain
23 the interruption of power to a circuit to prevent automatic
24 restarting of the equipment.

25 (b) Current transformers.--Current transformers used for the
26 ground-fault protection specified in subsection (a)(1), (4)(i)
27 and (5) must be single window type and must be installed to
28 encircle all three-phase conductors. Equipment safety grounding
29 conductors must not pass through or be connected in series with
30 ground-fault current transformers.

1 (c) Test circuit.--Each ground-fault current device
2 specified in subsection (a)(4)(i) and (5) must be provided with
3 a test circuit that will inject a primary current of 50% or less
4 of the current rating of the grounding resistor through the
5 current transformer and cause each corresponding circuit-
6 interrupting device to open.

7 (d) Prohibition.--Circuit-interrupting devices shall not
8 reclose automatically.

9 (e) Multiple cables.--Where two or more high-voltage cables
10 are used to supply power to a common bus in a high-voltage
11 enclosure, each cable must be provided with ground wire
12 monitoring. The ground wire monitoring circuits must cause de-
13 energization of each cable when either the ground monitor or
14 grounding conductor of any cable becomes severed or open. On or
15 after the effective date of this section, parallel-connected
16 cables on newly installed longwalls must be protected as
17 follows:

18 (1) when one circuit-interrupting device is used to
19 protect parallel-connected cables, the circuit-interrupting
20 device must be electrically interlocked with the cables so
21 that the device will open when any cable is disconnected; or

22 (2) when two or more parallel circuit-interrupting
23 devices are used to protect parallel-connected cables, the
24 circuit-interrupting devices must be mechanically and
25 electrically interlocked. Mechanical interlocking shall cause
26 all devices to open simultaneously and electrical
27 interlocking shall cause all devices to open when any cable
28 is disconnected.

29 Section 337. Longwall disconnect switches.

30 (a) Section power center.--The section power center must be

1 equipped with a main disconnecting device installed to de-
2 energize all cables extending to longwall equipment when the
3 device is in the open position.

4 (b) Maintenance.--Disconnecting devices for motor-starter
5 enclosures must be maintained in accordance with the
6 department's approval. The compartment for the disconnect device
7 must be provided with a caution label to warn miners against
8 entering the compartment before de-energizing the incoming high-
9 voltage circuits to the compartment.

10 (c) Rating.--Disconnecting devices must be rated for the
11 maximum phase-to-phase voltage of the circuit in which they are
12 installed and for the full load current of the circuit that is
13 supplied power through the device.

14 (d) Installation.--Each disconnecting device must be
15 designed and installed so that:

16 (1) Visual observation determines that the contacts are
17 open without removing any cover.

18 (2) All load power conductors can be grounded when the
19 device is in the open position.

20 (3) The device can be locked in the open position.

21 (e) Capability.--Disconnecting devices, except those
22 installed in explosion-proof enclosures, shall be capable of
23 interrupting the full load current of the circuit or designed
24 and installed to cause the current to be interrupted
25 automatically prior to the opening of the contacts of the
26 device. Disconnecting devices installed in explosion-proof
27 enclosures shall be maintained in accordance with the
28 department's approval.

29 Section 338. Guarding of longwall cables.

30 (a) High-voltage cables.--High-voltage cables shall be

1 guarded at the following locations:

2 (1) Where individuals regularly work or travel over or
3 under the cables.

4 (2) Where the cables leave cable handling or support
5 systems to extend to electric components.

6 (b) Intent and design of guarding.--Guarding shall minimize
7 the possibility of miners contacting the cables and protect the
8 cables from damage. The guarding shall be made of grounded metal
9 or nonconductive flame-resistant material.

10 Section 339. Longwall cable-handling and support systems.

11 Longwall mining equipment shall be provided with cable-
12 handling and support systems that are constructed, installed and
13 maintained to minimize the possibility of miners contacting the
14 cables and to protect the high-voltage cables from damage.

15 Section 340. Use of longwall insulated cable handling
16 equipment.

17 (a) General rule.--Energized high-voltage cables shall not
18 be handled except when motor or shearer cables need to be
19 trained. When cables need to be trained, high-voltage insulated
20 gloves, mitts, hooks, tongs, slings, aprons or other personal
21 protective equipment capable of providing protection against
22 shock hazard shall be used to prevent direct contact with the
23 cable.

24 (b) Standards, examinations, testing and replacement.--High-
25 voltage insulated gloves, sleeves and other insulated personal
26 protective equipment shall:

27 (1) have a voltage rating of at least Class 1, 7,500
28 volts, that meets or exceeds ASTM F496-97, Standard
29 Specification for In-Service Care of Insulating Gloves and
30 Sleeves (1997);

1 (2) be examined before each use for visible signs of
2 damage;

3 (3) be removed from the underground area of the mine or
4 destroyed when damaged or defective; and

5 (4) be electrically tested every six months.

6 Section 341. Maintenance.

7 Compartment separation and cover interlock switches for
8 motor-starter enclosures shall be maintained in accordance with
9 section 342.

10 Section 342. High-voltage longwall mining systems.

11 (a) General rule.--In each high-voltage motor-starter
12 enclosure, with the exception of a controller on a high-voltage
13 shearer, the disconnect device compartment,
14 control/communications compartment and motor contactor
15 compartment shall be separated by barriers or partitions to
16 prevent exposure of personnel to energized high-voltage
17 conductors or parts. Barriers or partitions shall be constructed
18 of grounded metal or nonconductive insulating board.

19 (a.1) High-voltage shearers.--In each motor-starter
20 enclosure on a high-voltage shearer, the high-voltage components
21 shall be separated from lower voltage components by barriers or
22 partitions to prevent exposure of personnel to energized high-
23 voltage conductors or parts. Barriers or partitions shall be
24 constructed of grounded metal or nonconductive insulating board.

25 (b) Interlock switches.--Each cover of a compartment in the
26 high-voltage motor-starter enclosure containing high-voltage
27 components shall be equipped with at least two interlock
28 switches arranged to automatically de-energize the high-voltage
29 components within that compartment when the cover is removed.

30 (c) Circuit-interrupting devices.--Circuit-interrupting

1 devices shall be designed and installed to prevent automatic
2 reclosure.

3 (d) Transformers.--Transformers with high-voltage primary
4 windings that supply control voltages shall incorporate grounded
5 electrostatic (Faraday) shielding between the primary and
6 secondary windings. The shielding shall be connected to the
7 equipment ground by a minimum No. 12 AWG grounding conductor.
8 The secondary nominal voltage shall not exceed 120 volts, line
9 to line.

10 (e) Test circuits.--Test circuits shall be provided for
11 checking the condition of ground wire monitors and ground-fault
12 protection without exposing personnel to energized circuits.
13 Each ground-test circuit shall inject a primary current of 50%
14 or less of the current rating of the grounding resistor through
15 the current transformer and cause each corresponding circuit-
16 interrupting device to open.

17 (f) Disconnect devices.--Each motor-starter enclosure, with
18 the exception of a controller on a high-voltage shearer, shall
19 be equipped with a disconnect device installed to de-energize
20 all high-voltage power conductors extending from the enclosure
21 when the device is in the open position.

22 (1) When multiple disconnect devices located in the same
23 enclosure are used to satisfy the requirement of this
24 subsection, they shall be mechanically connected to provide
25 simultaneous operation by one handle.

26 (2) The disconnect device shall be rated for the maximum
27 phase-to-phase voltage and the full-load current of the
28 circuit in which it is located and installed so that:

29 (i) visual observation determines that the contacts
30 are open without removing any cover;

- 1 (ii) the load-side power conductors are grounded
2 when the device is in the open position;
- 3 (iii) the device can be locked in the open position;
- 4 (iv) when located in an explosion-proof enclosure,
5 the device shall be designed and installed to cause the
6 current to be interrupted automatically prior to the
7 opening of the contacts; and
- 8 (v) when located in a nonexplosion-proof enclosure,
9 the device shall be designed and installed to cause the
10 current to be interrupted automatically prior to the
11 opening of the contacts, or the device shall be capable
12 of interrupting the full-load current of the circuit.

13 (g) Starters to be interlocked.--Control circuits for the
14 high-voltage motor starters shall be interlocked with the
15 disconnect device so that:

16 (1) The control circuit can be operated with an
17 auxiliary switch in the test position only when the
18 disconnect device is in the open and grounded position.

19 (2) The control circuit can be operated with the
20 auxiliary switch in the normal position only when the
21 disconnect switch is in the closed position.

22 (h) Determination of minimum available fault current.--A
23 study to determine the minimum available fault current shall be
24 submitted to the department to ensure adequate protection for
25 the length and conductor size of the longwall motor, shearer and
26 trailing cables.

27 (i) Shielded construction of certain cables.--Longwall motor
28 and shearer cables with nominal voltages greater than 660 volts
29 shall be made of a shielded construction with a grounded
30 metallic shield around each power conductor.

1 (j) Instantaneous ground fault protection.--High-voltage
2 motor and shearer circuits shall be provided with instantaneous
3 ground fault protection of not more than 0.125 of an ampere.
4 Current transformers used for this protection shall be of the
5 single window type and shall be installed to encircle all three-
6 phase conductors.

7 Section 343. Longwall electrical work.

8 (a) Qualified workers.--Electrical work on all circuits and
9 equipment associated with high-voltage longwalls shall be
10 performed by MSHA-qualified persons.

11 (b) Procedures for work on circuits and equipment.--Except
12 for troubleshooting and testing of energized circuits and
13 equipment as provided under subsection (d), prior to performing
14 electrical work a qualified individual shall do the following:

15 (1) De-energize the circuit or equipment with a circuit-
16 interrupting device.

17 (2) Open the circuit-disconnecting device. On high-
18 voltage circuits, ground the power conductors until work on
19 the circuit is completed.

20 (3) Lock out the disconnecting device with a padlock.
21 When more than one qualified individual is performing work,
22 each individual shall install an individual padlock.

23 (4) Tag the disconnecting device to identify each
24 individual working and the circuit or equipment on which work
25 is being performed.

26 (c) Restrictions relating to low-voltage, medium-voltage or
27 high-voltage distribution circuits or equipment.--No electrical
28 work shall be performed on low-voltage, medium-voltage or high-
29 voltage distribution circuits or equipment, except by a
30 qualified individual or an individual trained to perform

1 electrical work and to maintain electrical equipment under the
2 direct supervision of a qualified individual. Disconnecting
3 devices shall be locked out and suitably tagged by the
4 individuals who perform the work, except that in cases where
5 locking out is not possible, the devices shall be opened and
6 suitably tagged by individuals performing the work. Locks or
7 tags shall be removed only by the individuals who installed them
8 or, if such individuals are unavailable, by individuals
9 authorized by the operator or his agent.

10 (d) Troubleshooting and testing of energized circuits.--
11 Troubleshooting and testing of energized circuits must be
12 performed only:

13 (1) On low-voltage and medium-voltage circuits.

14 (2) When the purpose of troubleshooting and testing is
15 to determine voltages and currents.

16 (3) By an individual qualified to perform electrical
17 work and who wears protective gloves. Rubber-insulating
18 gloves shall be rated at least for the nominal voltage of the
19 circuit when the voltage of the circuit exceeds 120 volts
20 nominal and is not intrinsically safe.

21 (e) Troubleshooting and testing of multiple voltage
22 circuits.--Before troubleshooting and testing a low-voltage or
23 medium-voltage circuit contained in a compartment with a high-
24 voltage circuit, the high-voltage circuit must be de-energized,
25 disconnected, grounded, locked out and tagged in accordance with
26 subsection (b).

27 (f) Conveyor belt structures.--Prior to the installation or
28 removal of a conveyor belt structure, high-voltage cables
29 extending from the section power center to the longwall
30 equipment and located in the belt entries shall be:

1 (1) deenergized; or

2 (2) guarded in accordance with section 338, at the
3 location where the belt structure is being installed or
4 removed.

5 Section 344. Testing, examination and maintenance of longwall
6 equipment.

7 (a) Equipment subject to seven-day inspection schedule.--At
8 least once every seven days, a MSHA-qualified individual shall
9 test and examine each unit of high-voltage longwall equipment
10 and circuits to determine that electrical protection, equipment
11 grounding, permissibility cable insulation and control devices
12 are being properly maintained to prevent fire, electrical shock,
13 ignition or operational hazards from existing on the equipment.
14 Tests shall include activating the ground-fault test circuit.

15 (b) Equipment subject to 30-day inspection schedule.--Each
16 ground-wire monitor and associated circuits shall be examined
17 and tested at least once every 30 days to verify proper
18 operation and to verify that it will cause the corresponding
19 circuit-interrupting device to open.

20 (c) Removal or repair of equipment.--When examinations or
21 tests of equipment reveal a fire, electrical shock, ignition or
22 operational hazard, the equipment must be removed from service
23 immediately or repaired immediately.

24 (d) Certifications and records.--At the completion of
25 examinations and tests required by this section, the individual
26 who makes the examinations and tests shall certify by signature
27 and date that they have been conducted. A record shall be made
28 of any unsafe condition found and any corrective action taken.
29 Certifications and records shall be kept for at least one year
30 and shall be made available for inspection by authorized

1 representatives of the department and representatives of miners.

2 Section 345. (Reserved).

3 Section 346. (Reserved).

4 Section 347. (Reserved).

5 Section 348. (Reserved).

6 Section 349. (Reserved).

7 Section 350. Equipment approvals.

8 (a) Departmental discretion.--The department may require the
9 approval of all underground equipment, surface substations
10 feeding power underground, fans and personnel conveyances
11 (elevators, man hoists and escape capsules) connected to an
12 underground mine. All elevators at the time of installation
13 shall meet the criteria established in the current American
14 Society of Mechanical Engineers A17.1 Code, pertaining to
15 special application elevators, mine elevators, connected to an
16 underground mine. The equipment shall be grouped as follows for
17 the purposes of approval:

18 (1) Bituminous face equipment (BFE) - permissible
19 equipment.

20 (2) Bituminous open type equipment (BOTE) - non-
21 permissible equipment.

22 (3) Bituminous power distribution equipment (BPDE) -
23 nonpermissible power equipment.

24 (4) Surface installations:

25 (i) Mine power substations (MM-S).

26 (ii) Fans I (MM-F).

27 (iii) Personnel conveyances (MM-P).

28 (5) Minewide monitoring systems (MWMS).

29 (b) Limitation of approvals.--The approvals under subsection
30 (a) are specifically limited by the provision that permissible

1 equipment approved by the MSHA Approval and Certification Center
2 that is not in conflict with and which meets the requirements of
3 this act shall be deemed to be approved by the department.

4 (c) Procedures for approval.--The procedures for approval of
5 underground and surface equipment are as follows:

6 (1) Approvals shall be limited to electrical systems,
7 safety systems required by this act and specifications
8 developed by the task force established by the parties and
9 provided for under subsection (d).

10 (2) Newly purchased permissible equipment shall be
11 constructed in a fashion as to provide accessibility for
12 inspection of permissible components.

13 (3) The evaluation to determine whether the equipment
14 should be approved shall be based strictly on the specific
15 criteria set forth in this act and the performance
16 specifications under subsection (d). In the absence of
17 performance specifications for equipment or specific
18 provisions of this act addressing such equipment; and if the
19 department considers that the equipment as designed or built
20 poses an unacceptable risk to the health or safety of miners,
21 the following procedure shall be applied:

22 (i) The department, in a written report, shall
23 specify the unacceptable risk, based upon objective
24 ascertainable data and criteria approved by a nationally
25 recognized standards organization.

26 (ii) The department shall convene a task force to
27 develop specifications for the equipment in an expedited
28 fashion.

29 (iii) If the task force is unable to develop
30 applicable performance standards within 75 days, the

1 department may continue to withhold approval based upon
2 noncompliance with a mandatory safety standard of a
3 nationally recognized standards organization that has
4 been shown to be appropriate for mining.

5 (4) For new equipment, the prototype of which has not
6 been previously approved, a manufacturer or operator shall
7 submit to the department an application requesting approval.
8 The request for approval shall include four schematics, a
9 description and any other pertinent information for the
10 equipment.

11 (5) The application under paragraph (4) shall be
12 reviewed within 15 working days after receipt. Within the 15-
13 day period the department shall communicate verbally and in
14 writing to the applicant all discrepancies between the
15 application and the equipment performance specifications. If
16 the department does not communicate to the applicant within
17 the 15 days as described in this paragraph, the application
18 shall be deemed approved. If the applicant submits additional
19 schematics or information, the department shall have an
20 additional 15 days to communicate to the applicant concerning
21 such additional schematics or information.

22 (6) When the application review under paragraph (5) is
23 complete, an inspector shall be assigned to evaluate the
24 equipment and the operator or manufacturer notified of that
25 assignment. The equipment inspection shall be scheduled
26 within 20 working days of the departmental inspector being
27 notified. If the inspector gets to the inspection site and
28 the equipment is not in conformance with the specific
29 criteria set forth in this act and the performance
30 specifications described in this section, the time frame

1 shall stop. When the equipment has been modified to conform
2 with the specific criteria set forth in this act and the
3 performance specifications, the operator shall notify the
4 department for a reinspection, and the department shall
5 schedule the reinspection within ten working days. If the
6 equipment is in conformance with the specific criteria set
7 out in this act and the performance specifications described
8 in this section, but the schematics are not, the equipment
9 can be used, but the operator or manufacturer shall have ten
10 working days to resubmit the corrected schematics or the
11 equipment shall be taken out of service.

12 (7) For previously approved equipment that an operator
13 proposes to modify, the approval procedure established for
14 new equipment that has not been previously approved is to be
15 applicable. The approval process shall address only the
16 modification that has been made and shall not require changes
17 to the components of the equipment that were initially
18 approved. For the purpose of this paragraph, modification
19 shall not include changes to equipment in which components
20 are changed and replaced with components that provide
21 equivalent protection. Modifications subject to approval
22 shall include only those changes to equipment which affect
23 whether the equipment still satisfies the applicable
24 performance specifications described in this section or set
25 out specifically in this act.

26 (8) Approved equipment and repaired equipment that has
27 not been modified are outside the scope of the approval
28 process and shall be handled under the mine inspection
29 program of the department.

30 (9) Any direction to take corrective action shall be in

1 writing and shall specify the provisions of this act or the
2 performance specifications upon which the department relies.

3 (10) The department has the right to inspect equipment
4 to determine that it is in compliance with applicable
5 requirements of this act and the equipment performance
6 specifications. The inspections shall be performed in the
7 normal course of inspecting the mine and shall, to the extent
8 feasible, minimize the disruption of production.

9 (11) New or rebuilt equipment that has been approved,
10 but has not been inspected by an approval inspector, shall be
11 inspected by a mine electrical inspector. The operator shall
12 give reasonable notice to the mine electrical inspector for
13 an inspection prior to the equipment entering the mine. The
14 inspection shall be performed in the normal course of
15 inspecting the mine and shall, to the extent feasible,
16 minimize the disruption of production.

17 (d) Written criteria for equipment performance
18 specifications.--A task force shall be established to develop
19 written criteria for equipment performance specifications.

20 (1) The task force shall be comprised of equal numbers
21 of representatives, not less than two nor more than four,
22 selected by the department and the major trade association
23 representing coal operators in this Commonwealth. Final
24 consensus on performance specifications shall be determined
25 by a majority of the task force.

26 (2) The task force shall develop performance
27 specifications for approval of equipment and reserves the
28 right, for just cause, to add or delete from the developed
29 equipment performance specifications.

30 (3) All equipment performance specifications approved

1 pursuant to the stipulation of settlement shall remain in
2 effect unless and until they are modified, suspended or
3 revoked by this act, regulations promulgated under this act
4 or the equipment performance specifications task force.

5 (e) Definitions.--As used in this section, the following
6 words and phrases shall have the meanings given to them in this
7 subsection:

8 "Permissible equipment." As applied to electric face
9 equipment, all electrically operated equipment taken into or
10 used in or by the last open crosscut of an entry or a room of
11 any coal mine the electrical parts of which equipment,
12 including, but not limited to, associated electrical equipment,
13 components and accessories, are designed, constructed and
14 installed in accordance with the specifications of MSHA to
15 assure that the equipment will not cause a mine explosion or
16 mine fire, and the other features of which are designed and
17 constructed, in accordance with the specifications of the
18 Department of Environmental Protection, to prevent, to the
19 greatest extent possible, other accidents in the use of the
20 equipment.

21 CHAPTER 4

22 DIESEL-POWERED EQUIPMENT

23 Section 401. Underground use.

24 (a) General rule.--Underground use of inby and outby diesel-
25 powered equipment, including mobile equipment, stationary
26 equipment and equipment of all horsepower ratings, shall only be
27 approved, operated and maintained as provided under this
28 chapter, except for emergency fire-fighting equipment to be used
29 specifically for that purpose.

30 (b) Required attendant.--All diesel-powered equipment shall

1 be attended while in operation with the engine running in
2 underground mines. For purposes of this subsection, "attended"
3 shall mean an equipment operator is within sight or sound of the
4 diesel-powered equipment.

5 (c) Required certifications or approvals.--Inby and outby
6 diesel-powered equipment may be used in underground mines if the
7 inby or outby diesel-powered equipment uses an engine approved
8 or certified by MSHA, as applicable, for inby or outby use that,
9 when tested at the maximum fuel-air ratio, does not require a
10 MSHA Part 7 approval plate ventilation rate exceeding 75 c.f.m.
11 per rated horsepower. If MSHA promulgates new regulations that
12 change the MSHA Part 7 approval plate ventilation rate, the
13 c.f.m. requirement per rated horsepower shall be revised either
14 up or down on a direct ratio basis upon recommendation of the
15 technical advisory committee in accordance with section 424.
16 Section 402. Diesel-powered equipment package.

17 (a) Approval.--All diesel-powered equipment shall be
18 approved by the department as a complete diesel-powered
19 equipment package which shall be subject to all of the
20 requirements, standards and procedures set forth under this
21 chapter.

22 (b) Diesel engine approval.--Diesel engines shall be
23 certified or approved, as applicable, by MSHA and maintained in
24 accordance with MSHA certification or approval and approval by
25 the department.

26 Section 403. Exhaust emissions control.

27 (a) Exhaust emissions control systems.--

28 (1) Except as provided in paragraph (3), underground
29 diesel-powered equipment shall include an exhaust emissions
30 control and conditioning system that has been laboratory

1 tested with the diesel engine using the ISO 8178-1 test and
2 has resulted in diesel particulate matter emissions that do
3 not exceed an average concentration of 0.12 mg/m³ when
4 diluted by 100% of the MSHA Part 7 approval plate ventilation
5 rate for that diesel engine. If MSHA promulgates new
6 regulations that change the MSHA Part 7 approval plate
7 ventilation rate, the dilution percentage relative to the
8 approval plate ventilation rate shall be adjusted either up
9 or down on a direct ratio basis upon recommendation of the
10 technical advisory committee in accordance with section 424.

11 (2) Except as provided in paragraph (3), the exhaust
12 emissions control and conditioning system shall be required
13 to successfully complete a single series of laboratory tests
14 for each diesel engine, conducted at a laboratory accepted by
15 the department.

16 (3) An exhaust emissions control and conditioning system
17 may be approved for multiple diesel engine applications
18 through a single series of laboratory tests, known as the ISO
19 8178-1 test, only if data is provided to the technical
20 advisory committee that reliably verifies that the exhaust
21 emissions control and conditioning system meets, for each
22 diesel engine, the in-laboratory diesel particulate matter
23 standard established by this subsection. Data provided to
24 satisfy this paragraph shall include diesel particulate
25 matter production rates for the specified engine as measured
26 during the ISO 8178-1 test, if available. If ISO 8178-1 test
27 data for diesel particulate matter production is not
28 available for a specified engine, comparable data may be
29 provided to the technical advisory committee that reliably
30 verifies that the exhaust emissions control and conditioning

1 system shall meet, for the specified diesel engine, the in-
2 laboratory diesel particulate matter standard established by
3 this subsection. This standard shall only be used for in-
4 laboratory testing for approval of diesel-powered equipment
5 for use underground.

6 (b) Components of exhaust emissions system.--The exhaust
7 emissions control and conditioning system shall include the
8 following:

9 (1) A diesel particulate matter (DPM) filter that has
10 proven capable of a reduction in total diesel particulate
11 matter to a level that does not exceed the requirements of
12 subsection (a)(1). However, the technical advisory committee
13 may evaluate, in accordance with section 424, alternative
14 technologies that have the ability to meet the 0.12 mg/m³
15 standard.

16 (2) An oxidation catalyst or other gaseous emissions
17 control device capable of reducing undiluted carbon monoxide
18 emissions to 100 parts per million or less under all
19 conditions of operation at normal engine operating
20 temperature range.

21 (3) An engine surface temperature control capable of
22 maintaining significant external surface temperatures below
23 302 degrees Fahrenheit.

24 (4) A system capable of reducing the exhaust gas
25 temperature below 302 degrees Fahrenheit.

26 (5) An automatic engine shutdown system that shuts off
27 the engine before the exhaust gas temperature reaches 302
28 degrees Fahrenheit and, if water-jacketed components are
29 used, before the engine coolant temperature reaches 212
30 degrees Fahrenheit. A warning shall be provided to alert the

1 equipment operator prior to engine shutdown.

2 (6) A spark arrestor system.

3 (7) A flame arrestor system.

4 (8) A sampling port for measurement of undiluted and
5 untreated exhaust gases as they leave the engine.

6 (9) A sampling port for measurement of treated undiluted
7 exhaust gases before they enter the mine atmosphere.

8 (10) For permissible diesel equipment, any additional
9 MSHA regulations must be met.

10 (c) Diagnostics systems.--Onboard engine performance and
11 maintenance diagnostics systems shall be capable of continuously
12 monitoring and giving readouts for paragraphs (1), (2), (3),
13 (4), (5), (6), (7) and (8). The diagnostics system shall
14 identify levels that exceed the engine or component
15 manufacturer's recommendation or the applicable MSHA or bureau
16 requirements as to the following:

17 (1) Engine speed.

18 (2) Operating hour meter.

19 (3) Total intake restriction.

20 (4) Total exhaust back pressure.

21 (5) Cooled exhaust gas temperature.

22 (6) Coolant temperature.

23 (7) Engine oil pressure.

24 (8) Engine oil temperature.

25 Section 404. Ventilation.

26 (a) Minimum quantities.--Minimum quantities of ventilating
27 air where diesel-powered equipment is operated shall be
28 maintained pursuant to this section.

29 (b) Approvals.--Each specific model of diesel-powered
30 equipment shall be approved by the department before it is taken

1 underground. The department shall require that an approval plate
2 be attached to each piece of the diesel-powered equipment. The
3 approval plate shall specify the minimum ventilating air
4 quantity for the specific piece of diesel-powered equipment. The
5 minimum ventilating air quantity shall be determined by the
6 bureau based on the amount of air necessary at all times to
7 maintain the exhaust emissions at levels not exceeding the
8 exposure limits established under section 419.

9 (c) Minimum air quantities.--The minimum quantities of air
10 in any split where any individual unit of diesel-powered
11 equipment is being operated shall be at least that specified on
12 the approval plate for that equipment. Air quantity measurements
13 to determine compliance with this requirement shall be made at
14 the individual unit of diesel-powered equipment.

15 (d) Multiple units in operation.--Where multiple units are
16 operated, the minimum quantity shall be at least the total of
17 100% of MSHA's Part 7 approval plate ventilation rate for each
18 unit operating in that split. Air quantity measurements to
19 determine compliance with this requirement shall be made at the
20 most downwind unit of diesel-powered equipment that is being
21 operated in that air split. If MSHA promulgates new regulations
22 that change the MSHA Part 7 approval plate ventilation rate, the
23 minimum quantity where multiple units are operated shall be
24 revised on a direct ratio basis upon recommendation of the
25 technical advisory committee in accordance with section 424.

26 (e) Minimum quantities of air in certain splits.--The
27 minimum quantities of air in any split where any diesel-powered
28 equipment is operated shall be in accordance with the minimum
29 air quantities required in subsections (a), (b) and (c) and
30 shall be specified in the mine diesel ventilation plan.

1 Section 405. Fuel storage facilities.

2 (a) General rule.--An underground diesel fuel storage
3 facility shall be any facility designed and constructed to
4 provide for the storage of any mobile diesel fuel transportation
5 units or the dispensing of diesel fuel.

6 (b) Diesel fuel standards.--Diesel-powered equipment shall
7 be used underground only with fuel that meets the standards of
8 the most recently approved United States Environmental
9 Protection Agency (EPA) guidelines for over-the-road fuel.
10 Additionally, the fuel shall also meet the ASTM D975 standards
11 with a flash point of 100 degrees Fahrenheit or greater at
12 standard temperature and pressure. The operator shall maintain a
13 copy of the most recent delivery receipt from the supplier to
14 verify that the fuel used underground meets this standard.

15 (c) Requirements.--Underground diesel fuel storage
16 facilities shall meet the following general requirements:

17 (1) Fixed underground diesel fuel storage tanks are
18 prohibited.

19 (2) No more than 500 gallons of diesel fuel shall be
20 stored in each underground diesel fuel storage facility.

21 (d) Location.--Underground diesel fuel storage facilities
22 shall be located as follows:

23 (1) at least 100 feet from shafts, slopes, shops and
24 explosives magazines;

25 (2) at least 25 feet from trolley wires, haulage ways,
26 power cables and electric equipment not necessary for the
27 operation of the storage facilities; and

28 (3) in an area that is as dry as practicable.

29 (e) Construction requirements.--

30 (1) Underground diesel fuel storage facilities shall

1 meet the construction requirements and safety precautions
2 under this subsection.

3 (2) Underground diesel fuel storage facilities shall
4 meet all of the following:

5 (i) Be constructed of noncombustible materials and
6 provided with either self-closing or automatic closing
7 doors.

8 (ii) Be ventilated directly into the return air
9 course using noncombustible materials.

10 (iii) Be equipped with an automatic fire suppression
11 system complying with section 408. The technical advisory
12 committee may recommend for approval an alternate method
13 of complying with this section on a mine-by-mine basis in
14 accordance with section 424.

15 (iv) Be equipped with at least two portable 20-pound
16 multipurpose dry-chemical type fire extinguishers.

17 (v) Be marked with conspicuous signs designating
18 combustible liquid storage.

19 (vi) Be included in the preshift examination.

20 (3) Welding or cutting other than that performed in
21 accordance with paragraph (4) shall not be done within 50
22 feet of a diesel fuel storage facility.

23 (4) When it is necessary to weld, cut or solder
24 pipelines, cylinders, tanks or containers that may have
25 contained diesel fuel, the following requirements shall
26 apply:

27 (i) Cutting or welding shall not be performed on or
28 within containers or tanks that have contained
29 combustible or flammable materials until the containers
30 or tanks have been thoroughly purged and cleaned or

1 rendered inert and a vent or opening is provided to allow
2 for sufficient release of any buildup pressure before
3 heat is applied.

4 (ii) Diesel fuel shall not be allowed to enter
5 pipelines or containers that have been welded, soldered,
6 brazed or cut until the metal has cooled to ambient
7 temperature.

8 Section 406. Transfer of diesel fuel.

9 (a) General rule.--Diesel fuel shall be transferred as
10 provided in this section.

11 (b) Pump transfers.--When diesel fuel is transferred by
12 means of a pump and a hose equipped with a nozzle containing a
13 self-closing valve, a powered pump may be used only if:

14 (1) the hose is equipped with a nozzle containing a
15 self-closing valve without a latch-open device; and

16 (2) the pump is equipped with an accessible emergency
17 shutoff switch.

18 (c) Compressed gas prohibition.--Diesel fuel shall not be
19 transferred using compressed gas.

20 (d) Status of diesel engine.--Diesel fuel shall not be
21 transferred to the fuel tank of diesel-powered equipment while
22 the equipment's engine is running.

23 (e) Dry-system design.--Diesel fuel piping systems shall be
24 designed and operated as dry systems.

25 (f) Standards for pipes, valves and fittings.--All piping,
26 valves and fittings shall meet the following requirements:

27 (1) Be capable of withstanding working pressures and
28 stresses.

29 (2) Be capable of withstanding four times the static
30 pressures.

1 (3) Be compatible with diesel fuel.

2 (4) Be maintained in a manner that prevents leakage.

3 (g) Manual shutoff valves.--Vertical pipelines shall have
4 manual shutoff valves installed at the surface filling point and
5 at the underground discharge point.

6 (h) Exposed fuel pipelines.--Unburied diesel fuel pipelines
7 shall not exceed 300 feet in length and shall have shutoff
8 valves located at each end of the unburied pipeline.

9 (i) Horizontal pipeline prohibition.--Horizontal pipelines
10 shall not be used to distribute fuel throughout a mine.

11 (j) Limitation on piping systems.--Diesel fuel piping
12 systems shall be used only to transport fuel from the surface
13 directly to a single underground diesel fuel transfer point.

14 (k) Restrictions related to boreholes.--When boreholes are
15 used, the diesel fuel piping system shall not be located in a
16 borehole with electric power cables.

17 (l) Inspections.--Diesel fuel pipelines located in any shaft
18 shall be included as part of the required examination of the
19 shaft.

20 (m) Location in entries.--Diesel fuel piping systems located
21 in entries shall not be located on the same side of the entry as
22 electric cables or power lines.

23 (n) Trolley-haulage limitations.--Diesel fuel pipelines
24 shall not be located in any trolley-haulage entry, except that
25 they may cross the entry perpendicular if buried or otherwise
26 protected from damage and sealed.

27 (o) Protection.--Diesel fuel piping systems shall be
28 protected to prevent physical damage.

29 Section 407. Containers.

30 (a) General rule.--Containers for the transport of diesel

1 fuel shall meet the requirements of this section.

2 (b) Limitations on containers.--Diesel fuel shall be
3 transported only in containers specifically designed for the
4 transport of diesel fuel.

5 (c) Limitations on vehicle transport.--No more than one
6 safety can, conspicuously marked, shall be transported on a
7 vehicle at any time.

8 (d) Standards for containers other than safety containers.--
9 Containers, other than safety cans, used to transport diesel
10 fuel shall be provided with the following:

11 (1) Devices for venting.

12 (2) Self-closing caps.

13 (3) Vent pipes at least as large as the fill or
14 withdrawal connection, whichever is larger, but not less than
15 one and one-fourth inch nominal inside diameter.

16 (4) Liquid-tight connections for all container openings
17 that are identified by conspicuous markings and closed when
18 not in use.

19 (5) Shutoff valves located within one inch of the tank
20 shell on each connection through which liquid can normally
21 flow.

22 (e) Tanks with manual gauging.--When tanks are provided with
23 openings for manual gauging, liquid-tight caps or covers shall
24 be provided and shall be kept closed when not open for gauging.

25 (f) Capacity of containers.--Containers used for the
26 transport of diesel fuel shall not exceed a capacity of 500
27 gallons.

28 (g) Certain containers as permanent fixtures.--Containers,
29 other than safety cans, used for the transport of diesel fuel
30 shall be permanently fixed to the transportation unit.

1 (h) Method of transportation.--Diesel fuel transportation
2 units shall be transported individually and not with any other
3 cars, except that two diesel fuel transportation units up to a
4 maximum of 500 gallons each may be transported together.

5 (i) Prohibition.--Diesel fuel shall not be transported on
6 conveyor belts.

7 (j) Fire extinguisher.--When transporting diesel fuel in
8 containers other than safety cans, a fire extinguisher shall be
9 provided on each end of the transportation unit. The fire
10 extinguishers shall be multipurpose type dry-chemical fire
11 extinguishers containing a nominal weight of 20 pounds.

12 (k) Fire suppression systems for diesel transportation
13 units.--Diesel fuel transportation units shall have a fire
14 suppression system that meets the requirements of section 408.

15 (l) Limitations where trolley wires are present.--In mines
16 where trolley wire is used, diesel fuel transportation units
17 shall be provided with insulating material to protect the units
18 from any energized trolley wire, and the distance between the
19 diesel fuel transportation unit and the trolley wire shall not
20 be less than 12 inches, or the trolley wire shall be de-
21 energized when diesel fuel transportation units are transported
22 through the area.

23 (m) Parking restrictions.--Unattended diesel fuel
24 transportation units shall be parked only in underground diesel
25 fuel storage facilities.

26 (n) Emergency fueling restrictions.--Safety cans shall be
27 used for emergency fueling only.

28 (o) Standards for safety cans.--Safety cans shall be clearly
29 marked, have a maximum capacity of five gallons, be constructed
30 of metal and be equipped with a nozzle and self-closing valves.

1 Section 408. Fire suppression for equipment and transportation.

2 (a) General rule.--Fire suppression systems for diesel-
3 powered equipment and fuel transportation units shall meet the
4 requirements of this section.

5 (b) Type system.--The system must be an automatic
6 multipurpose dry-powder type fire suppression system suitable
7 for the intended application and listed or approved by a
8 nationally recognized independent testing laboratory.

9 Installation requirements shall be as follows:

10 (1) The system shall be installed in accordance with the
11 manufacturer's specifications and the limitations of the
12 listing or approval.

13 (2) The system shall be installed in a protected
14 location or guarded to minimize physical damage from routine
15 operations.

16 (3) Suppressant agent distribution tubing or piping of
17 the system shall be secured and protected against damage,
18 including pinching, crimping, stretching, abrasion and
19 corrosion.

20 (4) Discharge nozzles of the system shall be positioned
21 and aimed for maximum fire suppression effectiveness in the
22 protected areas. Nozzles shall also be protected against the
23 entrance of foreign materials, such as mud, coal dust or rock
24 dust that could prevent proper discharge of suppressant
25 agent.

26 (c) Automatic fire detection and suppression.--The fire
27 suppression system shall provide automatic fire detection and
28 suppression for all of the following:

29 (1) The engine, transmission, hydraulic pumps and tanks,
30 fuel tanks, exposed brake units, air compressors and battery

1 areas, as applicable, on all diesel-powered equipment.

2 (2) Fuel containers and electric panels or controls used
3 during fuel transfer operations on fuel transportation units.

4 (d) Fault and fire alarm annunciators.--The fire suppression
5 system shall include a system fault and fire alarm annunciator
6 that can be seen and heard by the equipment operator.

7 (e) Automatic engine shutdown.--The fire suppression system
8 shall provide for automatic engine shutdown. Engine shutdown and
9 discharge of suppressant agent may be delayed for a maximum of
10 15 seconds after the fire alarm annunciator alerts the operator.

11 (f) Manual actuators.--At least two manual actuators shall
12 be provided, with at least one manual actuator at each end of
13 the equipment. If the equipment is provided with an operator's
14 compartment, one of the mechanical actuators shall be located in
15 the compartment within easy reach of the operator. For
16 stationary equipment, the two manual actuators shall be located
17 with at least one actuator on the stationary equipment and at
18 least one actuator a safe distance away from the equipment and
19 in intake air.

20 Section 409. Fire suppression for storage areas.

21 (a) General rule.--Fire suppression systems for diesel fuel
22 storage areas shall meet the requirements of this section.

23 (b) Type system.--The system shall be an automatic
24 multipurpose dry-powder type fire suppression system or other
25 system of equal capability, suitable for the intended
26 application and listed or approved by a nationally recognized
27 independent testing laboratory. The system shall meet the
28 following installation requirements:

29 (1) The system shall be installed in accordance with the
30 manufacturer's specifications and the limitations of the

1 listing or approval.

2 (2) The system shall be installed in a protected
3 location or guarded to minimize physical damage from routine
4 operations.

5 (3) Suppressant agent distribution tubing or piping of
6 the system shall be secured and protected against damage,
7 including pinching, crimping, stretching, abrasion and
8 corrosion.

9 (4) Discharge nozzles of the system shall be positioned
10 and aimed for maximum fire suppression effectiveness in the
11 protected areas. Nozzles shall also be protected against the
12 entrance of foreign materials, such as mud, coal dust and
13 rock dust that could prevent proper discharge of suppressant
14 agent.

15 (c) Automatic fire detection and suppression.--The fire
16 suppressant system shall provide automatic fire detection and
17 suppression for the fuel storage tanks, containers, safety cans,
18 pumps, electrical panels and control equipment in fuel storage
19 areas.

20 (d) Types of alarms.--Audible and visual alarms to warn of
21 fire or system faults shall be provided at the protected area
22 and at a surface location that is always staffed when
23 individuals are underground. A means shall also be provided for
24 warning all endangered individuals in the event of fire.

25 (e) Manual actuators.--Fire suppression systems shall
26 include two manual actuators with at least one located within
27 the fuel storage facility and at least one located a safe
28 distance away from the storage facility and in intake air.

29 (f) System operation.--The fire suppression system shall
30 remain operative in the event of electrical system failure.

1 (g) Monitoring of certain systems.--If electrically
2 operated, the detection and actuation circuits shall be
3 monitored and provided with status indicators showing power and
4 circuit continuity. If not electrically operated, a means shall
5 be provided to indicate the functional readiness status of the
6 system.

7 (h) Weekly visual inspection.--Fire suppression devices
8 shall be visually inspected at least once each week by an
9 individual qualified to make the inspection.

10 (i) Maintenance, testing and records.--Each fire suppression
11 device shall be tested and maintained. A record shall be
12 maintained of the inspection required by this subsection. The
13 record of the weekly inspections shall be maintained at an
14 appropriate location for each fire suppression device.

15 (j) (Reserved).

16 (k) Instructions.--All miners normally assigned to the
17 active workings of a mine shall be instructed about any hazards
18 inherent to the operation of all fire suppression devices
19 installed and, where appropriate, the safeguards available for
20 each device.

21 Section 410. Use of certain starting aids prohibited.

22 The use of volatile or chemical starting aids is prohibited.

23 Section 411. Fueling.

24 (a) Restrictions on fueling locations.--Fueling of diesel-
25 powered equipment shall not be conducted in the intake escape-
26 way unless the mine design and entry configuration make it
27 necessary. In those cases where fueling in the intake escape-way
28 is necessary, the mine operator shall submit a plan for approval
29 to the department, which shall be investigated by the technical
30 advisory committee in accordance with section 424, outlining the

1 special safety precautions that will be taken to insure the
2 protection of miners. The submitted plan shall specify a
3 location, such as the end of the tail piece track or adjacent to
4 the load out point, where fueling shall be conducted in the
5 intake escape-way and all other safety precautions that shall be
6 taken, which shall include an examination of the area for
7 spillage or fire by a qualified individual.

8 (b) Spill cleanup.--Diesel fuel and other combustible
9 materials shall be cleaned up and not be permitted to accumulate
10 anywhere in an underground mine or on diesel-powered or electric
11 equipment located in a mine.

12 (c) Trained individual on duty.--At least one individual
13 specially trained in the cleanup and disposal of diesel fuel
14 spills shall be on duty at the mine when diesel-powered
15 equipment or mobile fuel transportation equipment is being used
16 or when any fueling of diesel-powered equipment is being
17 conducted.

18 Section 412. Fire and safety training.

19 (a) Training of underground employees.--All underground
20 employees at the mine shall receive special instruction related
21 to fighting fires involving diesel fuel. This training may be
22 included in annual refresher training under MSHA regulations at
23 30 CFR Part 48 (relating to training and retraining of miners)
24 or included in the fire drills required under MSHA regulations
25 relating to program of instruction; location and use of fire
26 fighting equipment; location of escape-ways, exits and routes of
27 travel; evacuation procedures; and fire drills.

28 (b) Training of miners.--All miners shall be trained in
29 precautions for safe and healthful handling and disposal of
30 diesel-powered equipment filters. All used intake air filters,

1 exhaust diesel particulate matter filters and engine oil filters
2 shall be placed in their original containers or other suitable
3 enclosed containers and removed from the underground mine to the
4 surface. Arrangements shall be made for safe handling and
5 disposal of these filters within a timely manner after they have
6 reached the surface.

7 Section 413. Maintenance.

8 (a) General rule.--Diesel-powered equipment shall be
9 maintained in an approved and safe condition as described in
10 this chapter or removed from service. Failure of the mine
11 operator to comply with the maintenance requirements of this
12 subsection may result in revocation of the department's approval
13 of the complete diesel-powered equipment package, provided
14 appropriate notification has been given to the mine operator and
15 the procedures of this section have been followed. Upon
16 receiving the appropriate notification, the mine operator shall
17 have 30 days to submit a plan to achieve and maintain
18 compliance. The plan shall be evaluated by the department and,
19 upon approval, the mine operator shall implement the plan. The
20 department shall monitor the mine operator's compliance. If the
21 department then determines that the mine operator is unable or
22 unwilling to comply, the department shall revoke the mine
23 operator's approval.

24 (b) Acquisition and maintenance of approvals.--To acquire
25 and maintain approval of a complete diesel-powered equipment
26 package, the mine operator shall comply with the following
27 requirements:

28 (1) All service, maintenance and repairs of approved
29 complete diesel-powered equipment packages shall be performed
30 by mechanics who are trained and qualified in accordance with

1 section 422.

2 (2) Service and maintenance of approved complete diesel-
3 powered equipment packages shall be performed according to:

4 (i) the specified routine maintenance schedule;

5 (ii) onboard performance and maintenance diagnostics
6 readings;

7 (iii) emissions test results; and

8 (iv) component manufacturers' recommendations.

9 Section 414. Records.

10 (a) General rule.--A record shall be made of all emissions
11 tests, preoperational examinations and maintenance and repairs
12 of complete diesel-powered equipment packages. The records made
13 pursuant to this section shall meet the requirements of this
14 section.

15 (b) Written certification.--The individual performing the
16 emissions test, examination, maintenance or repair shall certify
17 by date, time, engine hour reading and signature that the
18 emissions test, examination, maintenance or repair was made.

19 (c) Results.--Records of emissions tests and examinations
20 shall include the specific results of such tests and
21 examinations.

22 (d) Content.--Records of maintenance and repairs shall
23 include the work that was performed, any fluids or oil added,
24 parts replaced or adjustments made and the results of any
25 subsequently required emissions testing.

26 (e) Preoperational examination record retention.--Records of
27 preoperational examinations shall be retained for the previous
28 100-hour maintenance cycle.

29 (f) Certain records to be countersigned.--Records of
30 emissions tests, 100-hour maintenance tests and repairs shall be

1 countersigned once each week by the certified mine electrician
2 or mine foreman.

3 (g) Other record retention.--Except as specified in
4 subsection (e), all records required by this section shall be
5 retained for at least one year at a surface location at the mine
6 and made available for inspection by the department and by
7 miners and their representatives.

8 Section 415. Duties of equipment operator.

9 (a) Preoperational examination.--Prior to use of a piece of
10 diesel-powered equipment during a shift, an equipment operator
11 shall conduct an examination as follows:

12 (1) Check the exhaust emissions control and conditioning
13 system components to determine that the components are in
14 place and not damaged or leaking.

15 (2) Assure that the equipment is clean and free of
16 accumulations of combustibles.

17 (3) Assure that the machine is loaded safely.

18 (4) Check for external physical damage.

19 (5) Check for loose or missing connections.

20 (6) Check engine oil level.

21 (7) Check transmission oil level.

22 (8) Check other fluid levels, if applicable.

23 (9) Check for hydraulic, coolant and oil leaks.

24 (10) Check fan, water pump and other belts.

25 (11) Check the fan for damage.

26 (12) Check guards.

27 (13) Check the fuel level.

28 (14) Check for fuel leaks.

29 (15) Comply with recordkeeping requirements pursuant to
30 section 414.

1 (b) Operational examination.--After the engine is started
2 and warmed up, the equipment operator shall conduct an
3 examination as follows:

4 (1) Check all onboard engine performance and maintenance
5 diagnostics system gauges for proper operation and in-range
6 readings. The equipment operator shall immediately shut down
7 the engine and notify the operator if the onboard readings
8 indicate any of the following:

9 (i) Intake restriction at full engine speed is
10 greater than the manufacturer's recommendation.

11 (ii) Exhaust restriction at full engine speed is
12 greater than the manufacturer's recommendation.

13 (iii) Coolant temperature is at or near 212 degrees
14 Fahrenheit.

15 (iv) Low engine oil pressure.

16 (v) High engine oil temperature.

17 (2) Check safety features, including, but not limited
18 to, the throttle, brakes, steering, lights and horn.

19 (3) Comply with recordkeeping requirements pursuant to
20 section 414.

21 Section 416. Schedule of maintenance.

22 At intervals not exceeding 100 hours of engine operation, a
23 qualified mechanic shall perform the following maintenance and
24 make all necessary adjustments or repairs or remove the
25 equipment from service:

26 (1) Wash or steam clean the equipment.

27 (2) Check for and remove any accumulations of coal, coal
28 dust or other combustible materials.

29 (3) Check the equipment for damaged or missing
30 components or other visible defects.

- 1 (4) Conduct electrical and safety component inspections.
- 2 (5) Replace engine oil and oil filter.
- 3 (6) Check the transmission oil level and add oil, if
- 4 necessary.
- 5 (7) Check hydraulic oil level and add oil, if necessary.
- 6 (8) Check the engine coolant level and add coolant, if
- 7 necessary.
- 8 (9) Check all other fluid levels and add fluid, if
- 9 necessary.
- 10 (10) Check for oil, coolant and other fluid leaks.
- 11 (11) Inspect the cooling fan, radiator and shroud.
- 12 Remove any obstructions and make necessary repairs.
- 13 (12) Check all belts. Tighten or replace, if necessary.
- 14 (13) Check the battery and service as necessary.
- 15 (14) Check the automatic fire suppression system.
- 16 (15) Check the portable fire extinguisher.
- 17 (16) Check the lights.
- 18 (17) Check the warning devices.
- 19 (18) With the engine operating, check and replace or
- 20 repair the following:
 - 21 (i) Oil pressure.
 - 22 (ii) Intake air restriction at full engine speed.
 - 23 (iii) Exhaust gas restriction at full engine speed.
 - 24 (iv) Exhaust flame arrestor.
 - 25 (v) All gauges and controls.
- 26 (19) Conduct repeatable loaded engine-operating test in
- 27 accordance with section 418.
- 28 (20) If the equipment is approved with a nondisposable
- 29 diesel particulate filter, a smoke dot test of the filtered
- 30 exhaust must be performed at this time. The results of the

1 smoke dot test shall be recorded on the 100-hour emissions
2 form. If the interpreted smoke dot number is greater than
3 three, the technical advisory committee shall be notified and
4 shall investigate to determine if the filter is functioning
5 properly.

6 (21) Evaluate and interpret the results of all of the
7 above tests and examinations and make all necessary repairs
8 or remove the equipment from service.

9 (22) Comply with the recordkeeping requirements pursuant
10 to section 414.

11 Section 417. Emissions monitoring and control.

12 (a) General rule.--Emissions for diesel-powered equipment
13 shall be monitored and controlled as provided in this section.

14 (b) Determination of baseline emission values.--When any
15 diesel-powered equipment first enters service at a mine,
16 baseline emission values shall be determined by a qualified
17 mechanic. Unless the technical advisory committee in accordance
18 with section 424 recommends an alternate procedure, the
19 qualified mechanic shall:

20 (1) Verify that the seal on the engine fuel injector is
21 in place and that the proper fuel pump is on the equipment.

22 (2) Install a new clean intake air cleaner, measure and
23 record the intake restriction pressure.

24 (3) Check the level of engine oil.

25 (4) Change the engine lubrication oil if not fresh.

26 (5) Check the level of the transmission fluid.

27 (6) Measure and record the exhaust backpressure. If
28 exhaust gas back pressure is above that recommended by the
29 manufacturer, steps must be taken to bring the exhaust gas
30 back pressure within the manufacturer's recommended limit

1 prior to beginning the test described in this subsection.

2 (7) Test the brakes.

3 (8) Place the equipment into an intake entry.

4 (9) Set the brakes and chock the wheels.

5 (10) Install an exhaust gas analyzer into the untreated
6 exhaust gas port.

7 (11) Start the engine and allow it to warm up to
8 operating temperature.

9 (12) Put the engine into a loaded condition. For this
10 section, the loaded condition for the baseline emissions
11 testing shall be determined by the technical advisory
12 committee by determining CO2 values that are representative
13 of the MSHA lug curve readings for that engine model and
14 horsepower.

15 (13) Start the exhaust gas analyzer and allow the engine
16 to operate in the loaded condition for a sufficient length of
17 time not less than a 90-second duration to insure proper CO
18 readings. The qualified mechanic shall record both CO and CO2
19 readings. Note: Baseline CO values shall be determined by the
20 technical advisory committee based upon MSHA lug curve
21 readings for that engine model and horsepower. If the
22 baseline CO values are greater than the MSHA lug curve
23 values, the technical advisory committee shall investigate
24 and either recommend approval or disapproval or recommend
25 alternate methods of meeting the requirements of this
26 section.

27 (14) Comply with recordkeeping requirements pursuant to
28 section 414.

29 (15) An alternative to the testing provided in
30 paragraphs (1) through (14) may be developed by the technical

1 advisory committee in accordance with section 424.

2 (16) Emissions test procedures for this section shall be
3 submitted to the technical advisory committee in accordance
4 with section 424 prior to being implemented for each engine
5 and equipment type.

6 Section 418. Diagnostic testing.

7 (a) Tests.--At intervals not exceeding once every 100 hours
8 of engine operation, a qualified mechanic shall perform
9 equipment maintenance diagnostic testing of each piece of
10 diesel-powered equipment in the mine. The qualified mechanic
11 shall do all of the following:

12 (1) Verify the identification numbers on the equipment.

13 (2) Check the level of the engine lubricating oil.

14 (3) Check the level of the transmission fluid.

15 (4) Set the brakes and chock the wheels.

16 (5) Install the portable carbon monoxide sampling device
17 into the untreated exhaust port coupling provided in the
18 operator's cab.

19 (6) Start the engine and allow it to warm up to
20 operating temperature.

21 (7) Check the intake restriction and the exhaust back
22 pressure at high idle speed.

23 (8) If the intake restriction is more than the
24 manufacturer's maximum recommended intake restriction,
25 replace the intake filter with a clean one.

26 (9) If exhaust gas back pressure is above that
27 recommended by the manufacturer, take steps to bring the
28 exhaust gas back pressure within the manufacturer's
29 recommended limit prior to beginning the test described in
30 this section.

1 (10) Put the engine into a loaded condition. As used in
2 this paragraph, the term loaded condition shall mean a
3 condition in which the carbon dioxide values are
4 representative of the MSHA lug curve values for that engine
5 model and horsepower rating.

6 (11) Take the following steps:

7 (i) Start the exhaust gas analyzer.

8 (ii) Allow the engine to operate for a sufficient
9 time, not less than 90 seconds, to insure proper carbon
10 monoxide readings and record both carbon monoxide and
11 carbon dioxide readings.

12 (12) Install the exhaust gas analyzer into the treated
13 exhaust port and repeat steps set forth in paragraphs (10)
14 and (11).

15 (13) If the average carbon monoxide reading for
16 untreated exhaust gas is greater than twice the baseline
17 established under section 417(b) or if the average carbon
18 monoxide reading for treated exhaust gas is greater than 100
19 parts per million, the equipment has failed and shall be
20 serviced and retested before it is returned to regular
21 service.

22 (14) Comply with recordkeeping requirements under
23 section 414.

24 (b) Procedures.--Emissions test procedures for this section
25 must be submitted to the technical advisory committee under
26 section 424 prior to being implemented for each engine and
27 equipment type.

28 (c) Alternative procedure.--An alternative to the testing
29 provided in subsection (a) may be developed by the technical
30 advisory committee under section 424.

1 Section 419. Exhaust gas monitoring and control.

2 (a) Concentration.--In monitoring and controlling exhaust
3 gases, the ambient concentration of exhaust gases in the mine
4 atmosphere shall not exceed 35 parts per million for carbon
5 monoxide and three parts per million for nitrogen dioxide. The
6 concentration of these exhaust gases shall be measured at the
7 equipment operator's or equipment attendant's position and by
8 the last piece of diesel-powered equipment operating in the same
9 split of air. Measurements shall be made weekly or more often if
10 necessary by a qualified individual and shall be conducted under
11 the requirements of this section.

12 (b) Measurement.--Measurement of exhaust gases shall be made
13 with a sampling instrument no less precise than detector tubes.

14 (c) Changes.--If the concentration of a gas listed in
15 subsection (a) is at least 75% of its exposure limit, changes to
16 the use of the diesel equipment, the mine ventilation or the
17 mining process shall be made.

18 (d) Excessive exposure.--If the concentration of a gas
19 listed in subsection (a) exceeds the exposure limit, the diesel
20 equipment operating in that split shall be removed from service
21 immediately, and corrective action shall be taken. After
22 corrective action has been taken by the mine operator, the
23 diesel equipment may be returned to service in its regular
24 operating mode for emissions testing purposes only; and
25 emissions testing shall be conducted immediately to assure that
26 the concentration does not exceed 75% of the exposure limit.
27 Corrective action shall be taken until the concentration does
28 not exceed 75% of the exposure limit before the diesel equipment
29 can be returned to full operation.

30 (e) Compliance.--The mine operator shall comply with the

1 following requirements:

2 (1) Repair or adjustment of the fuel injection system
3 shall only be performed by qualified mechanics authorized by
4 the engine manufacturer.

5 (2) Complete testing of the emissions system in
6 accordance with section 418 shall be conducted:

7 (i) prior to any piece of diesel-powered equipment
8 being put into service; and

9 (ii) after any repair or adjustment to the fuel
10 delivery system, engine timing or exhaust emissions
11 control and conditioning system.

12 (3) Service and maintenance of the intake air filter,
13 exhaust particulate filter and the exhaust system shall be
14 performed at specific time intervals based on the component
15 manufacturer's recommendation and compliance with the engine
16 or emissions control operation specifications and, as needed,
17 based on the on-board diagnostics or emissions test results.
18 Accurate records shall be maintained of service and
19 maintenance under this paragraph.

20 Section 420. Training and general requirements.

21 (a) Approval.--Training course instructors and training
22 plans required by this section shall be approved by the
23 department. Operator training and qualification shall meet the
24 requirements of this section.

25 (b) Conduct.--

26 (1) Training shall be conducted in the basics of the
27 operation of a diesel engine, Federal and State regulations
28 governing their use, company rules for safe operation,
29 specific features of each piece of equipment and the ability
30 to recognize problems.

1 (2) Training shall be provided to each equipment
2 operator and the mine health and safety committee if one
3 exists. This training shall be designed to bring every
4 operator to a level of good understanding of diesel equipment
5 operation.

6 (3) Each operator shall be qualified by attending a
7 minimum eight-hour course, including classroom training on
8 diesel fundamentals and equipment-specific hands-on training
9 on the job. Training shall include instruction in the
10 following classroom subjects:

11 (i) Engine fundamentals. This subparagraph includes
12 an introduction to the function of a diesel engine and
13 recognition of major components and their functions.

14 (ii) Diesel regulations. This subparagraph includes
15 an introduction to Federal and State regulations
16 governing the use of diesel equipment.

17 (iii) Diesel emissions. This subparagraph includes
18 an introduction to diesel emissions and their adverse
19 health effects.

20 (iv) Factors which affect diesel emissions. This
21 subparagraph includes a detailed presentation of engine
22 faults and diesel fuel quality, their effect on emissions
23 and the preventive actions which can be taken to minimize
24 emissions levels.

25 (v) Emissions control devices. This subparagraph
26 includes a detailed presentation of the different
27 emissions control devices employed to reduce emissions
28 and details about actions the operator must take to keep
29 the devices in working order.

30 (vi) Diagnostic techniques. This subparagraph

1 includes a presentation of techniques which can be
2 employed by the operator to assure the equipment is in
3 safe operating condition and instruction about how to
4 recognize and diagnose certain engine faults which may
5 cause increases in emissions.

6 (vii) Preoperational inspection. This subparagraph
7 includes a presentation of the purpose, benefits and
8 requirements of the preoperational inspection.

9 (viii) Ventilation. This subparagraph includes an
10 introduction to special ventilation requirements for
11 areas where diesel-powered equipment will operate.

12 (ix) Fire suppression system. This subparagraph
13 includes an introduction to the fire suppression system
14 and its function and when and how to activate the fire
15 suppression manually.

16 (x) Operating rules. This subparagraph includes a
17 detailed presentation of the driving rules, safe driving
18 speeds, traffic control devices and equipment
19 limitations.

20 (xi) Emergency procedures. This subparagraph
21 includes discussion of:

22 (A) emergencies, such as fire, diesel fuel
23 spills, component failure, loss of ventilation air
24 and emergency escape procedures; and

25 (B) potential use of the diesel-powered vehicle
26 as an emergency escape vehicle in case of a mine
27 emergency.

28 (xii) Recordkeeping and reporting procedures. This
29 subparagraph includes a presentation on required
30 recordkeeping and reporting procedures for problems or

1 unsafe conditions, high emissions levels and
2 preoperational inspections made by the equipment
3 operator.

4 (c) Certificate.--Upon successful completion of both
5 training sessions, the operator shall be issued a certificate of
6 qualification which qualifies the operator to operate a specific
7 type of diesel-powered equipment. An operator may be qualified
8 to operate more than one type of equipment by completing
9 additional equipment-specific training covering differences
10 specific to each additional type of equipment.

11 (d) Refresher training.--Refresher training, separate from
12 that required by MSHA regulations at 30 CFR Pt. 48 (relating to
13 the training and retraining of miners), shall be required
14 annually.

15 (e) Annual certificate.--A new certificate of qualification
16 shall be issued annually after the equipment operator has
17 received the annual refresher training.

18 Section 421. Equipment-specific training.

19 (a) Approval.--Training course instructors and training
20 plans required by this section must be approved by the
21 department.

22 (b) Description.--

23 (1) Equipment-specific hands-on orientation training
24 shall be given in an area of the mine where the equipment
25 will be operated. This orientation shall be specific to the
26 type and make of the diesel machine and shall be presented in
27 small groups.

28 (2) The following subjects shall be included in the
29 training:

30 (i) Equipment layout. This subparagraph includes

1 familiarization with the layout of the equipment, the
2 operator's compartments and the controls.

3 (ii) Preoperation inspection. This subparagraph
4 includes familiarization with the preoperation inspection
5 procedure and review of specific details of the
6 inspection and location of the components to be
7 inspected.

8 (iii) Equipment limitations. This subparagraph
9 includes instruction relating to equipment performance,
10 speeds, capacities and blind areas.

11 (iv) Operating areas. This subparagraph includes
12 instruction relating to areas in which the equipment may
13 be operated.

14 (v) Operation. This subparagraph includes
15 familiarization with the controls, gauges and warning
16 devices and safe operating limits of all indicating
17 gauges.

18 (vi) Refueling procedure. This subparagraph includes
19 familiarization with fuel handling, permissible refueling
20 areas, spill prevention, cleanup and potential hazards
21 from diesel fuel.

22 (vii) Emergency devices. This subparagraph includes
23 instruction relating to the location and use of the fire
24 extinguisher and fire suppression devices.

25 (viii) Driving practice. This paragraph includes
26 supervised operation of the equipment.

27 Section 422. Diesel mechanic training.

28 (a) Approval.--Training course instructors and training
29 plans required by this section must be approved by the
30 department.

1 (b) General rule.--Diesel mechanic training and
2 qualification shall meet the requirements of this section.

3 (c) Skills.--Diesel mechanics shall be trained and qualified
4 to perform maintenance, repairs and testing of the features of
5 diesel equipment certified by MSHA and the department.

6 (d) Qualification.--To be qualified, a diesel mechanic shall
7 successfully complete a minimum of 16 hours of a training
8 program approved by the department regarding the general
9 function, operation, maintenance and testing of emissions
10 control and conditioning components. The diesel mechanic shall
11 be qualified to perform these tasks on the specific machines
12 used at the mine or mines where they are employed. Additional
13 engine-specific training shall be provided to diesel mechanics
14 in accordance with a plan approved by the department.

15 (e) Retraining.--Annual retraining programs for diesel
16 mechanics shall be required and shall be approved by the
17 department. Retraining shall include refresher training as well
18 as new procedure and new technology training as necessary.
19 Retraining shall be separate from refresher training pursuant to
20 MSHA regulations at 30 CFR Pt. 48 (relating to training and
21 retraining of miners) and electrical training required by MSHA.

22 (f) Programs.--The minimum diesel mechanic training programs
23 shall include training in the following minimum subject
24 requirements:

25 (1) Federal and State requirements regulating the use of
26 diesel equipment.

27 (2) Company policies and rules related to the use of
28 diesel equipment.

29 (3) Emissions control system design and component
30 technical training.

1 (4) Onboard engine performance and maintenance
2 diagnostics system design and component technical training.

3 (5) Service and maintenance procedures and requirements
4 for the emissions control systems.

5 (6) Emissions testing procedures and evaluation and
6 interpretation of test results.

7 (7) Troubleshooting procedures for the emissions control
8 systems.

9 (8) Fire protection systems test and maintenance.

10 (9) Fire and ignition sources and their control and
11 elimination.

12 (10) Fuel system maintenance and safe fueling
13 procedures.

14 (11) Intake air system design and components technical
15 training and maintenance procedures.

16 (12) Engine shutdown device tests and maintenance.

17 (13) Special instructions regarding components, such as
18 the fuel injection system, which may only be repaired and
19 adjusted by a qualified mechanic who has received special
20 training and is authorized to make the repairs or adjustments
21 by the component manufacturer.

22 (14) Instruction on recordkeeping requirements for
23 maintenance procedures and emissions testing.

24 (15) Other subjects determined by the department to be
25 necessary to address specific health and safety needs.

26 Section 423. Operation of diesel-powered equipment.

27 (a) General rule.--In addition to other requirements of this
28 chapter, diesel-powered equipment shall be operated pursuant to
29 the standards set forth in this section.

30 (b) Attended equipment.--Diesel-powered equipment shall be

1 attended while in operation with the engine running in
2 underground mines.

3 (c) Idling.--Unnecessary idling of diesel-powered equipment
4 is prohibited.

5 (d) Access.--Roadways where diesel-powered equipment is
6 operated shall be maintained as free as practicable from bottom
7 irregularities debris and wet or muddy conditions, which affect
8 control of the equipment.

9 (e) Speed.--Operating speeds shall be consistent with
10 conditions of roadways, grades, clearances, visibility and
11 traffic and type of equipment used.

12 (f) Control.--Equipment operators shall have full control of
13 the mobile equipment while it is in motion.

14 (g) Traffic rules.--Traffic rules, including speed, signals
15 and warning signs, shall be standardized at each mine and
16 posted.

17 (h) Maintenance.--

18 (1) Diesel-powered equipment shall be maintained in a
19 safe operating condition which does not threaten health of
20 human beings.

21 (2) Diesel-powered equipment not maintained in
22 accordance with paragraph (1) or not maintained in accordance
23 with the engine or emissions control operating specifications
24 shall be removed from service immediately and shall not be
25 returned to service until all necessary corrective actions
26 have been taken.

27 Section 424. Technical advisory committee.

28 (a) Establishment.--The Technical Advisory Committee on
29 Diesel-Powered Equipment is established.

30 (b) Membership.--The advisory committee shall consist of two

1 members, who shall be residents of this Commonwealth.

2 (1) The Governor shall appoint one member to represent
3 the viewpoint of the coal operators in this Commonwealth
4 within 30 days from receipt of a list containing one or more
5 nominees submitted by the major trade association
6 representing coal operators in this Commonwealth.

7 (2) The Governor shall appoint one member to represent
8 the viewpoint of the working miners in this Commonwealth
9 within 30 days from receipt of a list containing one or more
10 nominees submitted by the highest ranking official within the
11 major employee organization representing coal miners in this
12 Commonwealth.

13 (c) Terms.--Each member of the technical advisory committee
14 shall be appointed for a term of three years. If renominated and
15 reappointed, a member may serve an unlimited number of
16 successive three-year terms.

17 (d) Functions.--The technical advisory committee has the
18 following functions:

19 (1) Advising the department regarding implementation of
20 this chapter.

21 (2) Evaluating alternative technology or methods for
22 meeting the requirements for diesel-powered equipment as set
23 forth in this chapter.

24 (3) Providing technical assistance to operators
25 regarding diesel equipment technologies.

26 (4) Conducting investigations relating to implementation
27 of this chapter.

28 (5) Providing training regarding diesel equipment
29 emission controls and emission testing.

30 (e) Compensation.--Members of the technical advisory

1 committee shall be compensated at the appropriate per diem rate
2 based on the prevailing formula administered by the
3 Commonwealth, but not less than \$150 per day, plus all
4 reasonable expenses incurred while performing their official
5 duties. Compensation shall be adjusted annually by the
6 department to account for inflation based on the rate of
7 inflation identified by the Consumer Price Index for All Urban
8 Consumers, Bureau of Labor Statistics. The individual member may
9 waive his right to all or part of the compensation set forth in
10 this provision.

11 (f) Meetings.--The technical advisory committee shall meet
12 at least twice during each calendar year.

13 (g) Quorum.--Actions of the technical advisory committee
14 require the participation of both members.

15 (h) Support.--

16 (1) The department shall make clerical support and
17 assistance available to enable the technical advisory
18 committee to carry out its duties. Upon the request of both
19 members of the technical advisory committee, the department
20 may draft proposed conditions of use and reports or perform
21 investigations.

22 (2) The department shall purchase for the technical
23 advisory committee equipment for testing diesel engine
24 exhaust emissions and measuring diesel engine surface
25 temperatures and exhaust gas temperatures. Alternative
26 technology or methods recommended by the technical advisory
27 committee or approved by the secretary shall not reduce or
28 compromise the level of health and safety protection afforded
29 by this chapter.

30 (i) Alternative technologies.--

1 (1) Upon application of a coal miner, coal mine operator
2 or diesel-related technology manufacturer, or on its own
3 motion, the technical advisory committee shall consider
4 requests for the use of alternative diesel-related health and
5 safety technologies with general underground mining industry
6 application which are consistent with this chapter. The
7 following apply:

8 (i) Upon receipt of an application, the technical
9 advisory committee shall conduct an investigation, which
10 shall include consultation with a representative of the
11 major trade association representing coal operators in
12 this Commonwealth and with a representative of the major
13 employee organization representing coal miners in this
14 Commonwealth.

15 (ii) Approval of an application made under this
16 subsection shall make the alternative technology or
17 method available for use by a coal mine operator in this
18 Commonwealth but shall not be construed to require that a
19 coal mine operator use the approved alternative
20 technology or method.

21 (2) Upon application of a coal mine operator, the
22 technical advisory committee shall consider site-specific
23 requests for use of alternative diesel-related health and
24 safety technologies. The committee's recommendations on
25 applications submitted under this subsection shall be on a
26 mine-by-mine basis. Upon receipt of a site-specific
27 application, the technical advisory committee shall conduct
28 an investigation, which shall include consultation with the
29 mine operator and the authorized representatives of the
30 miners at the mine. Authorized representatives of the miners

1 shall include a mine health and safety committee elected by
2 miners at the mine and an individual employed by an employee
3 organization representing miners at the mine or an individual
4 authorized as the representative of miners of the mine in
5 accordance with MSHA regulations at 30 CFR Pt. 40 (relating
6 to representative of miners). If there is no authorized
7 representative of the miners, the technical advisory
8 committee shall consult with a reasonable number of miners at
9 the mine.

10 (3) Within 180 days of receipt of an application for use
11 of alternative technologies or methods, the technical
12 advisory committee shall complete its investigation and make
13 a recommendation to the secretary. The technical advisory
14 committee members shall only recommend approval of an
15 application if, at the conclusion of the investigation, the
16 committee members have made a determination that the use of
17 the alternative technology or method will not reduce or
18 compromise the level of health and safety protection afforded
19 by this chapter. The time period under this paragraph may be
20 extended with the consent of the applicant.

21 (4) The technical advisory committee shall forward to
22 the secretary three possible recommendations:

23 (i) A unanimous recommendation to approve the
24 application for use of alternative technologies or
25 methods. A recommendation under this subparagraph must be
26 made in writing and include the results of the
27 investigation and specific conditions of use for the
28 alternative technology or method.

29 (ii) A unanimous recommendation to reject the
30 application for use of alternative technologies or

1 methods. A recommendation under this subparagraph must be
2 made in writing and outline in detail the basis for the
3 rejection.

4 (iii) A divided recommendation in which one member
5 of the technical advisory committee recommends approval
6 of the application for use of alternative technologies or
7 methods and one member of the advisory committee
8 recommends rejection of the application for use of
9 alternative technologies or methods. For a recommendation
10 under this subparagraph, each member of the committee
11 must submit a detailed report to the secretary within 14
12 days of the committee's vote outlining the member's
13 position for or against the application.

14 (5) The secretary shall proceed as follows:

15 (i) Alternative technologies or methods may be
16 approved by the secretary if they do not reduce or
17 compromise the level of health and safety protection
18 afforded by this chapter.

19 (ii) If a recommendation under paragraph (4)(i) or
20 (ii) is forwarded to the secretary by the technical
21 advisory committee, the secretary shall have 30 days in
22 which to render a final decision adopting or rejecting
23 the advisory committee's recommendation and the
24 application.

25 (iii) The secretary may only approve or reject a
26 recommendation under paragraph (4)(i) or (ii) without
27 modification unless the modification is unanimously
28 approved by the technical advisory committee.

29 (iv) If a recommendation under paragraph (4)(iii) is
30 forwarded to the secretary, the secretary shall convene,

1 within 30 days, a meeting with the members of the
2 technical advisory committee to discuss the reasons for
3 the divided recommendation and to determine whether
4 additional information and further discussion might
5 result in a unanimous recommendation by the committee.

6 (v) The following apply:

7 (A) The secretary shall render a decision on the
8 application within 30 days from the date of the
9 meeting with the technical advisory committee or, if
10 no meeting is convened, within 60 days of forwarding
11 of the recommendation.

12 (B) Upon consent of the applicant, the time
13 period under clause (A) may be extended.

14 (C) Except as set forth in clause (B), if the
15 secretary does not comply with the time requirements
16 to render a decision under this subparagraph, the
17 technical advisory committee's recommendation shall
18 be deemed rejected.

19 (6) Action taken by the secretary under this subsection
20 is subject to 2 Pa.C.S. Ch. 7 Subch. A (relating to judicial
21 review of Commonwealth agency action) and the act of July 13,
22 1988 (P.L.530, No.94), known as the Environmental Hearing
23 Board Act.

24 (j) Shaft and slope construction.--The secretary shall
25 establish, based on recommendations made by the technical
26 advisory committee, conditions of use for the use of diesel-
27 powered equipment in shaft and slope construction operations at
28 coal mines. Conditions of use proposed by the technical advisory
29 committee shall be considered by the secretary and shall be
30 adopted or rejected by the secretary without modification,

1 except as approved by the technical advisory committee.

2 CHAPTER 5

3 ENFORCEMENT AND REMEDIES

4 Section 501. Enforcement orders and duty to comply.

5 (a) Authority.--

6 (1) The department may issue written orders to enforce
7 this act, to effectuate the purposes of this act and to
8 protect the health and safety of miners and individuals in
9 and about mines.

10 (2) An order issued under this act shall take effect
11 upon notice, unless the order specifies otherwise.

12 (3) An appeal to the Environmental Hearing Board shall
13 not act as a supersedeas.

14 (b) Compliance.--It is the duty of any individual to whom an
15 order applies to comply with that order.

16 Section 502. Restraining violations.

17 (a) Department.--In addition to any other remedies provided
18 by law, the department may seek an injunction to restrain any of
19 the following:

20 (1) Violation of this act, a regulation promulgated
21 under this act or any approval, standard, order or permit
22 issued under this act.

23 (2) Creation and maintenance of a threat to the health
24 and safety of miners and individuals in and about mines.

25 (b) Court.--

26 (1) In a proceeding under subsection (a), the court may
27 do any of the following:

28 (i) Issue an injunction if it finds reasonable cause
29 to believe that the respondent is engaging in conduct
30 which:

1 (A) violates this act; a regulation promulgated
2 under this act or any approval, standard or order
3 issued under this act; or

4 (B) poses a threat to the health and safety of
5 miners and individuals in and about mines.

6 (ii) Levy civil penalties against the respondent.

7 (2) The courts of common pleas and the Commonwealth
8 courts are granted jurisdiction to hear and decide
9 proceedings brought under subsection (a).

10 (c) Bond.--The department is not required to post bond in
11 connection with proceedings brought under this section.

12 Section 503. Administrative penalties.

13 (a) Declaration of threat.--The following actions by mine
14 officials are declared to pose an imminent and substantial
15 threat to the health and safety of miners:

16 (1) Assigning an employee without training or proper
17 certification.

18 (2) Requiring or condoning a violation of this act, a
19 regulation promulgated under this act or any approval,
20 standard or order issued under this act.

21 (3) Failing to perform a required examination.

22 (4) Failing to address promptly the dangers identified
23 through a mine examination or inspection by the department.

24 (5) Supplying inaccurate information to the department.

25 (6) Failing to notify the department as required by this
26 act.

27 (7) Failing to de-energize electrical power as required
28 by this act.

29 (8) Failing to evacuate the mine when required to do so
30 by a provision of this act.

1 (b) Penalty for mine officials and operator liability.--

2 (1) If the department finds that a mine official has
3 engaged in any of the actions under subsection (a), the
4 department may assess an administrative penalty of up to
5 \$2,500 against the mine official. In every instance in which
6 an administrative penalty is assessed against a mine
7 official, the department may assess an administrative penalty
8 of the same amount against the operator of the mine where the
9 violations occurred.

10 (2) If the department finds that the operator directed
11 or condoned an unsafe act or a violation of the act:

12 (i) the department may assess an administrative
13 penalty of not less than \$10,000 and not more than
14 \$200,000 against the operator; and

15 (ii) the individual that directed or condoned the
16 action shall be removed from any position of command and
17 control.

18 (c) Nonexclusive remedy.--Assessment of a penalty under this
19 section does not preclude the department from exercising any
20 other remedy available to it.

21 (d) Factors.--In determining the amount of a penalty, the
22 department shall consider the following:

23 (1) The degree to which the conduct was reckless or
24 intentional.

25 (2) Whether an individual was fatally or seriously
26 injured.

27 (3) The potential for the violation resulting in death
28 or serious injury to an individual.

29 (4) Whether the conduct is in violation of an
30 outstanding order.

1 (5) In the case of an operator, the economic benefit to
2 the operator from not complying with the applicable
3 requirements.

4 (e) Practice and procedure.--A penalty under this section is
5 subject to:

6 (1) 2 Pa.C.S. Chs. 5 Subch. A (relating to practice and
7 procedure of Commonwealth agencies) and 7 Subch. A (relating
8 to judicial review of Commonwealth agency action); and

9 (2) 25 Pa. Code Ch. 1021 (relating to practice and
10 procedures).

11 (3) The act of July 13, 1988 (P.L.530, No.94), known as
12 the Environmental Hearing Board Act.

13 Section 503.1. Process for assessing administrative penalties.

14 (a) Assessment process.--If the department assesses an
15 administrative penalty, it shall inform the operator and mine
16 official, as applicable, of the amount of the penalty. The
17 individual assessed with the penalty shall then have 30 days to
18 pay the penalty in full or, if the individual wishes to contest
19 the amount of the penalty, the individual shall, within the 30-
20 day period, file an appeal of the department's assessment with
21 the Environmental Hearing Board. Failure to appeal within 30
22 days shall result in a waiver of all legal rights to contest the
23 amount of the penalty.

24 (b) Prepayment of administrative penalty.--If the operator
25 or mine official wishes to contest either the amount of the
26 penalty or the violation, the operator or mine official shall
27 forward an amount not greater than \$25,000 to the department for
28 placement in an escrow account with the State Treasurer or any
29 bank located in this Commonwealth, or post an appeal bond in the
30 amount of the proposed penalty provided that the bond shall be

1 executed by a surety licensed to do business in this
2 Commonwealth and is satisfactory to the department. If through
3 administrative or judicial review of the penalty, it is
4 determined that no violation occurred, or that the amount of the
5 penalty should be reduced, the department shall within 30 days
6 remit the appropriate amount to the operator or mine official,
7 with any interest accumulated by the escrow deposit. Failure to
8 forward the money or the appeal bond to the department within 30
9 days shall result in a waiver of all legal rights to contest the
10 violation or the amount of the penalty.

11 (c) Payment of penalty.--The amount assessed after
12 administrative hearing or waiver shall be payable to the
13 Commonwealth of Pennsylvania, Mine Safety Fund and shall be
14 collectible in any manner provided under law for the collection
15 of debts. If any individual liable to pay any penalty neglects
16 or refuses to pay it after demand, the amount together with
17 interest and any costs that may accrue, shall constitute a
18 judgment in favor of the Commonwealth upon the property of the
19 individual from the date it has been entered and docketed or
20 recorded by the prothonotary of the county where such property
21 is situated. The department may, at any time, transmit to the
22 prothonotaries of the respective counties certified copies of
23 the judgments, and it shall be the duty of each prothonotary to
24 enter and docket the judgments in the prothonotary's office, and
25 to index it as judgments are indexed, without requiring the
26 payment of costs as a condition precedent to the entry of the
27 judgment.

28 Section 504. Unlawful conduct.

29 It is unlawful for an individual to do any of the following:

30 (1) Violate this act, a regulation under this act or any

1 approval, standard or order under this act.

2 (2) Cause or assist another in a violation under
3 paragraph (1).

4 (3) Hinder or threaten an agent or employee of the
5 department in the course of performance of a duty under this
6 act, including entry and inspection.

7 (4) Do any of the following on mine property:

8 (i) Venture into areas with unsupported roof.

9 (ii) Fail to make required gas checks.

10 (iii) Work on energized equipment without de-
11 energizing, locking out and tagging that equipment.

12 (iv) Change approved equipment without obtaining the
13 department's approval.

14 (v) Circumvent a safety device.

15 (vi) Disable an alarm.

16 (vii) Possess or use alcohol, drugs or smoking
17 materials in an unlawful manner on mine property.

18 (viii) Assign an employee without training or proper
19 certification to perform the assigned work.

20 (ix) Require or condone a violation of this act, a
21 regulation under this act or any approval, standard or
22 order under this act.

23 (x) Require or condone performance of an unsafe act.

24 (xi) Fail to perform a required examination.

25 (xii) Fail to abate promptly the dangers identified
26 through a mine examination or inspection by the
27 department.

28 (xiii) Supply inaccurate information to the
29 department.

30 (xiv) Fail to:

- 1 (A) notify the department as required by this
- 2 act;
- 3 (B) de-energize electrical power as required by
- 4 this act; or
- 5 (C) evacuate the mine when required.

6 Section 505. Criminal penalties.

7 (a) Prohibition.--An individual commits a felony of the
8 second degree if all of the following apply:

9 (1) The individual:

10 (i) violates this act, a regulation under this act
11 or any approval, standard or order under this act;

12 (ii) submits false information to the department; or

13 (iii) fails to notify the department as required by
14 this act.

15 (2) The action or inaction under paragraph (1):

16 (i) either results in the death of or substantial
17 bodily injury to an individual; or

18 (ii) creates a condition that poses a substantial
19 likelihood of causing death or substantial bodily injury
20 to an individual.

21 Section 506. Inspections.

22 (a) Administrative.--An agent or employee of the department
23 may do any of the following:

24 (1) Inspect a mine, property, building, premises, place,
25 book or record.

26 (2) Secure physical evidence. This paragraph includes
27 photography and videography.

28 (3) Conduct tests. This paragraph includes taking
29 samples.

30 (b) Warrant.--It shall be sufficient probable cause for a

1 court of competent jurisdiction to issue a search warrant if the
2 department establishes all of the following:

3 (1) The action under subsection (a) is pursuant to the
4 department's general inspection of mines and investigations
5 at mines.

6 (2) The agent or employee:

7 (i) has reason to believe that there has been a
8 violation of this act, a regulation under this act or any
9 approval, standard or order under this act of the
10 department has occurred or may occur; or

11 (ii) has been refused access or been prevented from
12 taking action under subsection (a).

13 Section 507. Intervention.

14 An individual having an interest, which is or may be
15 adversely affected, has the right without posting bond to <—
16 intervene in an action brought by the department or in an appeal
17 before the Environmental Hearing Board under this act.

18 Section 508. Limitation of action.

19 (a) Civil and administrative.--Notwithstanding 42 Pa.C.S.
20 Ch. 55 Subch. B (relating to civil actions and proceedings) or
21 any other statutory provision to the contrary:

22 (1) A civil action under this act shall be commenced
23 within three years from the date the cause of action arises.

24 (2) An administrative action under this act shall be
25 commenced within three years from the date of the violation.

26 (b) Criminal.--Notwithstanding 42 Pa.C.S. Ch. 55 Subch. C
27 (relating to criminal proceedings) or any other statutory
28 provision to the contrary, a criminal action under this act
29 shall be commenced within three years from the date the offense
30 is committed.

1 Section 509. Relation to permit.

2 The following apply if the department finds that an operator
3 has demonstrated a lack of intent or ability to comply with this
4 act, a regulation under this act or any approval, standard or
5 order under this act:

6 (1) The department may take any action it deems
7 appropriate regarding the operator's permits, including
8 denial of applications for new, renewed or amended permits
9 and suspension or revocation of existing permits.

10 (2) Before taking action under paragraph (1), the
11 department shall provide the operator with an opportunity to
12 demonstrate to the department the operator's intent and
13 ability to comply.

14 Section 510. Certification actions.

15 (a) Denial.--The department shall not issue a certification
16 if, after investigation and an opportunity for an informal
17 hearing, it finds that the applicant lacks the ability or intent
18 to comply with this act.

19 (b) Sanctions.--

20 (1) The department may modify, suspend or revoke a
21 certification under this act if it determines that the holder
22 has done any of the following:

23 (i) Failed to comply with this act; a regulation
24 under this act or any approval, standard or order under
25 this act.

26 (ii) Interfered with the safe and lawful operation
27 of any mine.

28 (iii) Engaged in unlawful conduct under this act.

29 (2) An appeal to the Environmental Hearing Board shall
30 be treated as a petition for a supersedeas.

1 (3) An action under this subsection shall be taken only
2 if the monetary penalty under section 503 is inadequate.

3 (4) This subsection is subject to 2 Pa.C.S. Chs. 5
4 Subch. A (relating to practice and procedure of Commonwealth
5 agencies) and 7 Subch. A (relating to judicial review of
6 Commonwealth agency action) and the act of July 13, 1988
7 (P.L.530, No.94), known as the Environmental Hearing Board
8 Act.

9 (c) Retesting.--A mine official whose certificate has been
10 revoked shall have the right after five years of work experience
11 in an underground bituminous coal mine, two years of which must
12 be in a working section, to be reexamined and upon receipt of a
13 satisfactory score on the examination, the mine official shall
14 be given another certificate of qualification.

15 (d) Other remedies.--This section is in addition to any
16 other remedy afforded the department under this act or any other
17 provision of law.

18 Section 511. Withdrawal of certification.

19 If a superintendent receives information that any mine
20 foreman, assistant mine foreman, mine examiner or mine
21 electrician neglects duties or is incapacitated, the
22 superintendent shall make a thorough investigation. If the
23 superintendent finds evidence to sustain neglect or incapacity,
24 the superintendent shall suspend the individual and inform the
25 department.

26 CHAPTER 6

27 EMERGENCY MEDICAL PERSONNEL

28 Section 601. Definitions.

29 The following words and phrases when used in this chapter
30 shall have the meanings given to them in this section unless the

1 context clearly indicates otherwise:

2 "Emergency medical technician." A coal mine employee who has
3 successfully completed the course on emergency first aid care
4 and transportation of the sick and injured recommended by the
5 American Academy of Orthopedic Surgeons or an equivalent
6 organization and who has been certified by the Department of
7 Health to provide emergency care.

8 "Emergency medical technician paramedic." An individual who
9 has been certified by the Department of Health to provide
10 emergency medical treatment.

11 Section 602. Emergency medical personnel.

12 ~~(a) Requirement.~~—Emergency medical personnel shall be
13 employed at every mine as follows:

←

14 (1) At least one emergency medical technician shall be
15 on duty at any time when miners at that mine are engaged in
16 the extraction, production or preparation of coal. Emergency
17 medical technicians shall be on duty at a mine in sufficient
18 numbers to assure that no miner shall work in a mine location
19 which cannot be reached in 30 minutes by an emergency medical
20 technician. Emergency medical technicians shall be employed
21 at their regular duties at locations convenient for quick
22 response to emergencies and shall have available to them at
23 all times necessary equipment in compliance with Federal
24 regulations.

25 (2) Telephone services or the equivalent facilities
26 shall be installed which shall provide two-way voice
27 communications between the emergency medical technician at
28 the mine and medical personnel outside or away from the mine
29 who provide emergency medical services on a regular basis.

30 (3) Operators shall make adequate provisions so that at

1 least one emergency medical technician paramedic, registered
2 nurse, physician or physician assistant is available to
3 provide care at a mine at any time that individuals are
4 engaged in extraction, production or preparation of coal.

5 Emergency medical personnel under this paragraph shall be on
6 call to reach the entrance of the mine within 30 minutes.

7 Section 603. Regulations for training and certification.

8 The Department of Health shall promulgate regulations to
9 train and certify emergency medical technicians and emergency
10 medical technician paramedics.

11 Section 604. First aid training of mine employees.

12 Each operator shall provide every new employee who has not
13 received first aid training required by the department within
14 the six months prior to the date of employment with the training
15 required by the department. The department shall consult with
16 the Department of Health, MSHA and representatives of miners and
17 representatives of operators in determining the training to be
18 required under this section. Each mine employee shall be
19 provided with five hours of refresher first aid training within
20 each 24-month period of employment. Each employee shall be paid
21 regular wages or overtime pay, if applicable, for all periods of
22 first aid training.

23 Section 605. Continuing training.

24 The department, after consultation with the Department of
25 Health regarding the content of instruction courses, shall
26 provide for necessary training on a continuing basis of
27 emergency medical technicians and emergency medical technician
28 paramedics in sufficient numbers to satisfy the requirements of
29 this chapter.

30 Section 606. Regulations.

1 The board, after consultation with the Department of Health,
2 shall promulgate regulations to implement the operational
3 provisions of this chapter.

4 Section 607. Certification.

5 The Department of Health shall promulgate regulations to
6 prescribe procedures necessary to certify emergency medical
7 technicians and emergency medical technician paramedics and
8 consult with the department as may be required under this
9 chapter.

10 Section 608. Liability.

11 (a) Physicians.--

12 (1) Except as set forth in paragraph (2), a physician
13 who in good faith gives instructions to a certified emergency
14 medical technician or emergency medical technician paramedic,
15 a registered nurse or physician assistant shall not be liable
16 for civil damages as a result of issuing the instructions.

17 (2) Paragraph (1) does not apply where the actions
18 constitute gross negligence, reckless misconduct or
19 intentional misconduct.

20 (b) Other medical personnel.--

21 (1) Except as set forth in paragraph (2), a certified
22 emergency medical technician, emergency medical technician
23 paramedic, registered nurse or physician assistant who in
24 good faith attempts to render emergency care to a sick or
25 injured individual in or about a mine shall not be liable for
26 civil damages as a result of any acts or omissions.

27 (2) Paragraph (1) does not apply where the actions
28 constitute gross negligence, reckless misconduct or
29 intentional misconduct.

30 Section 609. Equivalent training.

1 If the department determines that an operator is presently
2 providing emergency medical care for its employees which is
3 equivalent to or superior to the emergency medical care provided
4 for under this chapter, the department shall make a finding that
5 the operator is in compliance with this chapter.

6 CHAPTER 7

7 SAFETY ZONES AND ENTOMBED WORKMEN

8 Section 701. Establishment.

9 A safety zone is established beneath and adjacent to every
10 stream, river and natural or artificial body of water in this
11 Commonwealth that is sufficiently large to constitute a hazard
12 to mining in the opinion and discretion of the department. In
13 the case of a stream or river, the safety zone shall extend
14 horizontally 200 feet from the high-water mark of each bank. In
15 the case of any other body of water sufficiently large to, in
16 the department's discretion, constitute a hazard to mining, the
17 safety zone shall extend horizontally 200 feet from the known
18 perimeter. Each safety zone shall extend downward to the limit
19 of the workable beds.

20 Section 702. Written authorization.

21 (a) Requirement.--No mining or removal of minerals shall be
22 permitted within the safety zone unless authorization is
23 specifically granted in advance and in writing by the
24 department.

25 (b) Procedure.--Authorization shall only be granted upon
26 application of the operator. Application shall be accompanied by
27 four copies of a plan of the proposed mining operation. The plan
28 shall indicate the thickness of the unconsolidated strata, the
29 thickness of the rock strata and coal beds overlying the bed to
30 be mined, the thickness of the bed, the width of the mine

1 openings, the width of the pillars to be left and any other
2 special features that may be deemed necessary as affecting the
3 contemplated first mining.

4 (c) Examinations.--The department shall make periodic
5 examinations to determine the accuracy of plans, maps and
6 drawings submitted to it under the provisions of this section.
7 Section 703. Pillar recovery.

8 Pillar recovery may not be undertaken until the ~~pillars are~~ <—
9 PILLAR PLAN IS approved by the department. Applications for <—
10 pillar recovery must be accompanied by four copies of a plan,
11 which must include such information as shall be determined by
12 the department. The approval or disapproval of the plan shall be
13 based on the factors of depth, the thickness of the bed, the
14 percentage of pillars proposed to be extracted and to be left,
15 the effect on pillars remaining in overlying beds and any other
16 special features deemed necessary by the department.

17 Section 704. Proof of rock cover.

18 (a) Requirement.--Proof of the existence of 35 feet of rock
19 cover must accompany any plan submitted under this chapter.

20 (b) Sufficiency.--Proof of rock cover is to be ascertained
21 by testing holes drilled on:

22 (1) intersecting lines forming rectangles or squares
23 where the cover thickness is less than 50 feet; and

24 (2) on spacing of not more than 35-foot centers.

25 Section 705. Verification.

26 Plans and proof of rock cover under this chapter must be
27 signed by a registered professional mining engineer representing
28 the operator and a registered professional mining engineer
29 representing the lessor or the owner.

30 Section 706. Approval or disapproval of plans.

1 (a) Approval.--If, after review, the department approves the
2 plan, it shall send copies of the approved plan to the
3 registered professional mining engineer representing the
4 operator and to the registered professional mining engineer
5 representing the lessor or the owner.

6 (b) Disapproval.--If, after review, the department
7 disapproves the plan, it shall send copies of the disapproval,
8 identifying its reasons for that action, to the registered
9 professional mining engineer representing the operator and a
10 registered professional mining engineer representing the lessor
11 or the owner.

12 Section 707. Notice.

13 After approval of the plan by the department, mining or
14 removal of minerals shall not begin within the safety zone until
15 the mine foreman has conspicuously posted a notice on the
16 outside of the mine and has orally notified each miner affected
17 that the miner is working within the safety zone.

18 Section 708. Entombed workmen.

19 If a workman is enclosed, entombed or buried in any coal mine
20 in this Commonwealth, the department, on its own initiative or
21 upon request of a relative of the workman or the department, may
22 petition a court of competent jurisdiction to order recovery of
23 the body and to make a decree that the workman is dead.

24 CHAPTER 31

25 MISCELLANEOUS PROVISIONS

26 Section 3101. Repeals.

27 (a) Absolute.--The following acts or parts of acts are
28 repealed absolutely:

29 (1) The act of June 30, 1947 (P.L.1177, No.490), known
30 as The Coal Mine Sealing Act of 1947.

1 (2) The act of July 17, 1961 (P.L.659, No.339), known as
2 the Pennsylvania Bituminous Coal Mine Act.

3 (b) Inconsistent.--The following acts and parts of acts are
4 repealed to the extent they apply to bituminous coal mines:

5 (1) The act of May 9, 1889 (P.L.154, No.171), entitled
6 "An act to provide for the recovery of the bodies of workmen
7 enclosed, buried or entombed in coal mines."

8 (2) The act of June 3, 1943 (P.L.848, No.357), entitled
9 "An act providing that every mine foreman, assistant mine
10 foreman and fire boss, under the Bituminous Mining Laws and
11 the Anthracite Mining Laws of the Commonwealth, represents
12 and is an officer of the Commonwealth in the mine in which
13 employed, for the suspension or cancellation of the
14 certificates of such officials as shall hold same, and for
15 the disqualification of such as are uncertificated by the
16 Secretary of Mines after or prior to hearing, for failure or
17 refusal to perform his respective duties; defining the
18 procedure in such hearing and the powers of the Secretary of
19 Mines, with respect thereto, and providing for a review of
20 his decisions by courts of common pleas and the Superior
21 Court; providing for re-examination by the examining board of
22 any person whose certificate has been cancelled, and for
23 reinstatement of such as are uncertificated; and prohibiting
24 the employment by any operator in such capacity of any mine
25 foreman, assistant mine foreman or fire boss not possessing
26 the requisite certificate or whose certificate is suspended
27 or who has been disqualified."

28 (3) The act of December 22, 1959 (P.L.1994, No.729),
29 entitled "An act prohibiting mining in certain areas without
30 prior approval by the Department of Mines and Mineral

1 Industries; establishing standards for the approval of plans
2 for mining in such areas; imposing powers and duties on the
3 mine foremen and the Department of Mines and Mineral
4 Industries; and providing penalties."

5 (4) The act of July 9, 1976 (P.L.931, No.178), referred
6 to as the Coal Mine Emergency Medical Personnel Law.

7 Section 3102. Effective date.

8 This act shall take effect in 180 days.