WEST VIRGINIA CODE CHAPTER 22A ARTICLE 2

§22A-2-1. Supervision by professional engineer or licensed land surveyor; seal and certification; contents; extensions; repository; availability; traversing; copies; archive; final survey and map; penalties.

The mapping of all coal mines shall be supervised by a competent engineer or land surveyor. The work of such engineer or land surveyor shall be supervised by either a civil engineer or a mining engineer certified by the board of registration for professional engineers, which exists by authority of section four, article thirteen, chapter thirty of this code, or a licensed land surveyor approved by the Board of Examiners of Land Surveyors as provided by section three, article thirteen-a of said chapter. To each map supervised by the engineer or land surveyor there shall be affixed thereto the seal of a certified or professional engineer or licensed land surveyor, which shall be identical to the design authorized by the Board of Registration for Professional Engineers, as provided in section sixteen, article thirteen of said chapter or Board of Examiners of Land Surveyors as provided by section eleven, article thirteen-a of said chapter. Every map certified shall have the professional engineer's or land surveyor's signature and certificate, in addition to his or her seal, in the following form:

"I, the undersigned, hereby certify that this map is correct and shows all the information, to the best of my knowledge and belief, required by the laws of this state, and covers the period ending _____

_____ P. E.

(Either Civil or Mining Engineer

or Land Surveyor)."

The operator of every underground coal mine shall make, or cause to be made, an accurate map of such mine, on a scale of not less than one hundred, and not more than five hundred feet to the inch. The map of such mine shall show:

(1) Name and address of the mine;

(2) The scale and orientation of the map;

(3) The property or boundary lines of the mine;

(4) The shafts, slopes, drifts, tunnels, entries, rooms, crosscuts and all other excavations and auger and strip mined areas of the coalbed being mined;

(5) All drill holes that penetrate the coalbed being mined;

(6) Dip of the coalbed;

(7) The outcrop of the coalbed within the bounds of the property assigned to the mine;

(8) The elevations of tops and bottoms of shafts and slopes, and the floor at the entrance to drift and tunnel openings;

(9) The elevation of the floor at intervals of not more than two hundred feet in:

(a) At least one entry of each working section, and main and cross entries;

(b) The last line of open crosscuts of each working section and main and cross entries before such sections and main and cross entries are abandoned; and

(c) Rooms advancing toward or adjacent to property or boundary lines or adjacent mines;

(10) Contour lines passing through whole number elevations of the coalbed being mined, the spacing of such lines not to exceed ten-foot elevation levels, except that a broader spacing of contour lines may be approved for steeply pitching coalbeds by the person authorized so to do under the federal act; and contour lines may be placed on overlays or tracings attached to mine maps;

(11) As far as practicable the outline of existing and extracted pillars;

(12) Entries and air courses with the direction of airflow indicated by arrows;

(13) The location of all surface mine ventilation fans, which location may be designated on the mine map by symbols;

(14) Escapeways;

(15) The known underground workings in the same coalbed on the adjoining properties within one thousand feet of such mine workings and projections;

(16) The location of any body of water dammed in the mine or held back in any portion of the mine, but such bodies of water may be shown on overlays or tracings attached to the mine maps used to show contour lines, as provided under subdivision (10) of this section;

(17) The elevation of any body of water dammed in the mine or held back in any portion of the mine;

(18) The abandoned portion or portions of the mine;

(19) The location and description of at least two permanent base line points coordinated with the underground and surface mine traverses, and the location and description of at least two permanent elevation bench marks used in connection with establishing or referencing mine elevation surveys;

(20) Mines above or below;

(21) Water pools above;

(22) The location of the principal streams and bodies of water on the surface;

(23) Either producing or abandoned oil and gas wells located within five hundred feet of such mine and any underground area of such mine;

(24) The location of all high pressure pipelines, high voltage power lines and principal roads;

(25) The location of railroad tracks and public highways leading to the mine and mine buildings of a permanent nature with identifying names shown;

(26) Where the overburden is less than one hundred feet, occupied dwellings; and

(27) Such other information as may be required under the federal act or by the Office of Miners' Health, Safety and Training.

The operator of every underground coal mine shall extend, or cause to be extended, on or before March 1 and on or before September 1, of each year, such mine map thereof to accurately show the progress of the workings as of July 1, and January 1, of each year. Such map shall be kept up to date by temporary notations, which shall include:

(1) The location of each working face of each working place;

(2) Pillars mined or other such second mining;

(3) Permanent ventilation controls constructed or removed, such as seals, overcasts, undercasts, regulators and permanent stoppings, and the direction of air currents indicated; and

(4) Escapeways designated by means of symbols.

Such map shall be revised and supplemented at intervals prescribed under the federal act on the basis of a survey made or certified by such engineer or surveyor, and shall be kept by the operator in a fireproof repository located in an area on the surface chosen by the operator to minimize the danger of destruction by fire or other hazard.

Such map and any revision and supplement thereof shall be available for inspection by a federal mine inspector, by mine health and safety instructors, by miners in the mine and their representatives and by operators of adjacent coal mines and by persons owning, leasing or residing on surface areas of such mines or areas adjacent to such mines, and a copy of such map and any revision and supplement thereof shall be promptly filed with the office of miners' health, safety and training. The operator shall also furnish to persons expressly entitled thereto under the federal act, upon request, one or more copies of such maps and any revision and supplement thereof. Such map or revision and supplement thereof shall be kept confidential and its contents shall not be divulged to any other person, except to the extent necessary to carry out the provisions of the federal act and this chapter and in connection with the functions and responsibilities of the secretary of housing and

urban development.

Surveying calculations and mapping of underground coal mines which were or are opened or reopened after July 1, 1969, shall be done by the rectangular coordinate traversing method and meridians carried through and tied between at least two parallel entries of each development panel and panels or workings adjacent to mine boundaries or abandoned workings. These surveys shall originate from at least three permanent survey monuments on the surface of the mine property. The monuments shall be clearly referenced and described in the operator's records. Elevations shall be tied to either the United States geological survey or the United States coast and geodetic survey bench mark system, be clearly referenced and described on such map.

Underground coal mines operating on July 1, 1969, and not using the rectangular coordinate traversing method shall, within two years of such date, convert to this procedure for surveying calculations and mapping. Meridians shall be carried through and tied between at least two parallel entries of each development panel and panels or workings adjacent to mine boundaries or abandoned workings. These surveys shall originate from at least three permanent survey monuments on the surface of the mine property. The monuments shall be clearly referenced and described in the coal mine operator's records. Elevations shall be tied to either the United States geological survey or the United States coast and geodetic survey bench mark system, be clearly referenced and described on such map.

The operator of such underground coal mine shall, by reasonable proof, demonstrate to the director or to any federal mine inspector concerned, at any time, that a diligent search was made for all existing and available maps and survey data for the workings on the adjoining properties. The operator shall further be able to show proof to the director or to any federal mine inspector concerned, that a suitable method was used to insure accuracy in the methods used in transposing other workings to the map of such mine.

There shall be an archive of underground coal mine maps maintained at the office of the director. The archive shall:

(1) Be secured in a fireproof and burglarproof vault;

(2) Have an appropriate map identification system; and

(3) Have adequate map microfilming facilities.

Whenever an operator permanently closes or abandons an underground coal mine, or temporarily closes an underground coal mine for a period of more than ninety days, he or she shall promptly notify the office of miners' health, safety and training and the federal mine inspector of the district in which such mine is located of such closure. Within sixty days of the permanent closure or abandonment of an underground coal mine, or, when an underground coal mine is temporarily closed, upon the expiration of a period of ninety days from the date of closure, the operator shall file with the office of miners' health, safety and

training and such federal mine inspector a copy of the mine map revised and supplemented to the date of the closure. Such copy of the mine map shall be certified by a certified or professional engineer or licensed surveyor as aforesaid and shall be available for public inspection.

Any person having a map or surveying data of any worked out or abandoned underground coal mine shall make such map or data available to the Office of Miners' Health, Safety and Training to copy or reproduce such material.

Any person who fails or refuses to discharge any duty imposed upon him or her by this section is guilty of a misdemeanor, and, upon conviction thereof, shall be fined not less than $500 nor more than $1,000.

§22A-2-2. Submittal of detailed ventilation plan to director.

(a) A mine operator shall give the director a copy of the United States Department of Labor's Mine Safety and Health Administration (MSHA)-approved plan and any addenda as soon as the operator receives the approval from MSHA. The MSHA-approved plan shall serve as the state-approved plan: Provided, That the MSHA-approved plan shall comply with all provisions of state mining law as set forth in this code or state rules.

(b) In the event of an unforeseen situation requiring immediate action on a plan revision, the operator shall submit the proposed revision to the director and the miners" representative, if any, employed by the operator at the mine when the proposed revision is submitted to MSHA. The director shall work with the operator to review and comment on the proposed plan revision to MSHA as quickly as possible.

(c) Upon approval by MSHA, the plan is enforceable by the director. The approved plan and all revisions and addenda thereto shall be posted on the mine bulletin board and made available for inspection by the miners at that mine for the period of time that they are in effect.

§22A-2-3. Fans.

(a) The ventilation of mines, the systems for which extend for more than 200 feet underground, and which are opened after the effective date of this article, shall be produced by a mechanically operated fan or mechanically operated fans. Ventilation by means of a furnace is prohibited in any mine. The fan or fans shall be kept in continuous operation, unless written permission to do otherwise be granted by the director. In case of interruption to a ventilating fan or its machinery whereby the ventilation of the mine is interrupted, immediate action shall be taken by the mine operator or the operator's management personnel, in all mines, to cut off the power and withdraw the men from the face regions or other areas of the mine affected. If ventilation is restored in 15 minutes, the face regions and other places in the affected areas where gas (methane) is likely to accumulate, shall be reexamined by a certified person; and if found free of explosive gas, power may be restored and work resumed. If ventilation is not restored in 15 minutes, all underground employees shall be removed from the mine, all power shall be cut off in a timely manner, and the underground employees shall not return until ventilation is restored and the mine examined by certified persons, mine examiners, or other persons holding a certificate to make preshift examination. If ventilation is restored to the mine before miners reach the surface, the miners may return to underground working areas only after an examination of the areas is made by a certified person and the areas are determined to be safe.

(b) All main fans installed after the effective date of this article shall be located on the surface in fireproof housings offset not less than 15 feet from the nearest side of the mine opening, equipped with fireproof air ducts, provided with explosion doors or a weak wall, and operated from an independent power circuit. In lieu of the requirements for the location of fans and pressure-relief facilities, a fan may be directly in front of, or over a mine opening: Provided, That such opening is not in direct line with possible forces coming out of the mine if an explosion occurs: Provided, however, That there is another opening having a weak wall stopping or explosion doors that would be in direct line with forces coming out of the mine. All main fans shall be provided with pressure-recording gauges or water gauges. A daily inspection shall be made of all main fans and machinery connected therewith by a certified electrician and a record kept of the same in a book prescribed for this purpose or by adequate facilities provided to permanently record the performance of the main fans and to give warning of an interruption to a fan.

(c) Auxiliary fans and tubing shall be permitted to be used in lieu of or in conjunction with line brattice to provide adequate ventilation to the working faces: Provided, That auxiliary fans be so located and operated to avoid recirculation of air at any time. Auxiliary fans shall be approved and maintained as permissible.

(d) If the auxiliary fan is stopped or fails, the electrical equipment in the place shall be stopped and the power disconnected at the power source until ventilation in the working place is restored. During such stoppage, the ventilation shall be, by means of the primary air current conducted into the place, in a manner to prevent accumulation of methane.

(e) In places where auxiliary fans and tubing are used, the ventilation between shifts, weekends, and idle shifts shall be provided to face areas with line brattice or the equivalent to prevent accumulation of methane.

(f) The director may require that when continuous mine equipment is being used, all face ventilating systems using auxiliary fans and tubing shall be provided with machine-mounted diffuser fans, and such fans shall be continuously operated during mining operations.

(g) In the event of a fire or explosion in any coal mine, the ventilating fan or fans shall not intentionally be started, stopped, speed increased or decreased or the direction of the air current changed without the approval of the general mine foreman, and, if he or she is not immediately available, a representative of the Office of Miners' Health, Safety, and Training. A duly authorized representative of the employees should be consulted if practical under the circumstances.

(h) The MSHA-approved plan relating to fans shall serve as the state-approved plan: Provided, That the MSHA-approved plan shall comply with all provisions of state mining law as set forth in state code or code of state rules.

§22A-2-4. Ventilation of mines in general.

(a) The operator or mine foreman of every coal mine, whether worked by shaft, slope, or drift, shall provide and maintain adequate ventilation for each mine. In all mines the quantity of air passing through the last open crosscut between the intake and return in any pair or set of entries may not be less than 9,000 cubic feet of air per minute and as much more as is necessary to dilute and render harmless and carry away flammable and harmful gases. All working faces in a working section between the intake and return airway entries where coal is being cut, mined, drilled for blasting, or loaded shall be ventilated with a minimum quantity of 3,000 cubic feet of air per minute and as much more as is necessary to dilute and render harmless and carry away flammable and harmful gases. The quantity of air reaching the last crosscut in pillar sections may be less than 9,000 cubic feet of air per minute if at least 9,000 cubic feet of air per minute is being delivered to the intake of the pillar line. The air current shall under any conditions have a sufficient volume and velocity to reduce and carry away smoke from blasting and any flammable or harmful gases. The operator shall provide to the safety committee access to anemometers and smoke tubes while performing their duties. All active underground working places in a mine shall be ventilated by a current of air containing not less than 19.5 percent of oxygen, not more than 0.50 percent of carbon dioxide, and no harmful quantities of other noxious or poisonous gases.

(b) Airflow shall be maintained in all intake and return air courses of a mine and, where multiple fans are used, neutral areas created by pressure equalization between main fans is not permitted. Production activities in working faces shall cease while tubing, line brattice, or other ventilation devices are being installed by the machine operator.

(c) Properly installed and adequately maintained line brattice or other approved devices shall be continuously used from the last open crosscut of an entry or room of each working section to provide adequate ventilation to the working faces for the miners and to remove flammable, explosive, and noxious gases, dust, and explosive fumes. When damaged by falls or otherwise, the line brattice or other devices shall be repaired immediately.

(d) Brattice cloth used underground shall be of flame-resistant material. The space between the line brattice or other approved device and the rib shall be large enough to permit the flow of a sufficient volume and velocity of air to keep the working face clear of flammable, explosive, and noxious gases, dust, and explosive fumes.

(e) Each working unit newly developed in virgin coal shall be ventilated by a separate split of air. In areas already under development and in areas where physical conditions prevent compliance with this provision, the director may grant temporary relief from compliance until such time as physical conditions make compliance possible. The quantity of air reaching the last crosscut may not be less than 9,000 cubic feet of air per minute and shall under any condition have sufficient volume and velocity to reduce and carry away smoke and flammable or harmful gases from each working face in the section.

(f) As working places advance, crosscuts for air shall be made not more than 105 feet apart.

Where necessary to render harmless and carry away noxious or flammable gases, line brattice or other approved methods of ventilation shall be used so as to properly ventilate the face. All crosscuts between the main intake and return airways not required for passage of air and equipment shall be closed with stoppings substantially built with incombustible or fire-resistant material so as to keep working places well ventilated. In mines where it becomes necessary to provide larger pillars for adequate roof support, working places may not be driven more than 200 feet without providing a connection that will allow the free flow of air currents. In such cases, a minimum of 12,000 cubic feet of air a minute shall be delivered to the last open crosscut and as much more as is necessary to dilute and render harmless and carry away flammable and noxious gases.

(g) In special instances for the construction of sidetracks, haulage ways, airways, or openings in shaft bottom or slope bottom layouts where the size and strength of pillars is important, the director may issue a permit approving greater distances. The permit shall specify the conditions under which such places may be driven.

(h) In all mines, a system of bleeder openings on air courses, designed to provide positive movement of air through or around abandoned or caved areas, or both through and around, sufficient to prevent dangerous accumulation of gas in such areas, and to minimize the effect of variations in atmospheric pressure shall be made a part of pillar recovery plans projected.

(i) If a bleeder return is closed as a result of roof falls or water during pillar recovery operations, pillar operations may continue without reopening the bleeder return if at least 20,000 cubic feet of air per minute is delivered to the intake of the pillar line.

(j) An operator or mine foreman may not permit any person to work where he or she is unable to maintain the quantity and quality of the air current as required by this section. This section does not prohibit the employment of individuals to make the place of employment safe.

(k) The ventilation of any mine shall be arranged by means of air locks, overcasts, or undercasts, in such a manner that the use of doors may be kept to a minimum on passageways where individuals or equipment travel. Where doors are used in a mine, they shall be erected in pairs so as to provide a ventilated air lock unless the doors are operated mechanically.

(l) A crosscut shall be provided at or near the face of each entry or room before such places are abandoned.

(m) Overcasts or undercasts shall be constructed of incombustible material and maintained in good condition.

(n) All run through check curtains shall be substantially constructed of translucent material, except that where belting material must be used because of high velocity, there shall be a window of translucent material at least 30 inches square or one-half the height of the coal

seam, whichever is less.

(o) The MSHA-approved plan shall serve as the state-approved plan and comply with all provisions of state mining law as set forth in this code or the Code of State Rules.

§22A-2-4a. Use of belt air.

(a) Definitions. — For purposes of this section, "belt air" means the use of a belt conveyor entry as an intake air course to ventilate the working sections of a mine or areas where mechanized mining equipment is being installed or removed.

(b) Upon the effective date of the enactment of this section, belt air may not be used to ventilate the working sections of a mine or areas where mechanized mining equipment is being installed or removed: Provided, That if an alternative method of ventilation will at all times guarantee no less than the same measure of protection afforded the miners of an underground mine by the foregoing or if the application of the foregoing to an underground mine will result in a diminution of safety to the miners in the mine, the director may approve the interim use of belt air pursuant to the following. The MSHA-approved plan for use of belt air shall serve as the state-approved plan: Provided, That the MSHA-approved plan shall contain all provisions of state mining law as set forth in state code or code of state rules.

§22A-2-5. Unused and abandoned parts of mine.

(a) In any mine, all workings which are abandoned after July 1, 1971, shall be sealed or ventilated. If the workings are sealed, the sealing shall be done with incombustible material in a manner prescribed by the director and one or more of the seals of every sealed area shall be fitted with a pipe and cap or valve to permit the sampling of gases and measuring of hydrostatic pressure behind the seals. For the purpose of this section, working within a panel shall not be considered to be abandoned until the panel is abandoned.

(b) Air that has passed through an abandoned area or an area which is inaccessible or unsafe for inspection shall not be used to ventilate any working place in any working mine, unless permission is granted by the director with unanimous agreement of the technical and mine safety review committee. Air that has been used to ventilate seals shall not be used to ventilate any working place in any working mine. Air which has been used to ventilate an area from which the pillars have been removed shall not be used to ventilate any working place in a mine, except that the air, if it does not contain 0.25 volume percent or more of methane, may be used to ventilate enough advancing working places immediately adjacent to the line of retreat to maintain an orderly sequence of pillar recovery on a set of entries. Before sealed areas, temporary or permanent, are reopened, the director shall be notified.

(c) On or after the effective date of the amendment and reenactment of this section during the 2007 regular session of the Legislature, a professional engineer registered with the Board of Registration for Professional Engineers pursuant to §30-13-1 et seq. of this code shall certify the design of all new seals as meeting the criteria established by the director. Every seal design shall have the professional engineer's certificate and signature, in addition to his or her seal, in the following form:

"I the undersigned, do hereby certify that this seal design is, to the best of my knowledge, in accordance with all applicable requirements under state and federal law, rules and regulations.

_____P.E."

(d) On or after the effective date of the amendment and reenactment of this section during the 2007 regular session of the Legislature, the director shall approve the construction of all new seals in accordance with rules authorized in this section. The construction shall also be:

(1) Certified by the mine foreman-fire boss of the mine as being in accordance with the design certified by a professional engineer pursuant to §22A-2-5(c) of this code; and

(2) (A) Constructed of solid concrete blocks and in accordance with the other provisions of 30 CFR 75.335(a)(1); or

(B) Constructed in a manner that the director has approved as having the capability to withstand pressure equal to or greater than a seal constructed in accordance with the

provisions of 30 CFR 75.335(a)(1).

(e) On or after the effective date of the amendment and reenactment of this section during the 2007 regular session of the Legislature, the operator shall inspect the physical condition of all seals and measure the atmosphere behind all seals in accordance with protocols developed by the Board of Coal Mine Health and Safety, pursuant to rules authorized in this section and consistent with a mine-specific atmospheric measurement plan submitted to and approved by the director. The atmospheric measurements shall include, but not be limited to, the methane and oxygen concentrations and the barometric pressure. The atmospheric measurements also shall be recorded with ink or indelible pencil in a book kept for that purpose on the surface at a location designated by the operator. The protocols shall specify appropriate methods for inspecting the physical condition of seals, measuring the mine atmosphere in sealed workings, and inerting the mine atmosphere behind the seals, where appropriate.

(f) (1) In all mines containing workings sealed using seals constructed in accordance with the provisions of 30 CFR 75.335(a)(2) which are constructed: (A) Of cementitious foam blocks; or (B) with methods or materials that the Board of Coal Mine Health and Safety determines do not provide an adequate level of protection to miners, the operator shall, pursuant to a plan submitted to and approved by the director, remediate the seals by either enhancing the seals or constructing new seals in place of or immediately outby the seals. After being remediated, all seals must have the capability to withstand pressure equal to or greater than a seal constructed in accordance with the provisions of 30 CFR 75.335(a)(1). The design, development, submission and implementation of the remediation plan is the responsibility of the operator of each mine. Pursuant to rules authorized in this section, the Board of Coal Mine Health and Safety shall specify appropriate methods of enhancing the seals.

(2) Notwithstanding any provision of this code to the contrary, if the director determines that any seal described in §22A-2-5(f)(1) of this code is incapable of being remediated in a safe and effective manner, the mine foreman-fire boss shall, at least once every 24 hours, inspect the physical condition of the seal and measure the atmosphere behind the seal. The daily inspections and measurements shall otherwise be performed in accordance with the protocols and atmospheric measurement plan established pursuant to §22A-2-5(e) of this code.

(g) Upon the effective date of the amendment and reenactment of this section during the 2007 regular session of the Legislature, second mining of lower coal on retreat, also known as bottom mining, shall not be permitted in workings that will be sealed unless an operator has first submitted and received approval by the director of a remediation plan that sets forth measures that will be taken to mitigate the effects of remnant ramps and other conditions created by bottom mining on retreat which can increase the force of explosions originating in and emanating out of workings that have been bottom mined. The director shall require that certification in a manner similar to that set forth in §22A-2-5(c) of this code shall be obtained by the operator from a professional engineer and the mine foreman-fire

boss for the plan design and plan implementation, respectively.

(h) No later than 60 days after the effective date of the amendment and reenactment of this section during the 2007 regular session of the Legislature, the Board of Coal Mine Health and Safety shall develop and promulgate rules pursuant to the provisions of §22A-6-4 of this code to implement and enforce the provisions of this section.

(i) Upon the issuance of mandatory health and safety standards relating to the sealing of abandoned areas in underground coal mines by the Secretary of the United States Department of Labor pursuant to 30 U. S. C. §811, as amended by section 10 of the federal Mine Improvement and New Emergency Response Act of 2006, the director, working in consultation with the Board of Coal Mine Health and Safety, shall, within 30 days, provide the Governor with his or her recommendations, if any, for the enactment, repeal, or amendment of any statute or rules which would enhance the safe sealing of abandoned mine workings and the health and safety of miners.

(j) The MSHA-approved plan for seals shall serve as the state-approved plan: Provided, That the MSHA-approved plan shall comply with all provisions of state mining law as set forth in this code or code of state rules.

§22A-2-6. Requirements for movement of off-track mining equipment in areas of active workings where energized trolley wires or trolley feeder wires are present; premovement requirements; certified and qualified persons.

Mining equipment being transported or trammed underground, other than ordinary sectional movements, shall be transported or trammed by qualified personnel. When equipment is being transported or trammed where trolley wire is energized on the split of air in which said equipment is being transported or trammed, no person shall be permitted to be inby the equipment in the ventilating split that is passing over such equipment, except those directly involved with transporting or tramming the equipment, and shall be under the supervision of a certified foreman. To avoid accidental contact with power lines, face equipment shall be insulated and assemblies removed, if necessary, so as to provide clearance.

MINE FOREMAN

§22A-2-7. When underground mine foreman-fire boss required; assistants; certification.

(a) In every underground mine where five or more persons are employed in a period of twenty-four hours, the operator shall employ at least one person certified in accordance with the provisions of article seven of this chapter as a mine foreman-fire boss. Each applicant for certification as a mine foreman-fire boss shall, at the time he or she is issued a certificate of competency: (1) Be a resident or employed in a mine in this state; (2) have had at least five years' experience in the underground working, ventilation and drainage of a coal mine, which shall include at least eighteen months' experience on or at a working section of an underground mine or be a graduate of the school of mines at West Virginia University or of another accredited mining engineering school or be a graduate of an accredited engineering school with a bachelor's degree in mining engineering technology, electrical, mechanical or civil engineering; and have had at least two years' practical experience in an underground mine, which shall include at least eighteen months' experience on or at a working section of an underground mine; or be a graduate of an accredited college or university with an associate degree in mining, electrical, mining engineering technology, mechanical engineering or civil engineering and have had at least four years' practical experience in an underground mine, which shall include at least eighteen months' experience on or at a working section of an underground mine; and (3) have demonstrated his or her knowledge of dangerous mine gases and their detection, mine safety, first aid, safety appliances, state and federal mining laws and regulations and other subjects by completing such training, education and examinations as may be required of him or her under article seven of this chapter.

(b) In mines in which the operations are so extensive that the duties devolving upon the mine foreman-fire boss cannot be discharged by one man, one or more assistant mine foremen-fire bosses may be designated. Such persons shall act under the instruction of the mine foreman-fire boss, who shall be responsible for their conduct in the discharge of their duties. Each assistant so designated shall be certified under the provisions of article seven of this chapter. Each applicant for certification as assistant mine foreman-fire boss shall, at the time he or she is issued a certificate of competency, possess all of the qualifications required of a mine foreman-fire boss: Provided, That he or she shall at the time he or she is certified be required to have at least three years' experience in the underground working, ventilation and drainage of coal mines, which shall include eighteen months on or at a working section of an underground mine or be a graduate of the school of mines at West Virginia University or of another accredited mining engineering school or be a graduate of an accredited engineering school with a bachelor's degree in mining engineering technology, electrical, mechanical or civil engineering; and have had twelve months' practical experience in an underground mine, all of which shall have been on or at a working section or be a graduate of an accredited college or university with an associate degree in mining, electrical, mining

engineering technology, mechanical or civil engineering and have had at least two years' practical experience in an underground mine, which shall include at least eighteen months' experience on or at a working section of an underground mine.

(c) Until January 1, 1977, in mines in which the operations are so extensive that all the duties devolving upon the mine foreman-fire boss cannot be discharged by one person, competent persons having had at least three years' experience in coal mines may be designated as assistants, who shall act under the mine foreman-fire boss' instructions and the mine foreman-fire boss is responsible for their conduct in the discharge of their duties under such designation.

(d) Any person holding a mine foreman's certificate issued by any other state may act in the capacity of mine foreman-fire boss in any mine in this state until the next regular mine foreman-fire boss' examination held by the office of miners' health, safety and training, but not to exceed a maximum of ninety days.

(e) After July 1, 1974, all duties heretofore performed by persons certified as mine foreman, assistant mine foreman or fire boss shall be performed by persons certified as underground mine foreman-fire boss or an assistant underground mine foreman-fire boss.

After July 1, 1974, every certificate heretofore issued to an assistant mine foreman or fire boss shall be deemed to be of equal value to a certificate issued hereafter to an assistant mine foreman-fire boss, and every certificate heretofore issued to a mine foreman shall be deemed to be of equal value to a certificate issued hereafter to a mine foreman-fire boss.

§22A-2-8. Duties; ventilation; loose coal, slate or rocks; props; drainage of water; man doors; instruction of apprentice miners.

(a) The duties of the mine foreman shall be to keep a careful watch over the ventilating apparatus, the airways, traveling ways, pumps and drainage. He or she shall see that, as the miners advance their excavations, proper breakthroughs are made so as to ventilate properly the mine; that all loose coal, slate and rock overhead in the working places and along the haulways are removed or carefully secured so as to prevent danger to persons employed in such mines, and that sufficient suitable props, caps, timbers, roof bolts or other approved methods of roof supports are furnished for the places where they are to be used and delivered at suitable points. The mine foreman shall have all water drained or hauled out of the working places where practicable, before the miners enter, and such working places shall be kept dry as far as practicable while the miners are at work. It shall be the duty of the mine foreman to see that proper crosscuts are made, and that the ventilation is conducted by means of such crosscuts through the rooms by means of checks or doors placed on the entries or other suitable places, and he or she shall not permit any room to be opened in advance of the ventilation current. The mine foreman, or other certified persons designated by him or her, shall measure the air current with an anemometer or other approved device at least weekly at the inlet and outlet at or near the faces of the advanced headings, and shall keep a record of such measurements in a book or upon a form prescribed by the director. Signs directing the way to outlets or escapeways shall be conspicuously placed throughout the mine.

(b) After July 1, 1971, hinged man doors, at least thirty inches square or the height of the coal seam, shall be installed between the intake and return at intervals of three hundred feet when the height of the coal is below forty-eight inches and at intervals of six hundred feet when the height of the coal is above forty-eight inches.

(c) The duties of the mine foreman and assistant mine foreman shall include the instruction of apprentice miners in the hazards incident to any new work assignments; to assure that any individual given a work assignment in the working face without prior experience on the face is instructed in the hazards incident thereto and supervised by a miner with experience in the tasks to be performed.

§22A-2-9. Slopes, incline planes and haulage roads.

The mine foreman shall require that all slopes, incline planes and haulage roads used by any person in the mine shall conform to the provisions of this article.

§22A-2-10. Signals on haulways; lights at mouth and bottom of shaft; operation of cages.

On all haulways, where hauling is done by machinery of any kind, the mine foreman shall provide for a proper system of signals, and a conspicuous light or approved trip reflector on the rear of every trip or train of cars when in motion in a mine. When hoisting or lowering of miners occurs in the morning before daylight, or in the evening after darkness, at any mine operated by shaft, the mine foreman shall provide and maintain at the shaft mouth a light of stationary character, sufficient to show the landing and all surrounding objects distinctly, and sufficient light of a stationary character shall be located at the bottom of the shaft so that persons coming to the bottom may clearly discern the cages and other objects contiguous thereto. The mine foreman shall require that no cages on which miners are riding shall be lifted or lowered at a rate of speed greater than one thousand feet per minute and that no mine cars, either empty or loaded, shall be hoisted while miners are being lowered, and no cage having an unstable self-dump platform shall be used for the carrying of miners unless the same is provided with some device by which it may be securely locked when miners are being hoisted or lowered into the mine: Provided, however, That during the initial development of a mine, and only until the shafts are joined, miners shall be permitted to ride cages with one empty car which has been bolted or strapped to the cage.

§22A-2-11. Boreholes.

It shall further be the duty of the mine foreman to have boreholes kept not less than twenty feet in advance of the face, one each twenty feet on sides of the working places that are being driven toward and in dangerous proximity to an abandoned mine or part of a mine which may contain inflammable gases or which is filled with water. These holes shall be drilled whenever any working place in an underground mine approaches within fifty feet of abandoned workings in such mine, as shown by surveys made and certified by a competent engineer or surveyor, or within two hundred feet of any abandoned workings of such mine which cannot be inspected.

§22A-2-12. Instruction of employees and supervision of apprentices; annual examination of persons using approved methane-detecting devices; records of examination; maintenance of methane detectors, etc.

(a) The Office of Miners" Health, Safety, and Training shall prescribe and establish a course of instruction in mine safety and particularly in dangers incident to employment in mines and in mining laws and rules, which course of instruction shall be successfully completed within 12 weeks after any person is first employed as a miner. It is further the duty and responsibility of the Office of Miners" Health, Safety, and Training to see that the course is given to all persons as above provided after their first being employed in any mine in this state. In addition to other enforcement actions available to the director, upon a finding by the director of the existence of a pattern of conduct creating a hazardous condition at a mine, the director shall notify the Board of Coal Mine Health and Safety, which shall cause additional training to occur at the mine addressing such safety issue or issues identified by the director, pursuant to §22A-7-1 et seq. of this code. The Director of the Office of Miners" Health, Safety, and Training is authorized to promulgate emergency and legislative rules in consultation with the Board of Coal Mine Health and Safety establishing a course of instruction.

(b) It is the duty of the mine foreman or the assistant mine foreman of every coal mine in this state to see that every person employed to work in the mine is, before beginning work therein, instructed in the particular danger incident to his or her work in the mine, and furnished a copy of the mining laws and rules of the mine. It is the duty of every mine operator who employs apprentices, as that term is used in §22A-8-3 and §22A-8-4 of this code to ensure that the apprentices are effectively supervised with regard to safety practices and to instruct apprentices in safe mining practices. Every apprentice shall work under the direction of the mine foreman or his or her assistant mine foreman and they are responsible for his or her safety. The mine foreman or assistant mine foreman may delegate the supervision of an apprentice to an experienced miner, but the foreman and his or her assistant mine foreman remain responsible for the apprentice. During the first 120 days of employment in a mine, the apprentice shall work within sight and sound of the mine foreman, assistant mine foreman, or an experienced miner, and in a location that the mine foreman, assistant mine foreman, or experienced miner can effectively respond to cries for help of the apprentice: Provided, That if the apprentice has completed an approved training program as approved by the Board of Coal Mine Health and Safety, this period may be reduced by an amount not to exceed 30 days. The location shall be on the same side of any belt, conveyor, or mining equipment.

(c) Persons whose duties require them to use an approved methane-detecting device or other approved methane detectors shall be examined at least annually as to their competence by a qualified official from the Office of Miners" Health, Safety, and Training and a record of the examination shall be kept by the operator and the office. Approved methane-detecting devices and other approved methane detectors shall be given proper maintenance and shall be tested before each working shift. Each operator shall provide for the proper maintenance

and care of the permissible approved methane-detecting device or any other approved device for detecting methane and oxygen deficiency by a person trained in the maintenance, and, before each shift, care shall be taken to ensure that the approved methane-detecting device or other device is in a permissible condition and maintained according to manufacturer's specifications.

§22A-2-13. Daily inspection of working places; records.

Before the beginning of any shift upon which they shall perform supervisory duties, the mine foreman or his or her assistant shall review carefully and countersign all books and records reflecting the conditions and the areas under their supervision, exclusive of equipment logs, which the operator is required to keep under this chapter. The mine foreman, assistant mine foreman, or fire boss shall visit and carefully examine each working place in which miners will be working at the beginning of each shift before any face equipment is energized and shall examine each working place in the mine at least once every two hours each shift while such miners are at work in such places, and shall direct that each working place shall be secured by props, timbers, roof bolts, or other approved methods of roof support or both where necessary to the end that the working places shall be made safe. The mine foreman or his or her assistants upon observing a violation or potential violation of §22A-2-1 et seq. of this code or any regulation or any plan or agreement promulgated or entered into thereunder shall arrange for the prompt correction thereof. The foreman shall not permit any miner other than a certified foreman, fire boss, assistant mine foreman, assistant mine foreman-fire boss or pumper to be on a working section by himself or herself. Should the mine foreman or his or her assistants find a place to be in a dangerous condition, they shall not leave the place until it is made safe or shall remove the persons working therein until the place is made safe by some competent person designated for that purpose.

He or she shall place his or her initials, time and the date at or near each place he or she examines. He or she shall also record any dangerous conditions and practices found during his or her examination in a book provided for that purpose.

§22A-2-14. Safety inspections; removal of gases.

It shall be the duty of the mine foreman, assistant mine foreman or fire boss to examine all working places under his or her supervision for hazards at least once every two hours during each coal-producing shift, or more often if necessary for safety. In all mines such examinations shall include tests with an approved detector for methane and oxygen deficiency. It shall also be his or her duty to remove as soon as possible after its discovery any accumulations of explosive or noxious gases in active workings, and where practicable, any accumulations of explosive or noxious gases in the worked out and abandoned portions of the mine. It shall be the duty of the mine foreman, assistant mine foreman or fire boss to examine each mine within three hours prior to the beginning of a shift and before any miner in such shift enters the active workings of the mine.

§22A-2-15. Dangerous places.

The mine foreman shall direct and see that all dangerous places and the entrance or entrances to worked out and abandoned places in all mines are properly dangered off across the openings.

§22A-2-16. Examinations of reports of fire bosses.

The mine foreman shall, each day, read carefully and countersign with ink or indelible pencil all reports entered in the record book of the fire bosses. The mine foreman shall supervise the fire boss or fire bosses, except as provided in section twenty-one of this article. No less frequently than bi-weekly, the superintendent or, if there is no superintendent, the senior person at the mine shall obtain complete copies of the books of the fire bosses, and acknowledge that he or she has reviewed such copies and acted accordingly. This acknowledgment shall be made by signing a book prescribed by the director for that purpose.

§22A-2-17. Ascertainment, record and removal of all dangers.

The mine foreman shall give prompt attention to the removal of all dangers reported to him by his assistants, the fire boss or any other person working in the mine, and in case it is impracticable to remove the danger at once, he shall notify all persons whose safety is menaced thereby to remain away from the area where the dangerous condition exists. He or his assistants or certified persons designated by him shall at least once each week travel and examine the air courses, roads and openings that give access to old workings or falls and make a record of the condition of all places where danger has been found, with ink or indelible pencil in a book provided for that purpose.

§22A-2-18. Duty of mine foreman to notify operator when unable to comply with law; duty of operator.

The mine foreman shall notify, in writing, the operator or superintendent of the mine, and the director, of his inability to comply with any of the requirements of this law, and it shall then become the duty of such operator or superintendent promptly to attend to the matter complained of by the mine foreman so as to enable him to comply with the provisions hereof. Every operator of a mine shall furnish all supplies necessary for the mine foreman to comply with the requirements of this law after being requested to do so in writing by the mine foreman.

§22A-2-19. Death or resignation of mine foreman; successor.

In case of the death or resignation of a mine foreman, the superintendent or manager shall appoint a certified man to act as mine foreman.

§22A-2-20. Preparation of danger signal by fire boss or certified person acting as such prior to examination; report; records open for inspection.

(a) It is the duty of the fire boss, or a certified person acting as such, to prepare a danger signal (a separate signal for each shift) with red color at the mine entrance at the beginning of his or her shift or prior to his or her entering the mine to make his or her examination and, except for those persons already on assigned duty, no person except the mine owner, operator or agent, and only then in the case of necessity, shall pass beyond this danger signal until the mine has been examined by the fire boss or other certified person and the mine or certain parts thereof reported by him or her to be safe. When reported by him or her to be safe, the danger sign or color thereof shall be changed to indicate that the mine is safe in order that employees going on shift may begin work. Each person designated to make the fire boss examinations shall be assigned a definite underground area of the mine, and, in making his or her examination shall examine all active working places in the assigned area and make tests with an approved device for accumulations of methane and oxygen deficiency; examine seals and doors; examine and test the roof, face and ribs in the working places and on active roadways and travelways, approaches to abandoned workings, accessible falls in active sections and areas where any person is scheduled to work or travel underground. He or she shall place his or her initials and the date at or near the face of each place he or she examines. Should he or she find a condition which he or she considers dangerous to persons entering the areas, he or she shall place a conspicuous danger sign at all entrances to the place or places. Only persons authorized by the mine management may enter the places while the sign is posted and only for the purpose of eliminating the dangerous condition. Upon completing his or her examination he or she shall report by suitable communication system or in person the results of this examination to a certified person trained as a certified miner with at least two years mining experience designated by mine management to receive and record the report, at a designated station on the surface of the premises of the mine or underground, before other persons enter the mine to work in coal-producing shifts. He or she shall also record the results of his or her examination with ink or indelible pencil in a book prescribed by the director, kept for the purpose at a place on the surface of the mine designated by mine management. All records of daily and weekly reports, as prescribed herein, shall be open for inspection by interested persons.

(b) Supplemental examination. - When it becomes necessary to have workers enter areas of the mine not covered during the preshift examination, a supplemental examination shall be performed by a fire boss or certified person acting as such within three hours before any person enters the area. The fire boss or certified person acting as such shall examine the area for hazardous conditions, determine if air is traveling in its proper direction and test for oxygen deficiency and methane.

(c) Each examined area shall be certified by date, time and the initials of the examiner.

(d) The results of the examination shall be recorded with ink or indelible pencil by the examiner in the book referenced in subsection (a) of this section before he or she leaves the mine on that shift.

§22A-2-21. Fire bosses to have no superior officers.

In the performance of the duties devolving upon fire bosses, or certified persons acting as such, they shall have no superior officers, but all the employees working inside of such mine or mines shall be subordinate to them in their particular work.

§22A-2-22. Unlawful to enter mine until fire boss reports it safe; exceptions.

No person shall enter such mine or mines for any purpose at the beginning of work upon shift therein until such signal or warning has been given by the fire boss or bosses as to the safety thereof, as by statute provided, except under the direction of the fire boss or bosses, and then for the purpose of assisting in making the mine safe: Provided, however, That miners regularly employed on a shift during which the mine is being preshift examined by a fire boss or certified person shall be permitted to leave or enter the mine in the performance of their duties.

§22A-2-23. Authority of fire boss to perform other duties.

Notwithstanding any other provision in this article contained, any person who holds a certificate issued by the Office of Miners' Health, Safety and Training certifying his or her competency to act as fire boss may perform the duties of a fire boss and any other duties, statutory or otherwise, for which he or she is qualified, in the same mine or section and on the same day or shift.

§22A-2-24. Control of coal dust; rock dusting.

(a) In all mines, dangerous accumulations of fine, dry coal and coal dust shall be removed from the mine, and all dry and dusty operating sections and haulageways and conveyors and back entries shall be rock dusted or dust allayed by other methods as may be approved by the director.

(b) All mines or locations in mines that are too wet or too high in incombustible content for a coal dust explosion to initiate or propagate are not required to be rock dusted during the time any of these conditions prevail. Coal dust and other dust in suspension in unusual quantities shall be allayed by sprinkling or other dust allaying devices.

(c) In all dry and dusty mines or sections thereof, rock dust shall be applied and maintained upon the roof, floor and sides of all operating sections, haulageways and parallel entries connected thereto by open crosscuts. Back entries shall be rock dusted. Rock dust shall be so applied to include the last open crosscut of rooms and entries, and to within forty feet of faces. Rock dust shall be maintained in a quantity that the incombustible content of the mine dust that could initiate or propagate an explosion shall not be less than eighty percent. The incombustible content of mine dust in return entries shall also be equal to or greater than eighty percent.

(d) Rock dust shall not contain more than five percent by volume of quartz or free silica particles and shall be pulverized so that one hundred percent will pass through a twenty mesh screen and seventy percent or more will pass through a two hundred mesh screen.

(e) If requested by the director, an operator shall provide records establishing the quantity of bulk and bag rock dust purchased for a period not to exceed the immediately preceding six months.

§22A-2-25. Roof control programs and plans; refusal to work under unsupported roof.

(a) Each operator shall undertake to carry out on a continuing basis a program to improve the roof control system of each coal mine and the means and measures to accomplish such system. The roof and ribs of all active underground roadways, travelways, and working places shall be supported or otherwise controlled adequately to protect persons from falls of the roof or ribs. A roof control plan and revisions thereof suitable to the roof conditions and mining systems of each coal mine and approved by the director shall be adopted and set out in printed form before new operations. The safety committee of the miners of each mine where such committee exists shall be afforded the opportunity to review and submit comments and recommendations to the director and operator concerning the development, modification, or revision of such roof control plans. The plan shall show the type of support and spacing approved by the director. Such plan shall be reviewed periodically, at least every six months by the director, taking into consideration any falls of roof or rib or inadequacy of support of roof or ribs. A copy of the plan shall be furnished to the director or his or her authorized representative and shall be available to the miners and their representatives. The MSHA-approved roof control plan shall serve as the state-approved plan: Provided, That the MSHA-approved plan shall comply with all provisions of state mining law as set forth in this code or code of state rules.

(b) The operator, in accordance with the approved plan, shall provide at or near each working face and at such other locations in the coal mine, as the director may prescribe, an ample supply of suitable materials of proper size with which to secure the roof thereof of all working places in a safe manner. Safety posts, jacks, or other approved devices shall be used to protect the workmen when roof material is being taken down, crossbars are being installed, roof bolt holes are being drilled, roof bolts are being installed, and in such other circumstances as may be appropriate. Loose roof and overhanging or loose faces and ribs shall be taken down or supported. When overhangs or brows occur along rib lines they shall be promptly removed. All sections shall be maintained as near as possible on center. Except in the case of recovery work, supports knocked out shall be replaced promptly. Apprentice miners shall not be permitted to set temporary supports on a working section without the direct immediate supervision of a certified miner.

(c) The operator of a mine has primary responsibility to prevent injuries and deaths resulting from working under unsupported roof. Every operator shall require that no person may proceed beyond the last permanent support unless adequate temporary support is provided or temporary support is not required under an approved roof control plan and absence of such support will not pose a hazard to the miners.

(d) The immediate supervisor of any area in which unsupported roof is located shall not direct or knowingly permit any person to proceed beyond the last permanent support unless adequate temporary support is provided or temporary support is not required under an approved roof control plan and absence of such support will not pose a hazard to the miners.

(e) No miner shall proceed beyond the last permanent support in violation of a direct or standing order of an operator, a foreman or an assistant foreman, unless adequate temporary support is provided or temporary support is not required under an approved roof control plan and absence of such support will not pose a hazard to the miner.

(f) The immediate supervisor of each miner who will be engaged in any activity involving the securing of roof or rib during a shift shall, at the onset of any such shift, orally review those parts of the roof control plan relevant to the type of mining and roof control to be pursued by such miner.

(g) Any action taken against a miner due, in whole or in part, to his or her refusal to work under unsupported roof, where such work would constitute a violation of this section, is prohibited as an act of discrimination pursuant to §22A-1-22 of this code. Upon a finding of discrimination by the appeals board pursuant to §22A-1-22(b) of this code, the miner shall be awarded by the appeals board all reliefs available pursuant to §22A-1-22(b) and §22A-1-22(c) of this code.

§22A-2-26. Roof support; specific requirements.

(a) Generally. — The method of mining followed in any coal mine may not expose the miner to unusual dangers from roof falls, and the MSHA-approved plan shall serve as the state-approved plan: Provided, That the MSHA-approved plan shall comply with all provisions of state mining law as set forth in this code or code of state rules.

(b) Roadways, intersections, and arches. — The width of roadways shall not exceed 16 feet unless additional support is added cross sectional. During the development of intersections, the roof between the tangents of the arches in the entry or room shall be supported with artificial roof supports prior to the development of such intersections. All areas where the arch is broken shall be considered as having unsupported roof and such roof should have artificial roof supports installed prior to any other work being performed in the area.

(c) Examinations and corrections. — Where miners are exposed to danger from falls of roof, face and ribs, the operator shall examine and test the roof, face and ribs before any work or machine is started, and as frequently thereafter as may be necessary to insure safety. When dangerous conditions are found, they shall be corrected immediately. A probe or probes for methane detectors shall be provided on each working section other than longwall sections and sections mined solely with continuous miners with integral roof bolters.

(d) Roof bolt recovery. — Roof bolts shall not be recovered where complete extraction of pillars is attempted, where adjacent to clay veins or at the locations of other irregularities, whether natural or otherwise, that induce abnormal hazards. Where roof bolt recovery is permitted, it shall be conducted only in accordance with methods prescribed in the approved roof control plan, and shall be conducted by experienced miners and only where adequate temporary support is provided.

§22A-2-27. Canopies or cabs; electric face equipment.

An authorized representative of the director may require in any coal mine where the height of the coal bed permits that electric face equipment, including shuttle cars, be provided with substantially constructed canopies or cabs to protect the miners operating such equipment from roof falls and from rib and face rolls.

§22A-2-28. Equipment to conform with height of seam.

The use of underground mining equipment of a size that does not conform to the height of the seam being mined, which creates unsafe working conditions for the miner operating the equipment or others, is prohibited: Provided, That the addition of or use of sideboards on shuttle cars shall be permitted if the shuttle car is equipped with cameras: Provided, however, That shuttle cars with sideboards as manufactured by an equipment manufacturer shall be permitted to be used without the use of cameras if permitted by the director. The Board of Coal Mine Health and Safety shall promulgate such rules as are necessary to effectuate this section.

EXPLOSIVES AND BLASTING

§22A-2-29. Use of authorized explosives; storage or use of unauthorized explosives.

Permissible explosives or permissible blasting devices only shall be used in blasting coal or other material in underground coal mines. It shall be unlawful to have, use or store any nonpermissible explosives or nonpermissible blasting devices in any coal mine or on the premises of the mine, without a permit from the director.

§22A-2-30. Surface magazines for explosives.

Separate surface magazines shall be provided for storage of explosives, detonators and blasting heater elements. Surface magazines shall be constructed of incombustible materials, be reasonably bulletproof and with no metal or sparking material exposed inside the magazine. Surface magazines shall be provided with doors constructed of at least one-fourth inch steel plate lined with a two-inch thickness of wood or the equivalent, properly screened ventilators, and with no openings except for entrances and ventilation, and shall be kept locked securely when unattended. The area for a distance of at least twenty-five feet in all directions shall be kept free of materials of a combustible nature; suitable warning signs shall be erected, so located that a bullet passing directly through the face of the sign will not strike the magazine. The location of magazines shall be not less than two hundred feet from any mine openings, occupied buildings or public roads unless barricaded. If magazines are illuminated electrically, the lamps shall be of vapor-proof type, properly installed and wired, and smoking and open lights shall be prohibited in or near any magazine.

§22A-2-31. Transportation of explosives.

Individual containers used to carry permissible explosives or detonators shall be constructed of substantial, nonconductive materials, kept closed and maintained in good condition. When explosives or detonators are transported underground in cars moved by means of locomotives, ropes, or other motive power, they shall be in substantially covered cars or in special substantially built covered containers used specifically for transporting detonators or explosives. Any container used for transportation or storage of explosives shall be properly identified or marked. Explosives or detonators shall not be hauled into or out of a mine within five minutes preceding or following a man trip. Where explosives and detonators are transported underground by belts, they shall be handled in the following manner: In the original and unopened cases, in special closed cases constructed of nonconductive material, or in suitable, individual containers. Clearance requirements shall be a minimum of eighteen inches; stop controls shall be provided at loading and unloading points, and an attendant shall supervise the loading and unloading. Neither explosives nor detonators shall be transported on flight or shaking conveyors, mechanical loading machines, locomotives, scrapers, cutting machines, drill trucks, or any self-propelled mobile equipment. If explosives and detonators are transported in the same explosives car or in the same special container, they shall be separated by at least four inches of hardwood partition or the equivalent; the bodies of such cars or containers shall be constructed or lined with nonconductive material. No hand loader shall take into any mine any larger quantity of explosives or detonators than he may reasonably expect to use in any one shift.

§22A-2-32. Underground storage of explosives.

Explosives and detonators stored underground shall be kept in section boxes or magazines of substantial construction with no metal exposed on the inside, and be located at least fifteen feet from roadways and power wires in a well rock-dusted location, protected from falls of roof. If not kept in separate boxes or magazines not less than five feet apart, they may be kept in the same box or magazine if separated by at least a four-inch hardwood partition or the equivalent. Not more than a forty-eight hour supply of explosives or detonators shall be stored underground in section boxes or magazines. These boxes or magazines shall be kept at least one hundred feet from the faces and out of the direct line of blasting.

§22A-2-33. Preparation of shots; blasting practices.

(a) Only a certified "shot firer" designated by mine management shall be permitted to handle explosives and do blasting. Only electric detonators of proper strength fired with permissible shot firing units shall be used except under special permits as hereinafter provided, and drillholes shall be stemmed with at least 24 inches of incombustible material, or at least one half of the length of the hole shall be stemmed if the hole is less than four feet in depth, unless other permissible stemming devices or methods are used. Drillholes shall not be drilled beyond the limits of the cut, and as far as practicable, cuttings and dust shall be cleaned from the holes before the charge is inserted. Charges of explosives exceeding one and one-half pounds, but not exceeding three pounds, shall be used only if drillholes are six feet or more in depth. Ample warning shall be given before shots are fired, and care shall be taken to determine that all persons are in the clear before firing. Miners shall be removed from adjoining places and other places when there is danger of shots blowing through. No shots shall be fired in any place known to liberate explosive gas, until such place has been properly examined by a competent person who is designated by mine management for that purpose, and no shots shall be fired in any place where gas is detected with an approved gas detecting device until such gas has been removed by means of ventilation. After firing any shot, or shots, the person firing the same shall not return to the working face until the smoke has been cleared away and then he or she shall make a careful examination of the working face before leaving the place or before performing any other work in the place.

(b) Multiple shooting in coal or rock or both is authorized only under permit issued by the director. Permission to shoot more than 10 shots simultaneously may be granted by the director only after consultation with interested persons, and such shooting will be performed by special methods and under precautions prescribed by the director. All multiple shooting in bottom or roof rock shall be performed in intake air, except by special permit from the director, after consultation with interested persons, as heretofore provided. Multiple blasting of more than 10 shots performed under any permit granted by the director under this section shall be done only on noncoal-producing shifts or idle days, except as may be provided as a condition of the permit granted.

(c) Regular or short-interval delay detonators may be used for blasting purposes with written permission from the director. Regular delay detonators shall not be used for blasting coal, but may be used for grading above or below coal seams and during shaft, slope, tunnel work and in faults or wants. Where short-interval delay detonators are permitted by said director to be used, the shot firing circuit must be tested with a blasting galvanometer before firing, and the leg wires connected in series. No instantaneous, regular, or zero-delay detonators are to be fired in conjunction with short-interval delay detonators. The delay interval between dependent rows must not be less than 25 milliseconds or more than 100 milliseconds, and the entire series of any one round shall not provide a delay of more than 500 milliseconds between the first and last shot. The total number of charged holes to be fired during any one round must not exceed the limit permitted by the director. Misfires must be tested with a blasting galvanometer before removing.

(d) Electrical equipment shall not be operated in the face areas, and only work in connection with timbering and general safety shall be performed while boreholes are being charged. Shots shall be fired promptly after charging. Mudcaps (adobes) or any other unconfined shots shall not be permitted in any coal mine. No solid shooting shall be permitted without written permission of the office.

(e) Blasting cables shall be well insulated and shall be as long as may be necessary to permit persons authorized to fire shots to get in a safe place out of the line of fire. The cable, when new, shall be at least 125 feet in length and never less than 100 feet. Shooting cables shall be kept away from power wires and all other sources of electric current, connected to the leg wires by the person who fires the shot, staggered as to length or well separated at the detonator leg wires, and shunted at the battery until ready to connect to the blasting unit.

§22A-2-34. Misfires of explosives.

(a) Where misfires occur with electric detonators, a waiting period of at least five minutes shall elapse before anyone returns to the shot. After such failure, the blasting cable shall be disconnected from the source of power and the battery ends short-circuited before electric connections are examined.

(b) Explosives shall be removed by firing a separate charge at least two feet away from and parallel to the misfired charge or by washing the stemming and the charge from the borehole with water, or by inserting and firing a new primer after the stemming has been washed out.

(c) A careful search of the working place, and, if necessary, of the coal after it reaches the tipple shall be made after blasting a misfired hole, to recover any undetonated explosive.

(d) The handling of a misfired shot shall be under the direct supervision of the mine foreman or a certified person designated by him

§22A-2-35. Other blasting devices.

(a) The provisions governing the handling, storage, transportation and use of permissible explosives shall apply to all other blasting devices employing a heater element when used underground.

(b) Where compressed air is used for blasting, the airlines shall be grounded at the compressor and, if practical, at other low-resistant ground connections along the lines. They shall not be connected in any way to rails, waterlines or other electric return conductors and shall be adequately insulated and protected where they cross electric wires, underneath track or at places where equipment passes over or under. Steel, copper or other airlines connected therewith shall not be handled or repaired when air pressure is in the line. Shutoff valves shall be installed every thousand feet in all compressed-air blasting lines and at all points where branch lines leave the main line and blowdown valves shall not be less than fifty feet from the face and shall be around a corner.

(c) When misfires occur with any other blasting devices, they shall be handled in a safe manner and under the supervision of the mine foreman or a certified person designated by him

HOISTING

§22A-2-36. Hoisting machinery; telephones; safety devices; hoisting engineers and drum runners.

(a) The operator of every coal mine worked by shaft shall provide and maintain a metal tube, telephone or other approved means of communication from the top to the bottom and intermediate landings of such shafts, suitably adapted to the free passage of sound, through which conversation may be held between persons at the top and at the bottom of the shaft; a standard means of signaling; an approved safety catch, bridle chains, automatic stopping device, or automatic overwind; a sufficient cover overhead on every cage used for lowering or hoisting persons; an approved safety gate at the top of the shaft; and an adequate brake on the drum of every machine used to lower or hoist persons in such shaft. Such operator shall have the machinery used for lowering and hoisting persons into or out of the mine kept in safe condition, equipped with a reliable indicator, and inspected once in each twenty-four hours by a qualified electrician. Where a hoisting engineer is required, he or she shall be readily available at all times when men are in the mine. He or she shall operate the empty cage up and down the shaft at least one round trip at the beginning of each shift there shall be cut out around the side of the hoisting shaft or driven through the solid strata at the bottom thereof, a traveling way, not less than five feet high and three feet wide to enable a person to pass the shaft in going from one side of it to the other without passing over or under the cage or other hoisting apparatus. Positive stop blocks or derails shall be placed near the top and at all intermediate landings of slopes and surface inclines and at approaches to all shaft landings. A waiting station with sufficient room, ample clearance from moving equipment, and adequate seating facilities shall be provided where men are required to wait for man trips or man cages, and the miners shall remain in such station until the man trip or man cage is available.

(b) No operator of any coal mine worked by shaft, slope or incline, shall place in charge of any engine or drum used for lowering or hoisting persons employed in such mine any but competent and sober engineers or drum runners; and no engineer or drum runner in charge of such machinery shall allow any person, except such as may be designated for this purpose by the operator, to interfere with any part of the machinery; and no person shall interfere with any part of the machinery; and no person shall interfere with or intimidate the engineer or drum runner in the discharge of his or her duties. Where the mine is operated or worked by shaft or slope, a minimum space of two and one-half square feet per person shall be available for each person on any cage or car where men are transported. In no instance shall more than twenty miners be transported on a cage or car without the approval of the director. No person shall ride on a loaded cage or car in any shaft, slope, or incline: Provided, That this does not prevent any trip rider from riding in the performance of his or her authorized duties. No engineer is required for automatically operated cages, elevators, or platforms. Cages and elevators shall have an emergency power source unless provided with other escapeway facilities.

(c) Each automatic elevator shall be provided with a telephone or other effective

communication system by which aid or assistance can be obtained promptly.

(d) A stop switch shall be provided in the automatic elevator compartment that will permit the elevator to be stopped at any location in the shaft.

§22A-2-37. Haulage roads and equipment; shelter holes; prohibited practices; signals; inspection.

(a) Use of haulage roads and equipment along with signals and inspection shall meet standards established by the U. S. Mine Safety and Health Administration. The roadbed, rails, joints, switches, frogs, and other elements of all haulage roads shall be constructed, installed, and maintained in a manner consistent with speed and type of haulage operations being conducted to ensure safe operation. Where transportation of personnel is exclusively by rail, track shall be maintained to within 1,500 feet of the nearest working face, except that when any section is fully developed and being prepared for retreating, then the track shall be maintained to within 1,500 feet of that retreat mining section if a rubber tired vehicle is readily available: Provided, That in any case where such track is maintained to within a distance of more than 500 feet and not more than 1,500 feet of the nearest working face, a self-propelled, rubber-tired vehicle capable of transporting an injured worker shall be readily available.

(b) Track switches, except room and entry development switches, shall be provided with properly installed throws, bridle bars and guard rails; switch throws and stands, where possible, shall be placed on the clearance side.

(c) Haulage roads on entries shall have a continuous, unobstructed clearance of at least 24 inches from the farthest projection of any moving equipment on the clearance side.

(d) On haulage roads where trolley lines are used, the clearance shall be on the side opposite the trolley lines.

(e) On the trolley wire or "tight" side, there shall be at least 12 inches of clearance from the farthest projection of any moving equipment.

(f) Warning lights or reflective signs or tapes shall be installed along haulage roads at locations of abrupt or sudden changes in the overhead clearance.

(g) The clearance space on all haulage roads shall be kept free of loose rock, coal, supplies, or other material: Provided, That not more than 24 inches need be kept free of such obstructions.

(h) Ample clearance shall be provided at all points where supplies are loaded or unloaded along haulage roads or conveyors which in no event shall be less than 24 inches.

(i) Shelter holes shall be provided along haulage entries. Such shelter holes shall be spaced not more than 105 feet apart, except when variances are authorized by the director with unanimous agreement of the Mine Safety and Technical Review Committee. Shelter holes shall be on the side of the entry opposite the trolley wire except that shelter holes may be on the trolley wire and feeder wire side if the trolley wire and feeder wire are guarded in a manner approved by the director. The MSHA-approved plan shall serve as the state-

approved plan governing the use of shelters: Provided, That the MSHA-approved plan shall comply with all other provisions of state mining law as set forth in state code or code of state rules.

(j) Shelter holes shall be at least five feet in depth, not more than four feet in width and as high as the traveling space, unless the director with unanimous agreement of the Mine Safety and Technical Review Committee grants a waiver. Room necks and crosscuts may be used as shelter holes even though their width exceeds four feet.

(k) Shelter holes shall be kept clear of refuse and other obstructions.

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

(m) No steam locomotive shall be used in mines where miners are actually employed in the extraction of coal, but this shall not prevent operation of a steam locomotive through any tunnel haulway or part of a mine that is not in actual operation and producing coal.

(n) Underground equipment powered by internal combustion engines using petroleum products, alcohol, or any other compound shall not be used in a coal mine, unless the equipment is diesel-powered equipment approved, operated and maintained as provided in §22A-2-1 et seq. of this code.

(o) Locomotives, personnel carriers, mine cars, supply cars, shuttle cars, and all other haulage equipment shall be maintained in a safe operating condition. Each locomotive, personnel carrier, barrier tractor, and other related equipment shall be equipped with a suitable lifting jack and handle. An audible warning device and headlights shall be provided on each locomotive and each shuttle car. All other mobile equipment, using the face areas of the mine, shall be provided with a conspicuous light or other approved device so as to reduce the possibility of collision.

(p) No persons other than those necessary to operate a trip or car shall ride on any loaded car or on the outside of any car. Where pusher locomotives are not used, the locomotive operator shall have an assistant to assist him or her in his or her duties.

(q) The pushing of trips, except for switching purposes, is prohibited on main haulage roads: Provided, That nothing herein shall prohibit the use of a pusher locomotive to assist the locomotive pulling a trip. Motormen and trip riders shall use care in handling locomotives and cars. It shall be their duty to see that there is a conspicuous light on the front and rear of each trip or train of cars when in motion: Provided, however, That trip lights need not be used on cars being shifted to and from loading machines, or on cars being handled at loading heads during gathering operations at working faces. No person, other than the motorman and brakeman, should ride on a locomotive unless authorized by the mine foreman, and then only when safe riding facilities are provided. An empty car or cars shall be used to provide a safe distance between the locomotive and the material car when rail, pipe, or long timbers are being hauled. A safe clearance shall be maintained between the end car or trips placed

on side tracks and moving traffic. On haulage roads the clearance point shall be marked with an approved device.

(r) No motorman, trip rider, or brakeman shall get on or off cars, trips, or locomotives while they are in motion, except that a trip rider or brakeman may get on or off the rear end of a slowly moving trip or the stirrup of a slowly moving locomotive to throw a switch, align a derail, or open or close a door.

(s) Flying or running switches and riding on the front bumper of a car or locomotive are prohibited. Back poling shall be prohibited except with precaution to the nearest turning point (not over 80 feet), or when going up extremely steep grades and then only at slow speed. The operator of a shuttle car shall face in the direction of travel except during the loading operation when he or she shall face the loading machine.

(t) (1) A system of signals, methods, or devices shall be used to provide protection for trips, locomotives, and other equipment coming out onto tracks used by other equipment.

(2) In any coal mine where more than 350 tons of coal are produced on any shift in each 24-hour period, a dispatcher shall be on duty when there are movements of track equipment underground, including time when there is no production of coal. Such traffic shall move only at the direction of the dispatcher.

(3) The dispatcher's only duty shall be to direct traffic: Provided, That the dispatcher's duties may also include those of the responsible person required by §22A-2-42 of this code: Provided, however, That the dispatcher may perform other duties which do not interfere with his or her dispatching responsibilities and do not require him or her to leave the dispatcher's station except as approved by the Mine Safety and Technical Review Committee.

(4) Any dispatcher's station shall be on the surface.

(5) All self-propelled track equipment shall be equipped with two-way communications.

(u) Motormen shall inspect locomotives, and report any mechanical defects found to the proper supervisor before a locomotive is put in operation.

(v) A locomotive following another trip shall maintain a distance of at least 300 feet from the rear end of the trip ahead, unless such locomotive is coupled to the trip ahead.

(w) Positive stop blocks or derails shall be installed on all tracks near the top and at landings of shafts, slopes, and surface inclines. Positive-acting stop blocks or derails shall be used where necessary to protect persons from danger of runaway haulage equipment.

(x) Shuttle cars shall not be altered by the addition of sideboards so as to inhibit the view of the operator: Provided, That the addition of or use of sideboards on shuttle cars shall be permitted if the shuttle car is equipped with cameras: Provided, however, That shuttle cars

with sideboards as manufactured by an equipment manufacturer shall be permitted to be used without the use of cameras if permitted by the director.

(y) Mining equipment shall not be parked within 15 feet of a check curtain or fly curtain.

(z) All self-propelled track haulage equipment shall be equipped with an emergency stop switch, self-centering valves, or other devices designed to de-energize the traction motor circuit in the event of an emergency. All track-mounted trolley equipment shall be equipped with trolley pole swing limiters or other means approved by the Mine Safety and Technical Review Committee to restrict movement of the trolley pole when it is disengaged from the trolley wire. Battery powered mobile equipment shall have the operating controls clearly marked to distinguish the forward and reverse positions.

§22A-2-38. Transportation of miners by cars; self-propelled equipment; belts.

(a) Man trips shall be pulled, unless self-propelled, at safe speeds consistent with the condition of roads and type of equipment used, but not to exceed twelve miles an hour. Each man trip shall be under the charge of a certified person or other competent person designated by a mine foreman or assistant mine foreman. It shall be operated independently of any loaded trip of coal or other heavy material, but may transport tools, small machine parts and supplies. When mine cars are used for man trips, a locomotive shall be used on each end of the trip.

(b) Cars on the man trip shall not be overloaded, and sufficient cars in good mechanical condition shall be provided. Sufficient space shall be afforded so that no miner shall have to be transported in a hazardous position.

(c) No person shall ride under the trolley wire unless the man cars used are suitably covered and insulated. No person shall ride on loaded timber cars, loaded supply trucks, empty timber cars or empty supply trucks which are not equipped with side guards, on top of locomotives, on chain conveyors, inside shuttle cars, on the tops of machinery or equipment, or on the sides of machinery or equipment, except for operators of such machinery or equipment.

(d) Miners shall not load or unload before the cars in which they are to ride, or are riding, come to a full stop. Miners shall proceed in an orderly manner to and from man trips.

(e) When belts are used for transporting miners, a minimum clearance of eighteen inches shall be maintained between the belt and the roof or crossbars, projecting equipment, cap pieces, overhead cables, wiring and other objects. Visible reflectors shall be placed where projected equipment, cap pieces, overhead cables, wiring or other pieces cross the belt line. Where the height of the coal seam permits, the clearance shall not be less than twenty- four inches.

(f) The belt speed shall not exceed two hundred fifty feet per minute where the minimum overhead clearance is eighteen inches, or three hundred feet per minute where the minimum overhead clearance is twenty-four inches, while miners are loading, unloading, or being transported. A signaling system or method shall be provided for stopping the belt and miners shall ride not less than six feet apart.

(g) An assistant mine foreman or some other person designated by the mine foreman shall supervise the loading and unloading of belts and man trips. Where miners are required to cross over belts, adequate and safe facilities shall be provided.

(h) Positive-acting stop controls shall be installed along all belt conveyors used to transport miners, and such controls shall be readily accessible, and maintained so that the belt can be stopped or started at any location.

(i) Belt conveyors used for man trips shall be stopped while men are loading or unloading.

(j) There shall be at least thirty-six inches of side clearance where miners board or leave such belt conveyors.

(k) Adequate illumination including colored lights or reflective signs shall be installed at all loading and unloading stations. Such colored lights and reflective signs shall be so located as to be observable to all persons riding the belt conveyor.

(l) Telephone or other suitable communications shall be provided at points where miners are regularly loaded on or unloaded from belt conveyors.

(m) After supplies have been transported on man trip cars, such cars shall be examined for unsafe conditions prior to the transportation of miners.

(n) While trackmen are working on haulageways, the dispatcher, or if there is no dispatcher, such other person responsible for communications with haulage crews shall give notice to haulage crews to maintain traffic under a slow and safe operating speed at the point of construction or repair.

§22A-2-39. Belt conveyor; installation; maintenance; examination of belt conveyors and belt entries.

(a) On or after July 1, 1971, all conveyor belts acquired for use underground shall be flame-resistant conveyor belts.

(b) A clear travelway at least twenty-four inches wide shall be provided on both sides of all belt conveyors installed after July 1, 1971. Where roof supports are installed within twenty-four inches of a belt conveyor, a clear travelway at least twenty-four inches wide shall be provided on the side of such support farthest from the conveyor.

(c) On belt conveyors that do not transport men, stop and start controls shall be installed at intervals not to exceed one thousand feet. Such controls shall be properly installed and positioned so as to be readily accessible.

(d) Persons shall not cross moving belt conveyors, except where suitable crossing facilities are provided.

(e) All belt conveyors shall be inspected by a certified belt examiner, mine foreman-fireboss or assistant mine foreman-fireboss for frozen rollers and fire hazards following the last production shift each week, also before holidays, vacation periods, as hereinafter provided, with records kept of daily inspection.

(f) (1) Belt conveyors on which coal is transported on any shift shall be examined during each coal-producing shift. Such examination shall be made of belt conveyors and belt conveyor entries for unsafe conditions including, but not limited to, mine gases, frozen rollers, hazardous roof or rib conditions and fires.

(2) Whenever an on-shift examination of a belt conveyor and belt conveyor entry has not been made during the preceding shift, an examination shall be made of the belt conveyor and belt conveyor entry prior to the conveyor being started; or if any miner is going to enter the belt conveyor entry, then the area where such miner will be working shall be examined. Such examination shall be made by a certified mine foreman-fire boss, assistant mine foreman-fire boss, or a certified belt examiner. Thereafter, on-shift examinations by a certified belt examiner, mine foreman-fire boss or assistant mine foreman-fire boss shall be made as herein required.

(g) In the conduct of the examination, the belt examiner, mine foreman-fire boss or assistant mine foreman-fire boss shall travel the full extent of the belt conveyor or belt conveyor entry assigned and shall place his initials and the date and time of his examination at or near each belt head and along each belt conveyor he examines. Should the belt examiner, mine foreman-fire boss or assistant mine foreman-fire boss find a condition which he considers dangerous to persons entering such area, he shall erect a danger sign to prevent other persons from entering the area and notify his immediate supervisor of the condition. Only state or federal inspectors or authorized representatives of the miners, and persons

authorized by mine management to correct the condition, may enter such area while the danger sign is posted. At the conclusion of each shift, belt examiners, mine foreman-fire bosses or assistant mine foreman-fire bosses shall record in a book provided for that purpose the results of their examination, including comments concerning the physical condition of the belt conveyor and the area where the belt conveyor is located. Such book shall be examined and countersigned by the mine foreman or his assistant and by the person conducting such examination on the next oncoming shift.

(h) The examinations set forth in this section shall be the only examinations required of belt conveyors and belt conveyor entries, notwithstanding any provision of sections fourteen, twenty or any other section of this chapter relating to the examination of belt conveyors and belt conveyor entries.

(i) The board of miner training, education and certification shall establish criteria and standards for the training, examination and certification of "belt examiners". Persons seeking to be certified as a "belt examiner" must hold a miner's certificate and have at least two years practical underground mining experience. Such training, examination and certification program shall, as a minimum, require a demonstration of knowledge of belt conveyors roof control, ventilation and gases.

(j) Deluge-type water sprays, water sprinklers, dry chemical sprinkler system or foam generators (designed to be automatically activated in the event of a fire or rise in the temperature at or near the belt drive) shall be installed at each main and secondary conveyor drive that are located underground.

(k) All underground belt conveyors shall be equipped with slippage and sequence switches.

(l) Telephones or other suitable communications shall be provided at points where supplies are regularly loaded or unloaded from the belt conveyors.

(m) After supplies have been transported on belt conveyors, such belts shall be examined by a belt examiner, mine foreman-fire boss or assistant mine foreman-fire boss for unsafe conditions prior to the transportation of men.

(n) No person shall be permitted to perform any work within the confines of the cargo space of a crusher or feeder, unless the crusher or feeder has been de-energized and locked out.

§22A-2-40. General provisions.

Operators of coal mines in which electricity is used as a means of power shall comply with the following provisions:

(1) All surface transformers, unless of a construction which will eliminate shock hazards, or unless installed at least eight feet above ground, shall be enclosed in a house or surrounded by a fence at least six feet high. If the enclosure is of metal, it shall be grounded effectively. The gate or door to the enclosure shall be kept locked at all times, unless authorized persons are present.

(2) Underground transformers shall be air cooled or cooled with noninflammable liquid or inert gas.

(3) Underground stations containing circuit breakers filled with inflammable liquids shall be put on a separate split of air or ventilated to the return air, and shall be of fireproof construction.

(4) Transformers shall be provided with adequate overload protection.

(5) "Danger — High Voltage" signs with the voltage indicated shall be posted conspicuously on all transformer enclosures, high-potential switchboards, and other high-potential installations.

(6) Dry insulating platforms of rubber or other suitable nonconductive material shall be kept in place at each switchboard and at stationary machinery where shock hazards exist.

(7) Capacitors used for power factor correction shall be nonflammable liquid filled. Suitable drain-off resistors or other means to protect miners against electric shock following removal of power shall be provided.

(8) All unattended underground loading points where electric driven hydraulic systems are used shall utilize a fireproof oil or emulsion.

(9) Before electrical changes are made to permissible equipment for use in a mine, they shall be approved by the director.

(10) Reverse current protection shall be provided at storage battery charging stations to prevent the storage batteries from energizing the power circuits in the event of power failure.

(11) In all mines all junction or distribution boxes used for making multiple power connections inby the last open crosscut shall be permissible.

(12) All hand-held electric drills, blower and exhaust fans, electric pumps, and such other low horsepower electric face equipment which are taken into or used inby the last open

crosscut of any coal mine shall be permissible.

(13) All electric face equipment which is taken into or used inby the last open crosscut of any coal mine shall be permissible.

(14) In mines operated in coal seams which are located at elevations above the water table, the phrase “coal seams above the water table” means coal seams in a mine which are located at an elevation above a river or the tributary of a river into which a local surface water system naturally drains.

(15) The operator of each coal mine shall maintain in permissible condition all electric face equipment, which is taken into or used inby the last open crosscut of any mine.

(16) Except where permissible power connection units are used, all power-connection points outby the last open crosscut shall be in intake air.

(17) All power circuits and electric equipment shall be deenergized before work is done on such circuits and equipment, except when necessary for trouble shooting or testing.

(18) Energized trolley wires may be repaired only by a person trained to perform electrical work and to maintain electrical equipment and the operator of a mine shall require that such persons wear approved and tested insulated shoes and wireman’s gloves.

(19) No electrical work shall be performed on low-, medium-, or high-voltage distribution circuits or equipment, except by a qualified person or by a person trained to perform electrical work and to maintain electrical equipment under the direct supervision of a qualified person. Disconnecting devices shall be locked out and suitably tagged by each person who performs such work, except that in cases where locking out is not possible, such devices shall be opened and suitably tagged by such persons who installed them, or, if such persons are unavailable, by qualified persons authorized by the operator or his or her agent.

(20) All electric equipment shall be examined weekly, tested, and properly maintained by a qualified person to assure safe operating conditions. When a potentially dangerous condition is found on electric equipment, such equipment shall be removed from service until such condition is corrected. A record of such examinations shall be kept and made available to an authorized representative of the director and to the miners in such mine.

(21) All electric conductors shall be sufficient in size and have adequate current-carrying capacity and be of such construction that a rise in temperature resulting from normal operation will not damage the insulating material.

(22) All electrical connections or splices in conductors shall be mechanically and electrically efficient, and suitable connectors shall be used. All electrical connections or splices in insulated wire shall be reinsulated at least to the same degree of protection as the remainder of the wire.

(23) Cables shall enter metal frames of motors, splice boxes, and electric compartment only through proper fittings. When insulated wire, other than cables, pass through metal frames, the holes shall be substantially bushed with insulated bushings.

(24) All power wire (except trailing cables on mobile equipment, specially designed cables conducting high-voltage power to underground rectifying equipment or transformers, or bare or insulated ground and return wires) shall be supported on well-installed insulators and shall not contact combustible material, roof, or ribs.

(25) Power wires and cables, including, but not limited to, phone communication and control wires, except trolley wires, trolley feeder wires, and bare signal wires, shall be insulated adequately and fully protected. The provisions of this subdivision became effective on January 1, 1978.

(26) Automatic circuit-breaking devices or fuses of the correct type and capacity shall be installed so as to protect all electric equipment and circuits against short circuit and overloads. Three-phase motors on all electric equipment shall be provided with overload protection that will deenergize all three phases in the event that any phase is overloaded.

(27) Incandescent lamps installed along haulageways and at other locations shall not contact combustible material, and if powered from trolley or direct current feeder circuits, need not be provided with separate short circuits or overload protection, if the lamp is not more than eight feet in distance from such circuits.

(28) In all main power circuits, disconnecting switches shall be installed underground within 500 feet of the bottoms of shafts and boreholes through which main power circuits enter the underground area of the mine and within 500 feet of all other places where main power circuits enter the underground area of the mine.

(29) All electric equipment shall be provided with switches or other controls that are safely designed, constructed, and installed.

(30) Each underground, exposed power conductor that leads underground shall be equipped with suitable lightning arrestors of approved type within 100 feet of the point where the circuit enters the mine. Lightning arrestors shall be connected to a low-resistance grounding medium on the surface which shall be separated from neutral ground by a distance of not less than 25 feet.

(31) Except for areas of a coal mine inby the last open crosscut, incandescent lamps may be used to illuminate underground areas. When incandescent lamps are used in a track entry or belt entry or near track entries to illuminate special areas other than structures, the lamps shall be installed in weatherproof sockets located in positions such that the lamps will not come in contact with any combustible material. Lamps used in all other places must be of substantial construction and be fitted with a glass enclosure.

(32) An authorized representative of the director may require in any mine that electric face equipment be provided with devices that will permit the equipment to be deenergized quickly in the event of an emergency.

(33) An authorized representative of the director shall require manually operated emergency stop switches, designed to deenergize the traction motor circuit when the contractors or controller fail to open, to be installed on all battery powered tractors, taken into or used inby the last open crosscut of any entry or room.

(34) Trailing cables used in coal mines shall meet the requirements for flame-resistant cables.

(35) Short circuit protection for trailing cables shall be provided by an automatic circuit breaker or other no less effective device approved by the director of adequate current-interrupting capacity in each ungrounded conductor. Disconnecting devices used to disconnect power from trailing cables shall be plainly marked and identified and such devices shall be equipped or designed in such a manner that it can be determined by visual observation that the power is disconnected.

(36) When two or more trailing cables junction to the same distribution center, means shall be provided to assure against connecting a trailing cable to the wrong size circuit breaker.

(37) One temporary splice may be made in any trailing cable. Such trailing cable may only be used for the next 24-hour period. No temporary splice shall be made in a trailing cable within 25 feet of the machine, except cable reel equipment. Temporary splices in trailing cables shall be made in a workmanlike manner and shall be mechanically strong and well insulated. Trailing cables or hand cables which have exposed wires or which have splices that heat or spark under load shall not be used. As used in this section, the term “splice” means a mechanical joining of one or more conductors that have been severed.

(38) When permanent splices in trailing cables are made, they shall be:

(A) Mechanically strong with adequate electrical conductivity and flexibility;

(B) Effectively insulated and sealed so as to exclude moisture; and

(C) Vulcanized or otherwise treated with suitable materials to provide flame-resistant qualities and good bonding to the outer jacket.

(39) Trailing cables shall be clamped to machines in a manner to protect the cables from damage and to prevent strain on the electrical connections. No cables will be hung in a manner which will damage the insulation or conductors.

(40) Trailing cables shall be adequately protected to prevent damage by mobile equipment.

(41) Trailing cable and power cable connections to junction boxes and to electrical

equipment shall not be made or broken under load.

(42) All metallic sheaths, armors and conduits enclosing power conductors shall be electrically continuous throughout and shall be grounded by methods approved by an authorized representative of the director.

(43) Except where waived by the director, metallic frames, casings and other enclosures of electric equipment that can become alive through failure of insulation or by contact with energized parts shall be grounded, and shall have a ground monitoring system.

(44) In instance where single-phase 110-220 volt circuits are used to feed electrical equipment, the only method of grounding that will be approved is the connection of all metallic frames, casings, and other enclosure of such equipment to a separate grounding conductor which establishes a continuous connection to a grounded center tap of the transformer.

(45) The attachment of grounding wires to a mine track or other grounded power conductor will be approved if separate clamps, suitable for such purpose, are used and installed to provide a solid connection.

(46) The frames of all offtrack direct-current machines and the enclosures of related detached components shall be effectively grounded or otherwise maintained at no less safe voltages.

(47) Installation of silicon diodes shall be restricted to electric equipment receiving power from a direct-current system with one polarity grounded. Where such diodes are used on circuits having a nominal voltage rating of 250, they must have a forward current rating of 400 amperes or more, and have a peak inverse voltage rating of 400 or more. Where such diodes are used on circuits having nominal voltage rating of 550, they must have a forward current rating of 250 amperes or more, and have a peak inverse voltage rating of 800 or more.

(48) In addition to the grounding diode, a polarizing diode must be installed in the machine control circuit to prevent operation of the machine when the polarity of a trailing cable is reversed.

(49) When installed on permissible equipment, all grounding diodes, over-current devices, and polarizing diodes must be placed in explosion-proof compartments.

(50) High-voltage lines, both on the surface and underground, shall be deenergized and grounded before work is performed on them, except that repairs may be permitted, in the case of energized surface high-voltage lines, if such repairs are made by a qualified person in accordance with procedures and safeguards, including, but not limited to, a requirement that the operator of such mine provide, test and maintain protective devices in making such repairs.

(51) When two or more persons are working on an energized high-voltage surface line simultaneously, and any one of them is within reach of another, such persons shall not be allowed to work on different phases or on equipment with different potentials.

(52) All persons performing work on energized high-voltage surface lines shall wear protective rubber gloves, sleeves, and climber guards if climbers are worn. Protective rubber gloves shall not be worn wrong side out or without protective leather gloves. Protective devices worn by a person assigned to perform repairs on high-voltage surface lines shall be worn continuously from the time he or she leaves the ground until he or she returns to the ground, and, if such devices are employed for extended periods, such person shall visually inspect the equipment assigned him or her for defects before each use, and, in no case, less than twice each day.

(53) Disconnecting or cutout switches on energized high-voltage surface lines shall be operated only with insulated sticks, fuse tongs, or pullers which are adequately insulated and maintained to protect the operator from the voltage to which he or she is exposed. When such switches are operated from the ground, the person operating such devices shall wear protective rubber gloves.

(54) Solely for purposes of grounding ungrounded high-voltage power systems, grounded messenger wires used to suspend the cables of such systems may be used as a grounding medium.

(55) When not in use, power circuits underground shall be deenergized on idle days and idle shifts, except that rectifiers and transformers may remain energized.

(56) High-voltage circuits entering the underground area of any coal mine shall be protected by suitable circuit breakers of adequate interrupting capacity. Such breakers shall be equipped with devices to provide protection against undervoltage, grounded phase, short circuit, and overcurrent.

(57) Circuit breakers protecting high-voltage circuits entering an underground area of any coal mine shall be located on the surface and in no case installed either underground or within a drift.

(58) One circuit breaker may be used to protect two or more branch circuits, if the circuit breaker is adjusted to afford overcurrent protection for the smallest conductor.

(59) The grounding resistor, where required, shall be of the proper ohmic value to limit the voltage drop in the grounding circuit external to the resistor to not more than 100 volts under fault conditions. The grounding resistor shall be rated for maximum fault current continuously and insulated from ground for a voltage equal to the phase-to-phase voltage of the system.

(60) High-voltage circuits extending underground and supplying portable mobile or

stationary high-voltage equipment shall contain either a direct or derived neutral which shall be grounded through a suitable resistor at the source transformers, and a grounding circuit, originating at the grounded side of the grounding resistor, shall extend along with the power conductors and serve as a grounding conductor for the frames of all high-voltage equipment supplied power from the circuit, except that the director or his or her authorized representative may permit ungrounded high-voltage circuits to be extended underground to feed stationary electrical equipment if such circuits are either steel armored or installed in grounded, rigid steel conduit throughout their entire length, and upon his or her finding that such exception does not pose a hazard to the miners. Within 100 feet of the point on the surface where high-voltage circuits enter the underground portion of the mine, disconnecting devices shall be installed and so equipped or designed in such a manner that it can be determined by visual observation that the power is disconnected, except that the director or his or her authorized representative may permit such devices to be installed at a greater distance from such area of the mine if he or she determines, based on existing physical conditions, that such installation will be more accessible at a greater distance and will not pose any hazard to the miners.

(61) High-voltage resistance grounded systems serving portable or mobile equipment shall include a fail-safe ground check circuit to monitor continuously the grounding circuit to assure continuity, and the fail-safe ground check circuit shall cause the circuit breaker to open when either the ground or pilot check wire is broken, or other no less effective device approved by the director or his or her authorized representative to assure such continuity.

(62) Underground high-voltage cables used in resistance grounded systems shall be equipped with metallic shields around each power conductor with one or more ground conductors having a total cross-sectional area of not less than one half the power conductor, and with an insulated internal or external conductor not smaller than No. 10 (A.W.G.) for the ground continuity check circuit.

(63) All such cables shall be adequate for the intended current and voltage. Splices made in such cables shall provide continuity of all components.

(64) Single-phase loads, such as transformer primaries, shall be connected phase-to-phase.

(65) All underground high-voltage transmission cables shall be installed only in regularly inspected air courses and haulageways, and shall be covered, buried, or placed so as to afford protection against damage, guarded where men regularly work or pass under them unless they are six and one-half feet or more above the floor or rail, securely anchored, properly insulated, and guarded at ends, and covered, insulated, or placed to prevent contact with trolley wires and other low-voltage circuits.

(66) Disconnecting devices shall be installed at the beginning of branch lines in underground high-voltage circuits and equipped or designed in such a manner that it can be determined by visual observation that the circuit is deenergized when the switches are open.

(67) Circuit breakers and disconnecting switches underground shall be marked for identification.

(68) In the case of high-voltage cables used as trailing cables, temporary splices shall not be used and all permanent splices shall be made in accordance with the manufacturers' specifications.

(69) Frames, supporting structures and enclosures of stationary, portable, or mobile underground high-voltage equipment and all high-voltage equipment supplying power to such equipment receiving power from resistance grounded systems shall be effectively grounded to the high-voltage ground.

(70) Low- and medium-voltage power circuits serving three-phase alternating current equipment serving portable or mobile equipment shall be protected by suitable circuit breakers of adequate interrupting capacity which are properly tested and maintained as prescribed by the director. Such breakers shall be equipped with devices to provide protection against under-voltage, grounded phase, short circuit, and overcurrent.

(71) Power centers and portable transformers shall be deenergized before they are moved from one location to another, except that, when equipment powered by sources other than such centers or transformers is not available, the director may permit such centers and transformers to be moved while energized, if he or she determines that another equivalent or greater hazard may otherwise be created, and if they are moved under the supervision of a qualified person, and if such centers and transformers are examined prior to such movement by such person and found to be grounded by methods approved by an authorized representative of the director and otherwise protected from hazards to the miner. A record shall be kept of such examinations. High-voltage cables, other than trailing cables, shall not be moved or handled at any time while energized, except that when such centers and transformers are moved while energized as permitted under this section, energized high-voltage cables attached to such centers and transformers may be moved only by a qualified person and the operator of such mine shall require that such person wear approved and tested insulated wireman's gloves.

(72) Low- and medium-voltage three-phase alternating-current circuits used underground shall contain either a direct or derived neutral which shall be grounded through a suitable resistor at the power center, and a grounding circuit, originating at the grounded side of the grounding resistor, shall extend along with the power conductors and serve as a grounding conductor for the frames of all the electrical equipment supplied power from the circuit, except that the director or his or her authorized representative may permit underground low- and medium-voltage circuits to be used underground to feed such stationary electrical equipment if such circuits are either steel armored or installed in grounded rigid steel conduit throughout their entire length. The grounding resistor, where required, shall be of the proper ohmic value to limit the ground fault current to 25 amperes. The grounding resistor shall be rated for maximum fault current continuously and insulated from ground for a voltage equal to the phase-to-phase voltage of the system.

(73) Low- and medium-voltage resistance grounded systems serving portable or mobile equipment shall include a fail-safe ground check circuit to monitor continuously the grounding circuit to assure continuity which ground check circuit shall cause the circuit breaker to open when either the ground or pilot check wire is broken, or other not less effective device approved by the director or his or her authorized representative to assure such continuity, except that an extension of time, not in excess of 12 months, may be permitted by the director on a mine-to-mine basis if he or she determines that such equipment is not available. Cable couplers shall be constructed so that the ground check continuity conductor shall be broken first and the ground conductors shall be broken last when the coupler is being uncoupled.

(74) Disconnecting devices shall be installed in conjunction with circuit breakers serving portable or mobile equipment to provide visual evidence that the power is connected.

(75) Circuit breakers shall be marked for identification.

(76) Single-phase loads shall be connected phase-to-phase.

(77) Trailing cables for medium-voltage circuits shall include grounding conductors, a ground check conductor, and grounded metallic shields around each power conductor or a ground metallic shield over the assembly, except that on equipment employing cable reels, cables without shields may be used if the insulation is rated 2,000 volts or more.

(78) Trolley wires and trolley feeder wires shall be provided with cutout switches at intervals of not more than 2,000 feet and near the beginning of all branch lines.

(79) Trolley wires and trolley feeder wires shall be provided with overcurrent protection.

(80) Trolley wires and trolley feeder wires, high-voltage cables, and transformers shall not be located within 15 feet of the last open crosscut and shall be kept at least 150 feet from pillar workings.

(81) Trolley wires, trolley feeder wires, and bare signal wires shall be insulated adequately where they pass through doors and stoppings and where they cross other power wires and cables. Trolley wires and trolley feeder wires shall be guarded adequately:

(A) At all points where men are required to work or pass regularly under the wires.

(B) On both sides of all doors and stoppings.

(C) At man-trip stations.

(82) Temporary guards shall be provided where trackmen and other persons work in close proximity to trolley wires and trolley feeder wires.

(83) Adequate precaution shall be taken to ensure that equipment being moved along

haulageways will not come in contact with trolley wires or trolley feeder wires.

(84) Trolley and feeder wires shall be installed as follows: Where installed on permanent haulage, they shall be:

(A) At least six inches outside the track gauge line.

(B) Kept taut and not permitted to touch the roof, rib, or crossbars. Particular care shall be taken where they pass through door openings to preclude bare wires from coming in contact with combustible material.

(C) Installations of trolley wire hangers shall be provided within three feet of each splice in a trolley wire.

§22A-2-41. Bonding track used as power conductor.

Where track is used as a power conductor, rails and switches on main entries shall be bonded and cross-bonded in such manner as to assure adequate return. At least one rail on secondary track-haulage roads shall be welded or bonded at every joint, and cross bonds shall be installed at intervals of not more than two hundred feet: Provided, however, That rail joints in such secondary haulage roads need not be bonded where a copper feeder adequate in size parallels the track and is electrically connected thereto at intervals of not more than two hundred feet by cross bonds.

§22A-2-42. Telephone service or communication facilities.

Telephone service or equivalent two-way communication facilities shall be provided in all mines at least one of which shall be in service at all times as follows:

(a) A telephone or equivalent two-way communication facility shall be located on the surface within five hundred feet of all main portals, and shall be installed either in a building or in a box-like structure designed to protect the facilities from damage by inclement weather. At least one of these communication facilities shall be at a location where a responsible person who is always on duty when miners are underground can hear the facility and respond immediately in the event of an emergency. "Two-way communication facility" shall mean a system maintained to allow voice contact to come in and out of the working section at all times.

(b) (1) Telephones or equivalent two-way communication facilities provided at each working section shall be located not more than five hundred feet outby the last open crosscut and not more than eight hundred feet from the farthest point of penetration of the working places on such section.

(2) The incoming communication signal shall activate an audible alarm, distinguishable from the surrounding noise level, or a visual alarm that can be seen by a miner regularly employed on the working section.

(3) If a communication system other than telephones is used and its operation depends entirely upon power from the mine electric system, means shall be provided to permit continued communication in the event the mine electric power fails or is cut off: Provided, That where trolley phones and telephones are both used, an alternate source of power for the trolley phone system is not required.

(4) Telephones or equivalent two-way communication facilities shall be maintained in good operating condition at all times. In the event of any failure in the system that results in loss of communication, repairs shall be started immediately, and the system restored to operating condition as soon as possible.

(5) Where required by the director, trucks used for haulage of coal, miners, or supplies by an operator shall be equipped with two-way communication instruments.

(c) On or after January 1, 1978, unless the director for good cause grants a waiver, all such telephones or equivalent two-way communications shall be connected to regular telephonic and other means of communication available in the community so that in the event of an emergency, emergency medical attendants or other personnel can communicate to and from the mine directly to health care facilities.

(d) Telephone lines and cables shall be carried on insulators installed on the opposite side from power or trolley wires, and where they cross power or trolley wires, they shall be

insulated adequately. Lightning arrestors shall be provided at the points where telephone circuits enter the mine.

§22A-2-43. Actions to detect and respond to excess methane.

The following actions are required to detect and respond to excess methane. Subsections (a) through (f) of this section pertain to methane testing with hand-held devices:

(a) Hand-held testing required. -- In any mine, no electrical equipment or permissible diesel-powered equipment may be brought in by the last open crosscut until a qualified person tests for methane. If one percent or more methane is present, the equipment may not be taken into the area until the methane concentration is reduced to less than one percent. Thereafter, subsequent methane examinations shall be made at least every twenty minutes while any electrical or diesel-powered equipment is present and energized.

(b) Location of tests. –- Tests for methane concentrations under this section shall be made at least twelve inches from the roof, face, ribs and floor.

(c) Working places and intake air courses. --

(1) When one percent or more methane is present in a working place or an intake air course, including an air course in which a belt conveyor is located or in an area where mechanized mining equipment is being installed or removed:

(A) Except intrinsically safe atmospheric monitoring systems (AMS), electrically powered equipment in the affected area shall be de-energized and other mechanized equipment shall be shut off.

(B) Changes or adjustments shall be made at once to the ventilation system to reduce the concentration of methane to less than one percent.

(C) No other work shall be permitted in the affected area until the methane concentration is less than one percent.

(2) When one and five-tenths percent or more methane is present in a working place or an intake air course, including an air course in which a belt conveyor is located or in an area where mechanized mining equipment is being installed or removed: (A) Except for the mine foreman, assistant mine foreman or individuals authorized by the mine foreman or assistant mine foreman, all individuals shall be withdrawn from the affected area. If a federal or state mine inspector is present in the area of the mine where one and five-tenths percent or more of methane is detected, the federal or state mine inspector and the miners' representative, if any, may remain in the area with the mine foreman, assistant mine foreman or other individuals authorized by the mine foreman or assistant mine foreman.

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

(d) Return air split.--

(1) When one percent or more methane is present in a return air split between the last working place on a working section and where that split of air meets another split of air or the location at which the split is used to ventilate seals or worked-out areas, changes or adjustments shall be made at once to the ventilation system to reduce the concentration of methane in the return air to less than one percent.

(2) When one and five-tenths percent or more methane is present in a return air split between the last working place on a working section and where that split of air meets another split of air or the location where the split is used to ventilate seals or worked-out areas, except for the mine foreman, assistant mine foreman or individuals authorized by the mine or assistant mine foreman, all individuals shall be withdrawn from the affected area. If a federal or state mine inspector is present in the area of the mine where one and five-tenths percent or more of methane is detected, the federal or state mine inspector and the miners' representative, if any, may remain in the area with the mine foreman, assistant mine foreman or other individuals authorized by the mine foreman or assistant mine foreman.

(3) Other than intrinsically safe AMS, equipment in the affected area shall be de-energized, electric power shall be disconnected at the power source and other mechanized equipment shall be shut off.

(4) No other work shall be permitted in the affected area until the methane concentration in the return air is less than one percent.

(e) Return air split alternative. --

(1) The provisions of this paragraph may apply if:

(A) The quantity of air in the split ventilating the active workings is at least twenty-seven thousand cubic feet per minute in the last open crosscut or the quantity specified in the approved ventilation plan, whichever is greater.

(B) The methane content of the air in the split is continuously monitored during mining operations by an AMS that gives a visual and audible signal on the working section when the methane in the return air reaches one and five-tenths percent and the methane content is monitored as specified in the approved ventilation plan.

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

(2) When one and five-tenths percent or more methane is present in a return air split between a point in the return opposite the section loading point and where that split of air meets another split of air or where the split of air is used to ventilate seals or worked-out areas:

(A) Changes or adjustments shall be made at once to the ventilation system to reduce the

concentration of methane in the return air below one and five-tenths percent.

(B) Except for the mine foreman, assistant mine foreman or individuals authorized by the mine foreman or assistant mine foreman, all individuals shall be withdrawn from the affected area. If a federal or state mine inspector is present in the area of the mine where one and five-tenths percent or more of methane is detected, the federal or state mine inspector and the miners' representative, if any, may remain in the area with the mine foreman, assistant mine foreman or other individuals authorized by the mine foreman or assistant mine foreman.

(C) Except for intrinsically safe AMS, equipment in the affected area shall be de-energized, electric power shall be disconnected at the power source and other mechanized equipment shall be shut off.

(D) No other work shall be permitted in the affected area until the methane concentration in the return air is less than one and five-tenths percent.

(f) Bleeders and other return air courses.--

The concentration of methane in a bleeder split of air immediately before the air in the split joins another split of air, or in a return air course other than as described in subsections (d) and (e) of this section, shall not exceed two percent.

(g) Machine-mounted methane monitors. --

(1) Approved methane monitors shall be installed and maintained on all face cutting machines, continuous miners, longwall face equipment and other mechanized equipment used to extract coal or load coal within the working place.

(2) The sensing device for methane monitors on longwall shearing machines shall be installed at the return air end of the longwall face. An additional sensing device also shall be installed on the longwall shearing machine, downwind and as close to the cutting head as practicable. An alternative location or locations for the sensing device required on the longwall shearing machine may be approved in the ventilation plan.

(3) The sensing devices of methane monitors shall be installed as close to the working face as practicable.

(4) Methane monitors shall be maintained in permissible and proper operating condition and shall be calibrated with a known air-methane mixture at least once every fifteen days and a record of the calibration shall be recorded with ink or indelible pencil by the person performing the calibration in a book prescribed by the director and maintained on the surface. Calibration records shall be retained for inspection for at least one year from the date of the test. To assure that methane monitors are properly maintained and calibrated, the operator shall use persons properly trained in the maintenance, calibration and permissibility of methane monitors to calibrate and maintain the devices.

(h) Automatic deenergization of electrical equipment or shut down of diesel equipment. --

When the methane concentration at any machine-mounted methane monitor reaches one percent, the monitor shall give a warning signal. The warning signal device of the methane monitor shall be visible to a person operating the equipment on which the monitor is mounted. The methane monitor shall automatically deenergize electric equipment or shut down diesel-powered equipment on which it is mounted when:

(1) The methane concentration at any machine-mounted methane monitor reaches one and five-tenths percent; or

(2) The monitor is not operating properly.

The machine may not again be started in that place until the methane concentration measured by the methane monitor is less than one percent.

§22A-2-43a. Operation of cutting and mining machines; repair and maintenance of same.

(a) Qualified person to operate cutting machine. -- No person shall be placed in charge of a coal-cutting machine in any mine who is not a qualified person, capable of determining the safety of the roof and sides of the working places and of detecting the presence of explosive gas, unless they are accompanied by a certified or qualified person who has passed such an examination.

(b) Operation of mining machines. -- Machine operators and helpers shall use care while operating mining machines. They shall examine the roof of the working place to see that it is safe before starting to operate the machine. They shall not move the machine while the cutter chain is in motion. Additionally, no person shall operate the cutterhead on any continuous miner while the machine is moving from place to place underground: Provided, That a cutterhead may be operated during clean up or when the machine is extracting coal.

(c) Repair and maintenance of mining machines. -- (1) Repairs or maintenance shall not be performed on mining machines until the power is off and locked and tagged, if required by law, and the machinery is blocked against motion, except where machinery motion is necessary to make adjustments. For purposes of this subsection, the following terms shall have the following meanings:

(A) "Maintenance" means the labor of keeping machinery in good working order and includes cleaning, clearing jammed material or conducting examinations on or in close proximity to machinery; and

(B) "Repair" means to fix, mend, or restore to good working order.

(d) Methods to comply with the standard to prevent inadvertent or unexpected motion include:

(A) Opening the circuit breaker for the affected machinery, provided no energized parts or conductors are exposed, and placing the run selector switch for startup of the machinery in the "off" position. On longwall machinery, this would include placing the lockout switch in the lockout position in the area were the repair or maintenance is being performed. A qualified electrician is required to de-energize a circuit breaker if there are exposed energized parts or conductors; or

(B) Opening the circuit breaker at the power center that supplies power for the affected machinery and disengaging the power cable coupler that supplies power to the machinery; or

(C) Opening a manual visible disconnect switch, either within the circuit or onboard the machinery, and securing the switch against reenergization, as required by law. A control circuit start-stop switch does not constitute a manual disconnect; or

(D) In cases such as steeply inclined belt conveyors and suspended loads, when removing the power alone will not ensure against unintentional or inadvertent movement, the machinery shall be physically blocked, in addition to removing the power by one of the three methods described above. Physical blocking may be achieved by the use of such devices as bars, chocks or clamps.

§22A-2-44. Hand-held electric drills and rotating tools; trailing cables.

Electric drills and other electrically operated rotating tools intended to be held in the hand shall have the electric switch constructed so as to break the circuit when the hand releases the switch and shall be equipped with friction or safety clutches.

§22A-2-45. Installation of lighting.

Electric lights or other approved methods of lighting shall be installed so that they do not come in contact with combustible materials, and the wires shall be supported by suitable insulators and fastened securely to the power conductors.

§22A-2-46. Welding and cutting.

(a) A record shall be kept of oxygen and gas tanks or cylinders taken into a mine and the date shall be recorded when they are removed from the mine. No more tanks or cylinders than necessary to perform the work efficiently shall be permitted underground at one time.

(b) Propane torches may be used in lieu of blowtorches. Only approved apparatus such as torches, regulators, pressure reducing valves, hoses, check valves, and gas cylinders shall be used.

(c) Welding and cutting may be done in mines: *Provided*, That all equipment and gauges are maintained in safe condition and not abused, that suitable precautions are taken against ignition of methane, coal dust, or combustible materials, that means are provided for prompt extinguishment of fires accidentally started, and that only persons who have demonstrated competency in welding and cutting are entrusted to do this work. Adequate eye protection shall be used by all persons doing welding or cutting, and precautions shall be taken to prevent other persons from exposure that might be harmful to their eyes. A suitable wrench designed for compressed tanks shall be provided to the person authorized to use the equipment.

(d) Transportation of oxygen and gas tanks or cylinders shall be permitted on self-propelled machinery or belt conveyors specially equipped for safe holding of the containers in transportation. In no instance shall such transportation be permitted in conjunction with any mantrip, unless such mantrip is especially equipped with a compartment, lined with at least four inches of foam rubber or the equivalent, and capable of tightly securing the tank inside the manufactured frame of the vehicle.

(e) Empty oxygen and gas tanks or cylinders shall be marked “empty” and shall be removed from the mine promptly in safe containers provided for transportation of the same.

(f) When tanks and cylinders are not in use and when they are being transported, valve protection caps and plugs shall be placed on all tanks or cylinders for which caps and plugs are available. No oxygen tanks, gas tanks, or cylinders shall be transported with the hoses and gauges attached thereto.

(g) In all mines a certified person, pursuant to §22A-2-12 of this code, shall examine for gas with an approved gas detector before and during welding or cutting. The safety of the equipment and methods used in such cases shall be subject to approval of the director. If equipment is mobile, it shall be removed outby the last open breakthrough before cutting and welding may be performed on such equipment.

§22A-2-47. Responsibility for care and maintenance of face equipment.

Mine operators shall maintain face equipment in safe operating condition. Equipment operators shall exercise reasonable care in the operation of the equipment entrusted to them and shall promptly report defects known to them.

§22A-2-48. When respiratory equipment to be worn; control of dust.

Miners exposed for short periods to gas-, dust-, fume- and mist-inhalation hazards shall wear permissible respiratory equipment. Dust shall be controlled by the use of permissible dust collectors or other approved methods.

SAFEGUARDS FOR MECHANICAL EQUIPMENT

§22A-2-49. Safeguards for mechanical equipment.

(a) The cutter chains of mining machines shall be locked securely by mechanical means or electrical interlocks while such machines are parked or being trammed. Loading machines shall not be trammed with loading arms in motion, except when loading materials.

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

(c) Mechanically operated grinding wheels shall be equipped with safety washers, substantial retaining hoods, and, unless goggles are used, eye shields.

(d) No person shall stand along the side of the boom, or pass or stand along the loading head or cutting head, on a continuous miner or loading machine in operation.

(e) Braking devices shall be guarded to prevent accidental release. When required by the director, track-mounted mobile equipment shall be equipped with workable standing devices.

(f) All battery powered equipment shall be equipped with under-voltage indicator which will indicate when the voltage is less than three-fourths of its rated capacity, at which time such equipment shall be withdrawn from use except for the purpose of returning the vehicle to the recharging station.

(g) On and after January 1, 1988, all manually operated valves and levers of equipment of the same manufacturer and model shall have the same direction of activation and direction of operations.

SURFACE STRUCTURES AND PRACTICES

§22A-2-50. Procurement of dust-tight electrical equipment; fireproof construction; dust control; repairs; welding; handrails and toeboards; protection of personnel on conveyors; back guards on ladders; walkways or safety devices around thickeners.

(a) In unusually dusty locations, electric motors, switches and controls shall be of dust-tight construction or enclosed with reasonably dust-tight housings or enclosures.

(b) After July 1, 1971, all structures erected on the surface within one hundred feet of any mine opening shall be of fireproof construction.

(c) Means and methods shall be provided to assure that structures and the immediate area surrounding the same shall be reasonably free of coal dust accumulations.

(d) Where coal is dumped at or near air intake openings, reasonable provisions shall be made to prevent dust from entering the mine.

(e) Where repairs are being made to the plant, proper scaffolding and proper overhead protection shall be provided for workmen wherever necessary.

(f) Welding shall not be done in dusty atmospheres and dusty locations shall be well cleaned, and firefighting apparatus shall be readily available during welding.

(g) Stairways, elevated platforms and runways shall be equipped with handrails. Railroad car trimmer platforms are excepted from such requirement.

(h) Elevated platforms and stairways shall be provided with toeboards where necessary, and they shall be kept clear of refuse and ice and maintained in good repair.

(i) Personnel who are required frequently and regularly to travel on belts or chain conveyors extended to heights of more than ten feet shall be provided with adequate space and protection in order that they may work safely. Permanent ladders extending more than ten feet shall be provided with back guards. Walkways around thickeners that are less than four feet above the walkway shall be adequately guarded. Employees required to work over thickeners shall wear a safety harness adequately secured, unless walkways or other suitable safety devices are provided.

§22A-2-51. Housekeeping.

Good housekeeping shall be practiced in and around mine buildings and yards. Such practices include cleanliness, orderly storage of materials and the removal of possible sources of injury, such as stumbling hazards, protruding nails and broken glass.

§22A-2-52. Storage of flammable liquids in lamphouse.

Naphtha or other flammable liquids in lamphouses shall be kept in approved containers or other safe dispensers.

§22A-2-53. Smoking in and around surface structures.

Smoking in or about surface structures shall be restricted to places where it will not cause fire or an explosion.

MISCELLANEOUS SAFETY PROVISIONS AND REQUIREMENTS

§22A-2-53a. Railroad cars; dumping areas; other surface areas.

(1) Employees handling railroad cars shall have access to and use an approved distinct audible signaling device to give warning when cars are in motion. Safety belts shall be worn and properly attached by all car droppers handling railroad cars. Railroad cars shall be maintained under control at all times. Cars shall be dropped at a safe rate of speed and in such a manner that will ensure the car dropper maintains a safe position while working and traveling around the car. Railroad cars shall not be coupled or uncoupled manually from the inside of curves unless the railroad and cars are so designed to eliminate any hazard from coupling or uncoupling from inside of curves.

(2) All dumping ramps shall be of a sufficient width to ensure safe operation of vehicles used thereon.

(3) All access roads leading to and from bath houses, portals, and other areas on which persons are expected to travel to and from work, shall be of sufficient width and be maintained in good condition. On haulage roads, guardrails or berms shall be provided on the outerbank of all elevated roads.

(4) Mobile surface loading and haulage equipment shall be inspected by a competent person before such equipment is placed into operation. Equipment defects affecting safety shall be corrected before the equipment is used.

(5) Safety protection, such as safety belts, lifelines, or lanyards to prevent a person from falling shall be provided at all times that miners are working in an area where the potential fall distance exceeds fifteen feet, except that safety belts shall not be used where they are impractical or would pose a greater hazard. Safety nets shall be provided when work places are more than twenty-five feet above the ground where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety belts are impractical.

§22A-2-53b. Haulage or surface areas.

(1) Traffic directions which differ from standard highways practice shall be posted on signs along the haulage roads at strategic points in letters at least three inches high.

(2) Well marked signs conspicuously placed, shall be properly located to alert drivers to existing danger areas, such as the approach to a dangerous curve or an extreme grade.

(3) Traffic rules, signals and warning signs shall be standardized at each mine.

(4) Where side or overhead clearances on haulage roads or loading or dumping locations are hazardous to mine workers, such areas shall be conspicuously marked and warning devices shall be installed when necessary to ensure the safety of the workers.

(5) Flashers, flares or other means of signaling shall be used to warn approaching drivers of a hazard created by an obstruction in the roadway.

(6) Regulatory signs shall be used to indicate the required method of traffic movement.

(7) Posted warning signs shall be used where necessary to indicate potential hazardous conditions.

(8) Object marking shall be used to mark physical obstructions in or near the haulageway that presents possible hazards.

(9) All signs and markings shall be displayed and utilized so as to be as effective as possible.

(10) Where side or overhead clearance on any haulage road or at any loading or dumping location at a surface mine is hazardous to any person, such hazard shall be corrected immediately, and all necessary precautions taken while such hazard is being corrected.

(11) Haulage roads shall be located an adequate distance from highwalls and spoil banks to minimize the danger of falling material onto personnel and equipment.

(12) When dust created by haulage is thrown into suspension in such quantities that may obscure the vision of the operators of vehicles, an adequate means shall be taken to allay such dust.

(13) Only authorized persons shall be permitted on haulage roads and at loading or dumping locations.

(14) Berms or guards shall be provided where required on the outer bank of elevating roadways.

(15) The width and grade to be utilized in haulage road construction shall be determined for each specific situation based upon terrain configuration, vehicle characteristics and driver

visibility for safe haulage.

(16) Haulage roads shall be constructed of sufficient width to permit the driver to maneuver his vehicle to avoid striking unexpected obstacles on the roadway where reclamation regulations permit.

(17) Provisions shall be made to adequately drain and remove excessive water from the haulage roads.

(18) Haulage roads shall be constructed, installed and maintained in a manner consistent with the speed and type of haulage operations being conducted to ensure safe operation. All roads leading to and from work sites on which persons are expected to travel to and from work or to haul coal or supplies, shall be of sufficient width and be maintained in good condition.

(19) Haulage operations shall be stopped when the haulage surface has deteriorated to the extent that it presents a danger to the safety of the haulage operation.

(20) All haulage vehicles placed into service after the effective date of this section shall be equipped with an approved supplementary emergency braking system.

(21) All power lines constructed over haulage roads after the effective date of this section shall be maintained at a minimum of twelve feet above all equipment used on haulage roads, including dump trucks in a raised position.

§22A-2-53c. Ramps; tipples; cleaning plants; other surface areas.

(1) Surface installations generally. -- Surface installations, all general mine structures, enclosures and other facilities, including custom coal preparation facilities shall be maintained in good condition. In unusually dusty locations, electric motors, switches and controls shall be of dust-tight construction, or enclosed with reasonable dust-tight housings or enclosures. Openings in surface installations through which men or material may fall shall be protected by railings, barriers, covers or other protective devices. Illumination sufficient to provide safe working conditions shall be provided in and on all surface structures, paths, walkways, switch panels, loading and dumping sites, working areas and parking areas. Materials shall be stored and/or stacked in a manner to prevent stumbling or falling. Compressed and liquid gas cylinders shall be secured in a safe manner. Adequate ventilation shall be provided in tipples and preparation plants. Coal dust in or around tipples or cleaning plants shall not be permitted to exist or accumulate in dangerous amounts.

(2) Machinery guards. -- Gears, sprockets, chains, drive head, tail and takeup pulleys, flywheels, couplings, shafts, sawblades, fan inlets and similar exposed moving machine parts with which persons may come in contact shall be guarded adequately. Except when testing is necessary, machinery guards shall be secured in place while being operated. Belt rollers shall not be cleaned while belts are in motion.

(3) Fire protection. -- Where cutting or welding is performed at any location, a means of prompt extinguishment of any fire accidentally started shall be provided. Adequate firefighting facilities, required by the office of miners' health, safety and training, shall be provided on all floors. At least two exits shall be provided for every floor of tipples and cleaning plants constructed after the effective date of this section. Signs warning against smoking and open flames shall be posted so they can be readily seen in areas or places where fire or explosion hazards exist. Smoking or an open flame in or about surface structures shall be restricted to locations where it will not cause fire or an explosion.

(4) Repairs of machinery. -- Machinery shall not be lubricated or repaired while in motion, except where safe remote lubricating devices are used. Machinery shall not be started until the person lubricating or repairing it has given a clear signal. Means and methods shall be provided to assure that structures and the immediate area surrounding the same shall be reasonably free of coal dust accumulations. Where repairs are made to tipples, or cleaning plants, proper scaffolding and proper overhead protection shall be provided for workmen when necessary. Where overhead repair work is being performed at surface installations, adequate protection shall be provided for all persons working or passing below.

(5) Stairs, platforms, etc. -- Stairways, elevated platforms and runways shall be equipped with handrails. Railroad car trimmer platforms are exempted from such requirements. Where required, elevated platforms and stairways shall be provided with toeboards. They shall be kept clear of refuse and ice and maintained in good condition.

(6) Belts, etc. -- Drive belts shall not be shifted while in motion unless such machines are

provided with mechanical shifters. Belt dressing shall not be applied while in motion. Belts, chains and ropes shall not be guided into power-driven moving pulleys, sprockets or drums with the hand except with equipment especially designed for hand feeding.

(7) Conveyors and crossovers. -- When the entire length of a conveyor is visible from the starting switch, the operator shall visually check to make certain that all persons are in the clear before starting the conveyor. When the entire length of the conveyor is not visible from the starting switch, a positive audible or visible warning system shall be installed and operated to warn persons when the conveyor will be started. Crossovers shall be provided where necessary to cross conveyors. All crossovers shall be of substantial construction, with rails, and maintained in good condition. Moving conveyors shall be crossed only at designated crossover points. A positive audible or visible warning system shall be installed and operated to warn persons that a conveyor or other tipple equipment is to be started. Pulleys of conveyors shall not be cleaned manually while the conveyor is in operation. Guards, nets or other suitable protection shall be provided where tramways pass over roadways, walkways or buildings. Where it is required to cross under a belt, adequate means shall be taken to prohibit a person from making contact with a moving part.

(8) Ladders. -- All ladders shall be securely fastened. Permanent ladders more than ten feet in height shall be provided with backguards. Ladders shall be of substantial construction and maintained in good condition. Wooden ladders shall not be painted. Fixed ladders shall not incline backward at any point unless equipped with backguards. Fixed ladders shall be anchored securely and installed with at least three inches of toe clearance. Side rails of fixed ladders shall project at least three feet above landings, or substantial handholds shall be provided above the landing. No person shall be permitted to work off of the top step of any ladder. Metal ladders shall not be used with electrical work, where there is danger of the ladder coming into contact with power lines or an electrical conductor. The maximum length of a step ladder shall be twenty feet and an extension ladder sixty feet.

(9) Hoisting. -- Hitches and slings used to hoist materials shall be suitable for handling the type of material being hoisted. Persons shall stay clear of hoisted loads. Tag lines shall be attached to hoisted materials that require steadying or guidance. A hoist shall not lift loads greater than the rated capacity of the hoist being used.

(10) Railroad track construction and maintenance. --

(a) All parts of the track haulage road under the ownership or control of the operator shall be strictly constructed and maintained. Rails shall be secured at all points by means of plates or welds. When plates are used, plates conforming with the weight of the rail shall be installed and broken plates shall be replaced immediately. Appropriate bolts shall be inserted and maintained in all bolt holes. The appropriate number of bolts conforming with the appropriate rail plate for the weight of the rail shall be inserted, tightly secured, and maintained.

(b) All points shall be installed and maintained so as to prevent bad connections. Varying

weights of rail shall not be joined without proper adapters. Tracks shall be blocked and leveled and so maintained so as to prevent high and low joints.

(c) Tracks shall be gauged so as to conform with the track mounted equipment. Curves shall not be constructed so sharp as to put significant pressure on the tracks of the track-mounted equipment.

(d) Severely worn or damaged rails and ties shall be replaced immediately.

(e) When mining operations are performed within any twenty-four hour period, operations shall be inspected at least every twenty-four hours to assure safe operation and compliance with the law and rules. The results of which inspection shall be recorded.

(f) Personnel who are required frequently and regularly to travel on belts or chain conveyors extended to heights of more than ten feet shall be provided with adequate space and protection in order that they may work safely. Permanent ladders extending more than ten feet shall be provided with back guards. Walkways around thickeners that are less than four feet above the walkway shall be adequately guarded. Employees required to work over thickener shall wear a safety harness adequately secured, unless walkways or other suitable safety devices are provided.

§22A-2-54. Duties of persons subject to article; rules and regulations of operators.

(a) It shall be the duty of the operator, mine foreman, supervisors, mine examiners and other officials to comply with and to see that others comply with the provisions of this article.

(b) It shall be the duty of all employees and checkweighmen to comply with this article and to cooperate with management and the Office of Miners' Health, Safety and Training in carrying out the provisions hereof.

(c) Reasonable rules of an operator for the protection of employees and preservation of property that are in harmony with the provisions of this article and other applicable laws shall be complied with. They shall be printed on cardboard or in book form in the English language and posted at some conspicuous place about the mine or mines, and given to each employee upon request.

§22A-2-55. Protective equipment and clothing.

(a) Welders and helpers shall use proper shields or goggles to protect their eyes. All employees shall have approved goggles or shields and use the same where there is a hazard from flying particles or other eye hazards.

(b) Employees engaged in haulage operations and all other persons employed around moving equipment on the surface and underground shall wear snug-fitting clothing.

(c) Protective gloves shall be worn when material which may injure hands is handled, but gloves with gauntleted cuffs shall not be worn around moving equipment.

(d) Safety hats and safety-toed shoes shall be worn by all persons while in or around a mine: Provided, That metatarsal guards are not required to be worn by persons when working in those areas of underground mine workings which average less than 48 inches in height as measured from the floor to the roof of the underground mine workings.

(e) Approved eye protection shall be worn by all persons while being transported in open-type man trips.

(f) (1) A self-contained self-rescue device approved by the director shall be worn by each person underground or kept within his or her immediate reach and the device shall be provided by the operator. The self-contained self-rescue device shall be adequate to protect a miner for one hour or longer. Each operator shall train each miner in the use of the device and refresher training courses for all underground employees shall be held once each quarter. Quarters shall be based on a calendar year.

(2) In addition to the requirements of §22A-2-55(f)(1) of this code, the operator shall also provide caches of additional self-contained self-rescue devices throughout the mine in accordance with a plan approved by the director. Each additional self-contained self-rescue device shall be adequate to protect a miner for one hour or longer. The total number of additional self-contained self-rescue devices, the total number of storage caches and the placement of each cache throughout the mine shall be established by rule pursuant to §22A-2-55(i) of this code. A luminescent sign with the words “SELF-CONTAINED SELF-RESCUER” or “SELF-CONTAINED SELF-RESCUERS” shall be conspicuously posted at each cache and luminescent direction signs shall be posted leading to each cache. Lifeline cords or other similar device, with reflective material at 25-foot intervals, shall be attached to each cache from the last open crosscut to the surface. The operator shall conduct weekly inspections of each cache and each lifeline cord or other similar device to ensure operability.

(3) Any person who, without the authorization of the operator or the director, knowingly removes or attempts to remove any self-contained self-rescue device or lifeline cord from the mine or mine site with the intent to permanently deprive the operator of the device or lifeline cord or knowingly tampers with or attempts to tamper with the device or lifeline cord

is guilty of a felony and, upon conviction thereof, shall be imprisoned in a state correctional facility for not less than one year nor more than 10 years, or fined not less than $10,000 nor more than $100,000, or both imprisoned and fined.

(g) The MSHA-approved emergency response plan (ERP) shall serve as the state-approved plan governing the storage of self-contained self-rescuers (SCSR). At a minimum, three one-hour SCSRs shall be available for everyone reasonably likely to be on the working section at any given time. The director may issue a special assessment pursuant to §22A-1-21 of this code for failure to comply with this subsection.

(h)(1) A wireless emergency communication device approved by the director and provided by the operator shall be worn by each person underground: Provided, That if a miner's wireless emergency communications device shall malfunction or cease to operate then such miner shall be assigned to be in sight or sound of a certified miner until such time an operating device shall be delivered. The wireless emergency communication device shall, at a minimum, be capable of receiving emergency communications from the surface at any location throughout the mine. Each operator shall train each miner in the use of the device and provide refresher training courses for all underground employees during each calendar year. The operator shall install in or around the mine any and all equipment necessary to transmit emergency communications from the surface to each wireless emergency communication device at any location throughout the mine.

(2) Any person who, without the authorization of the operator or the director, knowingly removes or attempts to remove any wireless emergency communication device or related equipment from the mine or mine site with the intent to permanently deprive the operator of the device or equipment or knowingly tampers with or attempts to tamper with the device or equipment is guilty of a felony and, upon conviction thereof, shall be imprisoned in a state correctional facility for not less than one year nor more than 10 years, or fined not less than $10,000 nor more than $100,000, or both imprisoned and fined.

(i)(1) A wireless tracking device approved by the director and provided by the operator shall be worn by each person underground. In the event of an accident or other emergency, the tracking device shall, at a minimum, be capable of providing real-time monitoring of the physical location of each person underground: Provided, That no person shall discharge or discriminate against any miner based on information gathered by a wireless tracking device during nonemergency monitoring. Each operator shall train each miner in the use of the device and provide refresher training courses for all underground employees during each calendar year. The operator shall install in or around the mine all equipment necessary to provide real-time emergency monitoring of the physical location of each person underground.

(2) The MSHA-approved ERP shall serve as the state-approved plan: Provided, That the MSHA-approved plan shall comply with all other provisions of state mining law as set forth in state code or the code of state rules.

(3) Any person who, without the authorization of the operator or the director, knowingly removes or attempts to remove any wireless tracking device or related equipment, approved by the director, from a mine or mine site with the intent to permanently deprive the operator of the device or equipment or knowingly tampers with or attempts to tamper with the device or equipment is guilty of a felony and, upon conviction thereof, shall be imprisoned in a state correctional facility for not less than one year nor more than 10 years, or fined not less than $10,000 nor more than $100,000, or both imprisoned and fined.

(j) The director shall promulgate emergency and legislative rules to implement and enforce this section pursuant to the provisions of §29A-3-1 et seq. of this code.

§22A-2-55a. Safety helmets.

All surface mine employees shall be required to wear safety helmets when working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns: Provided, That such employees shall not be required to wear such safety helmet while operating machinery equipped with a falling object protective structure which satisfies the impact and penetration requirements established by the American National Standards Institute, Safety Requirements for Industrial Head Protection, Standard Z89.1, unless the director finds that the dangers set forth herein may be present: Provided, however, That such employees shall be required to wear safety helmets while not operating such equipment including period of travel to and from such equipment.

The safety helmets required hereunder shall meet the specifications for such helmets as prescribed by the mine health and safety administration.

§22A-2-56. Checking systems.

Each mine shall have a check-in and check-out system which will provide positive identification of every person underground and will provide an accurate record of the persons in the mine kept on the surface in a place that will not be affected in the event of an explosion. Said record shall bear a number or name identical to the identification check that is securely fastened to the lamp belt of all persons underground. The identification check shall be made of a rust-resistant metal of no less than sixteen gauge.

§22A-2-57. No act permitted endangering security of mine; search for intoxicants, matches, etc.

(a) No miner, worker or other person shall knowingly injure any shaft, lamp, instrument, air course, or brattice, or obstruct or throw open airways, or carry matches or open lights in the places worked by safety lights, or disturb any part of the machinery or appliances, open a door closed for directing ventilation and not close it again, or enter any part of a mine against caution, or disobey any order of any mine foreman or assistant mine foreman given in carrying out any of the provisions of this section.

(b) Open lights, smoking and smokers' articles, including matches, are prohibited in all mines. No person shall at any time enter mines with or carry therein any matches, pipes, cigars, cigarettes or any device for making lights or fire not authorized or approved. The operator shall at frequent intervals search, or cause to be searched, any person, including his clothing and material belongings, entering or about to enter the mine, or inside the mine, to prevent such person from taking or carrying therein any of the above-mentioned articles.

(c) No person shall at any time carry into any mine any intoxicants or enter any mine while under the influence of intoxicants.

§22A-2-58. Fire protection.

(a) Suitable fire protection shall be provided at surface installations of fans, shops, tipples and preparation plants, substations, hoist rooms and compressor stations.

(b) Fire drills and demonstration of various types of available firefighting equipment shall be held for employees at least every six months.

(c) The location of pipelines, location of valves and fire taps shall be shown on a map of the mine and kept available at the mine office at all times.

(d) Each coal mine shall be provided with suitable firefighting equipment adapted for the size and condition of the mine. Firefighting equipment required under this article shall meet the following requirements:

(1) Waterlines shall be capable of delivering fifty gallons of water at a nozzle pressure of fifty pounds per square inch.

(2) A portable water car shall be of at least one thousand gallons capacity, and shall have at least three hundred feet of fire hose with nozzles. A portable water car shall be capable of providing a flow through the hose of fifty gallons of water per minute at a nozzle pressure of fifty pounds per square inch.

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

(4) A portable foam-generating machine shall have facilities and equipment for supplying the machine with thirty gallons of water per minute at thirty pounds per square inch for a period of thirty-five minutes.

(5) A portable fire extinguisher shall be either a multipurpose dry chemical type, containing a nominal weight of five pounds of dry powder and enough expellant to apply the powder; or a foam-producing type containing at least two and one- half gallons of foam-producing liquid and enough expellant to supply the foam. Only fire extinguishers approved by the Underwriters Laboratories, Inc. or Factor Mutual Laboratories, carrying appropriate labels as to type and purpose shall be used after July 1, 1971, and all new portable fire extinguishers acquired for use in a coal mine shall be of the multipurpose dry chemical type, having a 2A 10BC or higher rating.

(6) The fire hose shall be rubber-lined, mildew-proof and the cover shall be of flame-resistant qualities, meeting requirements for hose in Bureau of Mines Schedule 2G, except that the test flame shall be applied to the outer surface rather than to an open end. The bursting pressure shall be at least four times higher than the static water at the mine location; the maximum water pressure in the hose nozzle shall not exceed 100 p.s.i.g.

(e) Each working section of coal mines producing three hundred tons or more per shift shall

be provided with two portable fire extinguishers and two hundred forty pounds of bagged rock dust or equivalent; waterlines shall extend to each section loading point and be equipped with enough fire hose to reach each working face unless the section loading point is provided with one of the following: (1) Two portable water cars; or (2) two portable chemical cars; or (3) one portable water car or one portable chemical car and either a portable foam-generating machine or a portable high-pressure rock-dusting machine, fitted with at least two hundred fifty feet of hose and supplied with at least sixty sacks of rock dust.

(f) In all coal mines, waterlines shall be installed parallel to the entire length of belt conveyors and shall be equipped with fire hose outlets with valves at three-hundred-foot intervals along each belt conveyor and at tailpieces. At least five hundred feet of fire hose with fittings suitable for connection with each belt conveyor waterline system shall be stored at strategic locations along the belt conveyor. Waterlines may be installed in entries adjacent to the conveyor entry belt as long as the outlets project into the belt conveyor entry. Each working section of coal mines producing less than three hundred tons of coal per shift shall be provided with two portable fire extinguishers, two hundred forty pounds of bagged rock dust and at least five hundred gallons of water and at least three pails of ten-quart capacity. In lieu of the five hundred gallon water supply, a waterline with sufficient hose to reach the working places, a portable water car of five hundred fifty gallons capacity, or a portable all-purpose dry powder chemical car of at least one hundred twenty-five pounds capacity may be provided.

(g) In mines producing three hundred tons of coal or more per shift, waterlines shall be installed parallel to all haulage tracks using mechanized equipment in the track or adjacent entry and shall extend to the loading point of each working section. Waterlines shall be equipped with outlet valves at intervals of not more than five hundred feet, and five hundred feet of fire hose with fittings suitable for connection with such waterlines shall be provided at strategic locations. Two portable water cars, readily available, may be used in lieu of waterlines prescribed under this subsection.

(h) In mines producing less than three hundred tons of coal per shift, there shall be provided at five-hundred-foot intervals in all main and secondary haulage roads: (1) A tank of water of at least fifty-five gallon capacity with at least three pails of not less than ten-quart capacity; or (2) not less than two hundred forty pounds of bagged rock dust.

(i) Each track or off-track locomotive, self-propelled man-trip car, or personnel carrier shall be equipped with one portable fire extinguisher.

(j) Two portable fire extinguishers shall be provided at each permanent electrical installation. One portable fire extinguisher and two hundred forty pounds of rock dust or equivalent shall be provided at each temporary electrical installation.

(k) Two portable fire extinguishers and two hundred forty pounds of rock dust or equivalent shall be provided at each permanent underground oil storage station. One portable fire

extinguisher shall be provided at each working section where twenty-five gallons or more of oil are stored in addition to extinguishers required under subsection (e) of this section.

(l) One portable fire extinguisher or two hundred forty pounds of rock dust or equivalent and water shall be provided at locations where welding, cutting, or soldering with arc or flame is being done.

(m) At each wooden door through which power lines pass there shall be one portable fire extinguisher or two hundred forty pounds of rock dust or equivalent within twenty-five feet of the door on the intake air side.

(n) At each mine producing three hundred tons of coal or more per shift, there shall be readily available the following materials at locations not exceeding two miles from each working section:

(1) One thousand board feet of brattice boards.

(2) Two rolls of brattice cloth.

(3) Two handsaws.

(4) Twenty-five pounds of 8 dwt nails.

(5) Twenty-five pounds of 10 dwt nails.

(6) Twenty-five pounds of 16 dwt nails.

(7) Three claw hammers.

(8) Twenty-five bags of wood fiber plaster or ten bags of cement (or equivalent material for stoppings).

(9) Five tons of rock dust.

(o) At each mine producing less than three hundred tons of coal per shift, the above materials shall be available at the mine: Provided, That the emergency materials for one or more mines may be stored at a central warehouse or building supply company and such supply must be the equivalent of that required for all mines involved and within one hour's delivery time from each mine. This exception shall not apply where the active working sections are more than two miles from the surface.

§22A-2-59. First-aid equipment.

(a) Each operator of an underground coal mine shall maintain a supply of first-aid equipment at each of the following locations:

(1) At the mine dispatcher’s office and on the surface in close proximity to the mine entry.

(2) At the bottom of each regularly traveled slope or shaft; however, where the bottom of such slope or shaft is not more than one thousand feet from the surface, such first-aid supplies may be maintained on the surface at the entrance of the mine.

(3) At a point in each working section not more than five hundred feet outby the active working face or faces.

(b) The first-aid equipment required to be maintained shall include at least the following:

(1) One stretcher.

(2) One broken-back board.

(3) Twenty-four triangular bandages.

(4) Eight four-inch bandage compresses.

(5) Sixteen two-inch bandage compresses.

(6) Twelve one-inch adhesive compresses.

(7) One foille.

(8) Two cloth blankets.

(9) One rubber blanket.

(10) Two tourniquets.

(11) One one-ounce bottle of aromatic spirits of ammonia.

(12) Two inflatable plastic arm splints.

(13) Two inflatable plastic leg splints.

(14) Six small splints, metal or wooden.

(15) Two cold packs.

(16) One automated external defibrillator (AED) unit.

(c) All first-aid supplies required to be maintained under the section shall be stored in suitable sanitary, dust-tight, moisture-proof containers and such supplies shall be accessible to the miners.

(d) No first-aid material shall be removed or diverted without authorization, except in case of accident in or about the mine.

(e) On all occasions when a person becomes sick or injured underground to the extent that he or she must go to the surface, he or she shall be accompanied by one or more persons.

§22A-2-60. Accessible outlets; safe roadways for emergencies; accessibility of first aid equipment; use of special capsule for removal of personnel.

(a) No operator or mine foreman of any coal mine shall employ any person to work in such mine, or permit any persons to be in the mine for the purpose of working therein unless they are provided with two openings or outlets to each seam, separated by natural strata, such openings to be not less than three hundred feet apart, if the mine be worked by shaft; if the mine be worked by shaft and slope, such openings shall be separated by one hundred feet of natural strata; and not less than fifty feet apart at the outlets, if worked by slope or drift; but this requirement of a distance of three hundred feet between openings or outlets to shaft mines shall not apply where such openings or outlets have been made prior to July 1, 1971.

(b) At least two separate and distinct travelable passageways designated as escapeways shall be maintained to ensure passage at all times to any person, including disabled persons. The escapeway openings to the surface shall be separated in such manner as shall be prescribed by the director. If at least two escapeways are not available for any reason, all miners in the affected area other than those requisite to remedy the situation shall be withdrawn from the affected area until such time as the escapeway is made passable. Where the height of the coal bed is more than five feet, the escapeways shall be maintained at a height of at least five feet excluding necessary roof support, and the travelway in such escapeway shall be maintained at a width of at least six feet, excluding necessary roof support and in those situations where the height of the coal bed is less than five feet the escapeway should be maintained to the height of the coal bed excluding any necessary roof support, and the travelway in such escapeway shall be maintained at a width of at least six feet. At least one escapeway ventilated with intake air, maintained to the last open crosscut, shall be provided from each working section continuously to the nearest available opening on the surface, and shall be maintained in safe condition and properly marked. Mine openings shall be adequately protected to prevent the entrance into the underground area of the mine of floodwater. Escape facilities approved by the director, properly maintained and frequently tested, shall be present at or in each escape shaft or slope to allow all persons, including disabled persons, to escape quickly to the surface in event of an emergency. Return airways entries designated as escapeways shall be provided with permissible two-way communication systems to the surface, and such systems shall be located at points not to exceed every four thousand feet. On or after April 1, 1978, each operator shall provide lifeline cords, with reflective material at twenty-five foot intervals, from the last open crosscut to the surface along a designated escapeway ventilated by return air: Provided, That in case of a shaft mine such lifeline cords shall extend from the last open crosscut to the bottom of the designated escape shaft. Such lifeline cord shall be of durable construction sufficient to allow miners to see and to use effectively to guide themselves out of the mine in the event of an emergency.

(c) Escapeways shall be inspected and traveled at least once each week by a certified mine examiner who shall place his initials and the date in a conspicuous place or places and who shall file a written report thereon which shall be kept on the surface.

(d) When new coal mines are opened, not more than twenty miners shall be allowed at any one time in any mine until a connection has been made between the two mine openings, and such connections shall be made as soon as possible.

(e) When only one opening is available because of final mining of pillars, not more than twenty miners shall be allowed in such mine at any one time, and the distance between the mine opening and working face shall not exceed five hundred feet.

(f) First-aid materials and such other equipment as the director may require shall be maintained within five hundred feet of each area in which miners are regularly working to which they may have access in case of an emergency and for protection against hazards.

(g) Each working area of the mine not serviced by track-mounted or rubber-tired vehicles which uses conveyor belts for removal of coal shall be equipped with a special capsule in which an injured person can be placed and transported on the belt to the surface or to other transportation facilities. The director shall within nine months of July 8, 1977, promulgate standards and guidelines, or allow to continue in effect any present standards and guidelines, as to what such "special capsule" as used in this subsection shall include. Each section of the mine using or serviced by track-mounted or rubber-tired equipment shall have readily available a vehicle which can be used to promptly remove a person in case of injury.

§22A-2-61. Coal storage bins; recovery tunnels; coal storage piles.

(a) Coal storage bins hereafter constructed with vertical sides fifty feet or over in height shall be provided with ventilators or louvers or both to provide adequate ventilation. Where roofs are constructed over coal storage bins, adequate ventilation shall be provided by stacks, ventilators, louvers or mechanical means.

(b) Where cutting or welding is performed at any location where coal is stored, means of prompt extinguishment of any fire accidentally started shall be provided, and the area where cutting or welding is performed shall be adequately watered down and rock-dusted.

(c) A qualified person shall test for methane with a methane detector prior to and during cutting and welding operations inside or underneath a coal storage bin.

(d) Electric motors, switches and controls for coal storage bins hereafter acquired shall be of dust-tight construction.

(e) Repairs to electric equipment shall not be made when the surrounding atmosphere contains dangerous amounts of gas or dust.

(f) Where electric lights are used in recovery tunnels of over one hundred feet in length, the wiring shall be in rigid conduit and shall be enclosed in waterproof receptacles.

(g) An escapeway shall be provided from any recovery tunnel hereafter constructed to a safe place on the surface; such escapeway shall be at least thirty inches in diameter and where inclined, a ladder shall be provided to extend full length of the escapeway to facilitate emergency exit.

(h) Extreme caution shall be exercised by all employees required to work at or near coal storage piles during coal recovery operations to avoid injury by coal slides or by being in or drawn into a chute.

§22A-2-62. Thermal coal dryers and plants.

Thermal coal dryer plants shall be hereafter constructed, maintained and operated in compliance with the following provisions:

(1) Good housekeeping shall be practiced in and around thermal dryer plants.

(2) Adequate firefighting facilities shall be provided on all floors.

(3) When welding and cutting operations are to be performed in a dryer structure, the area shall be wetted down thoroughly and adequate firefighting apparatus shall be readily available during the operation.

(4) Only qualified persons shall be permitted to operate dryers; however, this provision shall not prohibit qualified persons from training other persons to become qualified operators.

(5) Dryer control panels shall be provided with audible and visible alarm devices; such devices should be adjusted to function at somewhat less than maximum dryer temperature.

(6) A bypass or relief stack equipped with an automatically operated damper shall be provided for bypassing gases from the heating units to the outside atmosphere during emergency or normal shutdown operations.

(7) Thermal coal dryers hereafter installed shall not be enclosed except that roofs may be used. Whenever it is deemed necessary to enclose thermal dryers, such equipment shall be in a fireproof structure.

(8) Dryer installations and discharge stacks shall be protected with adequate explosion release vents that open to the outside atmosphere.

(9) Thermal coal dryers shall be located at a safe distance from tipples, cleaning plants, mine openings and surface buildings, such as oil storage areas, explosive magazines, and other buildings where coal dust, sparks and flames are likely to enter and become ignited or otherwise cause danger of fires.

(10) Dryers shall be equipped with quick-response heat control devices which, in the event of superelevated temperatures, will automatically divert the hot inlet gases into a bypass stack, thereby bypassing the drying chamber and at the same time stopping the fuel from being supplied to the air heater.

(11) All dryers, conveyors and other fine coal transporting machines shall be constructed as dust-tight as practicable. Where necessary, such equipment shall be provided with removable covers for inspection and cleaning and shall be provided with vent pipes to the outside atmosphere to permit the escape of distilled gases.

(12) Dryers shall be examined thoroughly after normal and emergency shutdown for fires

and coal dust accumulations.

(13) Dryer controls, valves and mechanical equipment shall be frequently inspected, and no dryer shall be operated with defective mechanical equipment.

(14) The gauges of temperature control instruments shall be of the recording type.

(15) Operating rules suitable for the characteristics of each dryer system and the materials processed shall be developed and shall be available at the control panel.

(16) Electrical equipment, electrical wiring and lighting fixtures shall be of dust-tight construction.

(17) Adequate illumination shall be provided.

(18) Dryers shall not be operated beyond their rated evaporation capacity.

(19) Fluid bed dryers shall be provided with water sprays of sufficient capacity for use in event of fire.

(20) After shutdowns, thermal dryers shall be cleared of hot coals so as to minimize ignitions on succeeding startups.

(21) Thermal coal dryers previously installed in a tipple or cleaning plant shall be separated where practicable from other working areas by substantial partitions capable of providing greater resistance to explosion pressures than an exterior wall or walls.

(22) When it is necessary to use extension cables for emergency illumination, such lighting devices shall be dust-tight and adequately guarded. When it becomes necessary to perform work in dryer system bins or any other dusty areas, permissible cap lamps shall be used for illumination.

§22A-2-63. No mine to be opened or reopened without prior approval of the Director of the Office of Miners' Health, Safety and Training; certificate of approval; approval fees; extension of certificate of approval; certificates of approval not transferable; section to be printed on certificates of approval.

(a) No mine may be opened or reopened unless prior approval has been obtained from the Director of the Office of Miners' Health, Safety and Training. The director may not unreasonably withhold approval. The operator shall pay a fee of $100 for the approval, which shall be tendered with the application for approval: Provided, That mines producing coal solely for the operator's use shall be issued a permit without charge if coal production will be less than fifty tons a year.

Within thirty days after January 1, of each year, the holder of a permit to open a mine shall apply for the extension of the permit for an additional year. The permit, evidenced by a document issued by the director, shall be granted as a matter of right for a fee of $100 if, at the time application is made, the permit holder is in compliance with the provisions of section seventy-seven of this article and has paid or otherwise appealed all coal mine assessments issued to the mine if operated by the permit holder and imposed under article one of this chapter. Applications for extension of permits not submitted within the time required shall be processed as an application to open or reopen a mine and shall be accompanied by a fee of $100.

(b) Permits issued pursuant to this section are not transferable.

(c) If the operator of a mine is not the permit holder as defined in subsection (a) of this section, then the operator shall apply for and obtain a certificate of approval to operate the mine on which the permit is held prior to commencing operations. The operator shall pay a fee of $100, which payment shall be tendered with the application for approval. The approval, evidenced by a certificate issued by the director, shall be granted if, at the time application is made, the applicant is in compliance with the provisions of section seventy-seven of this article and has paid or otherwise appealed all coal mine assessments imposed on the applicant for the certificate of approval under article one of this chapter.

(d) In addition to the director's authority to file a petition for enforcement under subdivision (4), subsection (a), section twenty-one, article one of this chapter, if an operator holding a certificate of approval issued pursuant to subsection (c) of this section, has been assessed a civil penalty in accordance with section twenty-one, article one of this chapter, and its implementing rules, and the penalty has become final, fails to pay the penalty within the time prescribed in the order, the director or the authorized representative of the director, by certified mail, return receipt requested, shall send a notice to the operator advising the operator of the unpaid penalty. If the penalty is not paid in full within sixty days from the issuance of the notice of delinquency by the director, then the director may revoke the operator's certificate of approval: Provided, That the operator to whom the delinquency notice is issued has thirty days from receipt of the delinquency notice to request, by certified mail, return receipt requested, a public hearing held in accordance with the procedures of

section seventeen, article one of this chapter, and its implementing rules, including application for temporary relief. Once the operator's certificate of approval is revoked pursuant to this subsection, the operator may not obtain any certificate of approval under the provisions of this section to operate any other mine until that operator pays the delinquent penalties that have become final.

(e) Every firm, corporation, partnership or individual that contracts to perform services or construction at a coal mine is considered to be an operator and shall apply for and obtain a certificate of approval prior to commencing operations: Provided, That these persons shall only be required to obtain one certificate annually: Provided, however, That persons such as, but not limited to, consultants, mine vendors, office equipment suppliers and maintenance and delivery personnel are excluded from this requirement to obtain a certificate of approval. Operators who are required to obtain a certificate of approval pursuant to the provisions of this subsection shall pay a fee of $100 which shall be tendered with the application for approval. Approval evidenced by a certificate issued by the director, shall be granted if, at the time the application is made, the applicant has paid or otherwise appealed all coal mine assessments imposed on the applicant under article one of this chapter.

Within thirty days after January 1, of each year, the holder of a certificate of approval shall apply for the extension of that approval for an additional year. Applications for extension shall be accompanied by a fee of $100. An extension shall be granted if, at the time application is made, the applicant has paid or otherwise appealed all coal mine assessments imposed on the applicant under article one of this chapter. All delinquent assessments which have been imposed upon a certificate of approval holder or applicants under this section may not be imposed upon any permit holder or certificate of approval holder or any applicant pursuant to subsection (a) or (c) of this section.

(f) The provisions of this section shall be printed on the reverse side of every permit issued under subsection (a) of this section and certificate of approval issued under subsection (e) of this section.

(g) The district mine inspector shall conduct a preinspection of the area proposed for underground mining prior to issuance of any new opening permit approval.

(h) All moneys collected by the office of miners' health, safety and training for the approval fees set forth in subsections (a), (c) and (e) of this section shall be deposited with the treasurer of the State of West Virginia to the credit of the general administration--operating permit fees fund. The operating permit fees fund shall be used by the director who is authorized to expend the moneys in the fund for the administration of this chapter.

§22A-2-64. Sealing permanently closed or abandoned mines.

(a) After July 1, 1971, when any coal mine is worked out or indefinitely closed, such mine openings shall be properly sealed within ninety days after the mine is abandoned.

(b) Mines temporarily inactive for less than ninety days shall be adequately fenced with conspicuous signs prohibiting the possible entrance of unauthorized persons.

(c) Shaft openings shall be effectively capped or filled. Filling shall be for the entire depth of the shaft. Caps shall consist of a six inch thick concrete cap or other equivalent means approved by the director.

(d) Caps shall be equipped with a vent pipe at least two inches in diameter extending for a distance of at least fifteen feet above the surface shaft.

§22A-2-65. Mining close to abandoned workings.

Any operator working up to an abandoned coal mine may be permitted to work to his property line, if approved by the director, but in such cases precaution must be taken as provided in this article.

§22A-2-66. Accident; notice; investigation by Office of Miners' Health, Safety and Training.

(a) For the purposes of this section, the term accident means:

(1) The death of an individual at a mine;

(2) An injury to an individual at a mine which has a reasonable potential to cause death;

(3) The entrapment of an individual;

(4) The unplanned inundation of a mine by a liquid or gas;

(5) The unplanned ignition or explosion of gas or dust;

(6) The unplanned ignition or explosion of a blasting agent or an explosive;

(7) An unplanned fire in or about a mine not extinguished within five minutes of ignition;

(8) An unplanned roof fall at or above the anchorage zone in active workings where roof bolts are in use or an unplanned roof or rib fall in active workings that impairs ventilation or impedes passage;

(9) A coal or rock outburst that causes withdrawal of miners or which disrupts regular mining activity for more than one hour;

(10) An unstable condition at an impoundment, refuse pile or culm bank which requires emergency action in order to prevent failure, or which causes individuals to evacuate an area, or the failure of an impoundment, refuse pile or culm bank;

(11) Damage to hoisting equipment in a shaft or slope which endangers an individual or which interferes with use of the equipment for more than thirty minutes; and

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

(b) Whenever any accident occurs in or about any coal mine or the machinery connected therewith, it is the duty of the operator or the mine foreman in charge of the mine to give notice, within fifteen minutes of ascertaining the occurrence of an accident, to the Mine and Industrial Accident Emergency Operations Center at the statewide telephone number established by the Director of the Division of Homeland Security and Emergency Management pursuant to the provisions of article five-b, chapter fifteen of this code stating the particulars of the accident: Provided, That the operator or the mine foreman in charge of the mine may comply with this notice requirement by immediately providing notice to the appropriate local organization for emergency services as defined in section eight, article five of said chapter, or the appropriate local emergency telephone system operator as defined in article six, chapter twenty-four of this code: Provided, however, That if, immediately upon

ascertaining the occurrence of an accident, the operator or the mine foreman in charge of the mine provides notice to the local organization for emergency services as defined in section eight, article five, chapter fifteen of this code, or the appropriate local emergency telephone system operator as defined in article six, chapter twenty-four of this code, then, in order to comply with this subsection, the operator or mine foreman in charge of the mine shall also give notice to the Mine and Industrial Accident Emergency Operations Center at the statewide number identified in this subsection within fifteen minutes of completing the telephone call to the local organization for emergency services or the appropriate local emergency telephone system operator, as applicable: Provided further That nothing in this subsection shall be construed to relieve the operator from any reporting or notification requirement under federal law.

(c) The Director of the Office of Miners' Health, Safety and Training shall impose, pursuant to rules authorized in this section, a civil administrative penalty of up to $100,000 on the operator if it is determined that the operator or the mine foremen in charge of the mine failed to give immediate notice as required in this section. The director may later amend the assessment of a penalty under this section if so warranted: Provided, That the director may waive imposition of the civil administrative penalty at any time if he or she finds that the failure to give immediate notice was caused by circumstances wholly outside the control of the operator: Provided, however, That the assessment of the civil administrative penalty set forth in this subsection may be appealed to the Board of Appeals, and the Board of Appeals may, by a vote of two Board of Appeals Members, reduce the amount of the civil administrative penalty upon a finding of mitigating circumstances warranting the imposition of a lesser amount.

(d) If anyone is fatally injured, the inspector shall immediately go to the scene of the accident and make recommendations and render assistance as he or she may deem necessary for the future safety of the men and investigate the cause of the explosion or accident and make a record. He or she shall preserve the record with the other records in his or her office. The cost of the investigation records shall be paid by the Office of Miners' Health, Safety and Training. A copy shall be furnished to the operator and other interested parties. To enable him or her to make an investigation, he or she has the power to compel the attendance of witnesses and to administer oaths or affirmations. The director has the right to appear and testify and to offer any testimony that may be relevant to the questions and to cross-examine witnesses.

§22A-2-67. Written report of accident.

Whenever any accident occurs in or about any coal mine to any employee or person connected with the mining operation, resulting in personal injury or death, the operator shall, within twenty-four hours, report the same in writing to the director and to the district mine inspector of the district in which the accident occurs, giving full details thereof upon forms furnished by the director.

§22A-2-68. Preservation of evidence following accident or disaster.

Following a mine accident resulting in the death of one or more persons and following any mine disaster, the evidence surrounding such occurrence shall not be disturbed after recovery of bodies or injured persons until an investigation by the Office of Miners' Health, Safety and Training has been completed.

§22A-2-69.

Repealed.

Acts, 2006 Reg. Sess., Ch. 154.

§22A-2-70. Shafts and slopes.

(a) When mine examiner to be employed; qualifications. — During the sinking of a shaft or the driving of a slope to a coal bed or while engaged in underground construction work, or relating thereto, the operator shall assign a mine examiner to such project areas. Such mine examiner shall have a certificate of competency valid only for the type of work stipulated thereon and issued to him or her by the Office of Miners' Health, Safety, and Training after he or she has passed an examination given by the Office of Miners' Health, Safety, and Training. He or she or she shall, at the time he or she takes the examination, have a minimum of five years' experience in shaft sinking, slope driving and underground construction; moreover, he or she shall be able to detect methane with an approved gas detector and have a thorough knowledge of the ventilation of shafts, slopes, and mines, and the machinery connected therewith, and finally, he or she shall be a person of good moral character with temperate habits.

(b) Mine examiner or certified person acting as such; duties generally; records open for inspection. — In all shafts and slopes within three hours immediately preceding the beginning of a work shift and before any workmen in such shift, other than those who may be designated to make the examinations, enter the underground areas of such shafts or slopes, a certified foreman or mine examiner, designated by the operator of such shaft or slope to do so, shall make an examination of such areas. Each person designated to make such examinations shall make tests with an approved gas detector for accumulations of methane and oxygen deficiency, and examine sides of shafts and ribs and roof of all slopes. Should he or she find a condition which he or she considers dangerous to persons, he or she shall place a conspicuous danger sign at all entrances to such places. He or she shall record the results of his or her examination with ink or indelible pencil in a book prescribed by the director, kept at a place on the surface designated by mine management. All records as prescribed herein shall be open for inspection by interested persons.

(c) Approvals and permits. — An approval shall be obtained from the office before work is started. A permit shall be obtained from the office: (1) To stop fan when miners are in shafts or slopes; (2) to use electrical machinery in shafts or slopes; (3) to use electric lights in shafts or slopes; (4) to use welders, torches, and like equipment in shafts or slopes; (5) to hoist more than four miners at one time in buckets or cars; (6) to shoot more than 15 shots in one series.

(d) Records. — The foreman in charge on each shift shall keep a daily report of conditions and practices. The foreman in charge on each shift shall read and countersign the reports of the previous shift. Unsatisfactory conditions and practices reported shall be repeated on daily reports until corrected. Hoists, buckets, cars, ropes, and appliances thereto shall be examined by a qualified person before the start of each shift and a written record kept. Deaths from accidents or previous injuries shall be reported immediately by wire to the office of the director and to the district mine inspector or the inspector-at-large. A written report of all injuries and deaths shall be mailed to the Office of Miners' Health, Safety, and Training and district mine inspector promptly. Immediate notice shall be given the office of

the director, the district mine inspector and the inspector-at-large in the event of an ignition of gas, or serious accident to miners or equipment. All permits and approvals must be available for inspection by all interested persons.

(e) General. — The foreman on shift shall have at least five years' experience in shafts or slopes. New employees shall be instructed in the dangers and rules incident to their work. Conspicuous bulletin boards and warning signs shall be maintained. Unauthorized persons shall not be permitted around shafts or slopes. First-aid material shall be maintained at the operation as required by §22A-2-59 of this code. The scene of a fatal accident shall be left unchanged until an investigation is made by all interested persons. All employees and others around the operation shall wear hard-toe shoes and hard-top hats. Goggles or other eye protection shall be worn when cutting, welding, or striking where particles may fly. Gears, belts, and revolving parts of machinery shall be properly guarded. Hand tools shall be in good condition. Sides of shafts, ribs, and roof of all slopes shall be closely observed for loose and dangerous conditions. Loose brows, ribs, and top in slopes shall be taken down or supported; loose ribs in shafts shall be scaled. Miners shall be hoisted and lowered under power in shafts and slopes. All hoists must have two positive breaking devices. At least three wraps of rope shall remain on the hoist drum at all times. Wire ropes shall not be less than three-fourths inches in diameter, and of a design to prevent excessive spinning or turning when hoisting.

When heavy materials are hoisted, a large rope shall be used if necessary. A hoisting engineer shall be in constant attendance while men are in shaft. Head frames shall be constructed substantially. Noise from machinery shall not interfere with signals. The standard signal code, whistle or bell shall be used for hoisting:

One signal ..... Hoist

One signal ..... Stop

Two signals ..... Lower

Three signals ..... Man cage

One signal from hoisting engineer ..... Miners board cage

Hoist signals shall be posted in front of the hoisting engineer. The shaft opening shall be enclosed by a fence five feet high. Buckets shall not be loaded within six inches of the top rim. Buckets shall have a positive lock on the handle or bale to prevent bucket from crumpling while being hoisted. Positive coupling devices shall be used on buckets or cars (hooks with safety catches or threaded clevis). Emergency devices for escape shall be provided while shafts are under construction. Miners shall not ride on or work from rims of buckets. Buckets or cars shall not be lowered without a signal from working area. Only sober and competent engineers shall be permitted to operate hoists. No intoxicating liquors or intoxicated persons shall be permitted in or around any shaft, slope, or machinery. Lattice

type platforms shall be used.

(f) Explosives. — Explosives and blasting caps being taken into or removed from the operation shall be transported and kept in approved nonconducting receptacles (unopened cartons or cases are permissible). Explosives shall not be primed until ready to be inserted into holes. Handling of explosives and loading of holes shall be under the strict supervision of a qualified person or shotfirer. No more explosives or caps than are required to shoot one round shall be taken into shafts. Adobe, mudcapped, or unconfined shots shall not be fired. Holes shall be stemmed tightly and full into the mouth. Blasting caps shall be inserted in line with the explosive. Leg wires of blasting caps and buss wires shall be kept shunted until connected. Shooting cables shall be shunted at firing devices and before connecting to leg wires. Only approved shooting devices shall be used. Shots shall be fired promptly after the round of holes are charged. Warnings shall be given before shots are fired by shouting "Fire" three times slowly after those notified have withdrawn. The blasting circuit shall be wired in series or parallel series. All shooting circuits shall be tested with a galvanometer by a qualified person before shooting. A careful examination for misfires shall be made after each shot. Persons shall not return to the face until smoke and dust have cleared away. The shooting cable shall be adequately insulated and have a substantial covering; be connected by the person firing the shot; and be kept away from power circuits. Misfires shall be removed by firing separate holes or by washing; shall not be drilled out; and shall be removed under supervision of a foreman or qualified person. Separate magazines for the storage of explosives and detonators shall be located not less than 300 feet from openings or other structures. Magazines for the storage of explosives and detonators shall be separated at least 50 feet. Magazines shall be located behind barricades. The outside of magazines shall be constructed of incombustible material. Rubbish and combustible material shall not be permitted to accumulate around or in magazine. Warning signs, to be seen in all directions, shall be posted near magazines.

(g) Electrical. — Power cables installed in slopes shall be placed in conduit away from the belt as far as possible. Surface transformers shall be elevated at least eight feet from the ground or enclosed by a fence six feet high, grounded if metal; shall be properly grounded; shall be installed so that they will not present a fire hazard; and shall be guarded by sufficient danger signs.

Electric equipment shall be in good condition, clean and orderly; shall be equipped with guards around moving parts; and shall be grounded with effective frame grounds on motors and control boxes.

All electric wires shall be installed and supported on insulators. All electric equipment shall be protected by dual element fuse or circuit breakers.

(h) Ventilation. — Ventilating fans shall be offset from portal at least 15 feet; shall be installed so that the ventilating current is not contaminated by dust, smoke or gases; shall be effectively frame grounded; and shall be provided with fire extinguishers.

All shafts and slopes shall be ventilated adequately and continuously with fresh air. Air tubing shall deliver not less than 9,000 feet per minute at the working area or as much more as the inspector may require.

(i) Gases. — A foreman shall be in attendance at all times in shafts and slopes who has passed an examination given by the office as to his or her competency in the use of an approved gas detector.

An examination shall be made before and after shooting by the foreman on shift. The foreman shall have no superior in the performance of his or her duties. An approved gas detector shall be carried at all times by the foreman when in the working area and weekly gas analysis made. In all shafts and slopes within three hours immediately preceding the beginning of a work shift and before any workmen in such shift, other than those who may be designated to make the examinations, enter the underground areas of such shafts or slopes, a certified mine foreman or mine examiner designated by the operator of such shaft or slope to do so, shall make an examination of such area. Evidence of official examination shall be left at the face by marking date and initials.

Gases should be removed under the supervision of the foreman in charge. Smoking shall not be permitted inside of shafts or slopes.

(j) Drilling. — Dust allaying or dust collecting devices shall be used while drilling.

(k) Lights to be used in shafts. — Only approved electric cap lights shall be used in shafts. Other lights shall be of explosive-proof type. Lights shall be suspended in shafts by cable or chain other than the power conductor. In slopes, lights must be substantially installed. Power cables shall be of an approved type. Power cables shall not be taut from shaft collar to light. Power cables shall be in good condition and free of improper splices. Lights shall be suspended not less than 20 feet above where miners are working. Lights shall be removed from shaft and power cut off when shooting. In slopes, lights must be removed a safe distance when shots are fired. Lights shall not be replaced in shafts or slopes until examination has been made for gas by the mine examiner and found clear. Front of light shall be protected by a substantial metal type guard. Lights shall be protected from falling objects from above by a metal hood. The lighting circuit shall be properly fused. Electric lights shall not be used in gaseous atmospheres. An approved gas detector shall be kept for use at the face while miners are at work.

§22A-2-71. Right of miner to refuse to operate unsafe equipment; procedure; discrimination.

No miner shall be required to operate unsafe equipment. On or before January 1, 1981, the Board of Coal Mine Health and Safety shall by rule or regulation establish a procedure for resolving disputes arising out of the refusal by a miner to operate such alleged unsafe equipment. No action shall be taken against a miner by an operator unless such miner is found to have acted in bad faith and without good cause by the director or his authorized representative.

§22A-2-71a. Right of miner to refuse to work in an unsafe area or unsafe manner.

Any miner has the right to refuse to work in an area or under conditions which he believes to be unsafe.

§22A-2-72. Long wall and short wall mining.

(a) The Legislature finds that new methods of extracting coal known as long wall or short wall mining are being used in this state. The board of coal mine health and safety shall investigate or cause to be investigated the technology, procedures and techniques used in such mining methods and shall promulgate by January 1, 1981, and continuously update the same, rules governing long wall and short wall mining, which rules shall have as their paramount objective, the health and safety of the persons involved in such operations, and which said rules shall include, but not be limited to, the certification of personnel involved in such operation.

(b) The director may modify the application of any provision of this section to a mine if the director determines that an alternative method of achieving the result of such provision exists which will at all times guarantee no less than the same measure of protection afforded the miners of such mine by such provision, or that the application of such provision to such mine will result in a diminution of the health of, or safety to, the miners in such mine. The director shall give notice to the operator and the representative of miners in the affected mine, as appropriate, and shall cause such investigation to be made as he or she deems appropriate. Such investigation shall provide an opportunity for a hearing, at the request of such operator or representative or other interested party, to enable the operator and the representative of miners in such mine or other interested party to present information relating to the modification of such provision. The director shall issue a decision incorporating his or her findings of fact therein, and send a copy thereof to the operator and the representative of the miners, as appropriate. Any such hearing shall be of record.

§22A-2-73. Construction of shafts, slopes, surface facilities and the safety hazards attendant therewith; duties of Board of Coal Mine Health and Safety to promulgate rules; time limits therefor.

The Board of Coal Mine Health and Safety shall investigate or cause to be investigated the technology, procedures and techniques used in the construction of shafts, slopes, surface facilities, and the safety hazards, attendant therewith, and shall promulgate rules governing the construction of shafts and slopes; and shall promulgate by January 1, 1981, rules governing the construction of surface facilities.

The Board of Coal Mine Health and Safety shall continuously update such rules governing the construction of shafts, slopes and surface facilities, which rules shall have as their paramount concern, the health and safety of the persons involved in such operations, and such rules shall include, but not be limited to, the certification of all supervisors, the certification and training of hoist operators and shaft workers, the certification of blasters and approval of plans. The provisions of such rules may be enforced against operators and construction companies in accord with the provisions of article one of this chapter. For purposes of this chapter, a construction company is an operator.

§22A-2-74. Control of respirable dust.

Each operator shall maintain the concentration of respirable dust in the mine atmosphere during each shift to which miners in active workings of such mine are exposed below such level as the board may establish. The board may promulgate rules governing respirable dust, including, but not limited to, dust standards, sampling procedures, sampling devices, equipment and sample analysis by using the data gathered by the federal Mine Safety and Health Administration and, or the federal Bureau of Mines.

Any operator found to be in violation of such standards shall bring itself into compliance with such standards and rules of the board or the director may thereafter order such operator to discontinue such operation.

§22A-2-75. Coal operators -- Procedure before operating near oil and gas wells.

(a) Before a coal operator conducts underground mining operations within five hundred feet of any well, including the driving of an entry or passageway, or the removal of coal or other material, the coal operator shall file with the Office of Miners' Health, Safety and Training and forward to the well operator by certified mail, return receipt requested, its mining maps and plans (which it is required to prepare, file and update to and with the regulatory authority) for the area within five hundred feet of the well, together with a notice, on a form furnished by the director, informing them that the mining maps and plans are being filed or mailed pursuant to the requirements of this section.

Once these mining maps and plans are filed with the office, the coal operator may proceed with its underground mining operations in the manner and as projected on such plans or maps, but shall not remove, without the consent of the director, any coal or other material or cut any passageway nearer than two hundred feet of any completed well or well that is being drilled. The coal operator shall, at least every six months while mining within the five hundred foot area, update its mining maps and plans and file the same with the director and the well operator.

(b) Application may be made at any time to the director by a coal operator for leave to conduct underground mining operations within two hundred feet of any well or to mine through any well, by petition, duly verified, showing the location of the well, the workings adjacent to the well and the mining operations contemplated within two hundred feet of the well or through such well, and praying the approval of the same by the director and naming the well operator as a respondent. The coal operator shall file such petition with the director and mail a true copy to the well operator by certified mail, return receipt requested.

The petition shall notify the well operator that it may answer the petition within five days after receipt, and that in default of an answer the director may approve the proposed operations as requested if it be shown by the petitioner or otherwise to the satisfaction of the director that such operations are in accordance with the law and with the provisions of this article. If the well operator files an answer which requests a hearing, one shall be held within ten days of such answer and the director shall fix a time and date and give both the coal operator and well operator five days' written notice of the same by certified mail, return receipt requested. At the hearing, the well operator and coal operator, as well as the director, shall be permitted to offer any competent and relevant evidence. Upon conclusion of the hearing, the director shall grant the request of the coal operator or refuse to grant the same, or make such other decision with respect to such proposed underground operation as in its judgment is just and reasonable under all circumstances and in accordance with law and the provisions of this article: Provided, That a grant by the director of a request to mine through a well shall require an acceptable test to be conducted by the coal operator establishing that such mining through can be done safely.

If a hearing is not requested by the well operator or if the well operator gives, in writing, its consent to the coal operator to mine within closer than two hundred feet of the specified

well, the director shall grant the request of the coal operator within five days after the petition's original five day answer period if the director determines that such operations are just, reasonable and in accordance with law and the provisions of this article.

The director shall docket and keep a record of all such proceedings. From any such final decision or order of the director, either the well operator or coal operator, or both, may, within ten days, appeal to the circuit court of the county in which the well subject to said petition is located. The procedure in the circuit court shall be substantially as provided in section four, article five, chapter twenty-nine-a of this code, with the director being named as a respondent. From any final order or decree of the circuit court, an appeal may be taken to the Supreme Court of Appeals as heretofore provided.

A copy of the document or documents evidencing the action of the director with respect to such petition shall promptly be filed with the chief of the office of oil and gas of the Division of Environmental Protection.

(c) Before a coal operator conducts surface or strip mining operations as defined in this chapter, within two hundred feet of any well, including the removal of coal and other material, the operator shall file with the director and furnish to the well operator by certified mail, return receipt requested, its mining maps and plans (which it is required to prepare, file and update to and with the regulatory authority) for the area within two hundred feet of the well, together with a notice, on a form furnished by the director, informing them that the mining maps and plans are being filed or mailed pursuant to the requirements of this section, and representing that the planned operations will not unreasonably interfere with access to or operation of the well and will not damage the well. In addition, the coal operator shall furnish the well operator with evidence that it has in force public liability insurance, with at least the minimum coverage required by article three, chapter twenty-two of this code, and the rules promulgated thereto and thereunder.

Once these mining maps and plans are filed with the director, the coal operator may proceed with its surface or strip mining operations in the manner and as projected on such plans or maps, so long as such surface mining operations do not unreasonably interfere with access to, or operation of, the well or do not damage the well.

(d) The filing of petitions and notices with the director as herein provided may be complied with by mailing such petition or notice to the director by certified mail, return receipt requested.

§22A-2-76. Reopening old or abandoned mines.

No person, without first giving to the director ten days' written notice thereof, shall reopen for any purposes any old or abandoned mine wherein water or mine seepage has collected or become impounded or exists in such manner or quantity that upon the opening of such mine, such water or seepage may drain into any stream or watercourse.

Such notice shall state clearly the name or names of the owner or owners of the mine proposed to be opened, its exact location, and the time of the proposed opening thereof.

Upon receipt of such notice, the director shall have his or her representative present at the mine at the time designated in the notice for such opening, who has full supervision of the work of opening such mine with full authority to direct the work in such manner as to him or her seems proper and necessary to prevent the flow of mine water or seepage from such mine in such manner or quantity as will kill or be harmful to the fish in any stream or watercourse into which such mine water seepage may flow directly or indirectly.

§22A-2-77. Quarterly report by operator of mine; exception as to certain inactive mines.

On or before the end of each quarter, the operator of each mine, regulated under the provisions of this chapter or article three or four, chapter twenty-two of this code, shall file with the director a report with respect thereto covering the next preceding quarter which shall reflect the number of accidents which have occurred at each such mine, the number of persons employed, the days worked and the actual raw tonnage mined. Quarters are based on a calendar year. Such report shall be made upon forms furnished by the director. Other provisions of this section to the contrary notwithstanding, no such report shall be required with respect to any mine on approved inactive status if no employees were present at such mine at any time during the next preceding calendar month.

§22A-2-78. Examinations to determine compliance with permits.

Whenever permits are issued by the Office of Miners' Health, Safety and Training, frequent examinations shall be made by the mine inspector during the tenure of the permit to determine that the requirements and limitations of the permit are complied with.

§22A-2-79. Provisions of article severable.

The various provisions of this article shall be construed as separable and severable and, should any of the provisions, sentences, clauses, or parts thereof be construed or held unconstitutional or for any reason be invalid, the remaining provisions of this article shall not be thereby affected.

§22A-2-80. Existing regulations to be revised.

By August 31, 2019, all existing rules or regulations under authority of this article shall be revised to reflect the changes enacted during the 2019 Regular Session of the Legislature.