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## **WEST VIRGINIA BOARD OF COAL MINE HEALTH AND SAFETY**

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### **PROPOSED REGULATIONS**

To: All persons interested in Rules and Regulations constructed by the Board of Coal Mine Health and Safety

From: Joel L. Watts, Administrator – BCMH&S

Subject: **Belt conveyer; installation; maintenance; examination of belt conveyors and belt entries, automatic fire warning devices, Title 36, Section 50**

Date: 22 April 2010

End Date for Comments: 28 May 2010

Authority: §22.6.4

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The Board of Coal Mine Health and Safety is posting a proposed regulation which amends the current statute into regulatory format to increase the degree of safety. This is a new rule. It requires automatic fire warning devices.

You may send all written comments to

1615 Washington Street East  
Charleston, WV 25311

All comments must be post-marked by 28 May in order to be accepted by the Board for consideration.

**TITLE 36  
LEGISLATIVE RULES  
BOARD OF COAL MINE HEALTH AND SAFETY**

**SERIES 50**

**Belt conveyor; installation; maintenance; examination of belt conveyors and belt entries, automatic fire warning devices**

**§36-50-1. General.**

1.1 Scope. Rules and Regulations Governing Underground Coal Mines in the State of West Virginia

1.2 Authority. W. Va. Code 22A-6-4

1.3 Filing Date.

1.4 Effective Date.

**§36-50-2. Belt conveyor; installation; maintenance; examination of belt conveyors and belt entries, automatic fire warning devices.**

(a) On or after the first day of July, one thousand nine hundred seventy-one, 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 the first day of July, one thousand nine hundred seventy-one. 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-fire boss or assistant mine foreman-fire boss 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 including belt take-up or storage devices.

(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. Coal feeders shall be provided with a device to quickly de-energize the feeder conveyor and crusher in the vent of an emergency. This device shall be installed in a location accessible to personnel located within the confines of the cargo space of a crusher or feeder.

(o) Automatic fire warning devices

(1) Devices shall be installed on all belts which will give a warning automatically when a fire occurs on or near any such belt.

(2) A fire sensor system shall be installed on each underground belt conveyor. Sensors so installed shall be of a type which will (a) give warning automatically when a fire occurs on or near such belt: (b) provide both audible and visual signals that permit rapid location of the fire.

(3)(A) The components of each automatic fire sensor required to be installed in accordance with these provisions shall be of a type and installed in a manner approved by the Director, or the components shall be of a type listed, approved and installed in accordance with the recommendations of a nationally recognized testing laboratory.

(B) Where applicable, and not inconsistent with these regulations, automatic fire sensors shall be installed in accordance with the recommendations set forth in National Fire Code No. 72A "Local Protective Signaling Systems" (NFPA No. 72A-1967V National Fire Code No. 72A (1967) is hereby incorporated by reference and made a part hereof.

(4) Automatic fire sensor and warning device systems installed in belt haulageways of underground coal mines shall be assembled from components which meet the minimum requirements set forth in these regulations unless otherwise approved by the Director.

(5)(A) Automatic fire sensor and warning device systems shall provide identification of fire within each belt flight (each belt unit operated by a belt drive).

(1) Where used, sensors responding to temperature rise at a point (point-type sensors) shall be located at or above the elevation of the top belt, and installed at the beginning and end of each belt flight, at the belt drive, and in increments along each belt flight so that the maximum distance between sensors does not exceed 125 feet, except as provided in paragraph (5)(A)(3) of this section,.

(2) Where used, sensors responding to radiation, smoke, gases, or other indications of fire, shall be spaced at regular intervals to provide protection equivalent to point-type sensors, and installed within the time specified in paragraph (-----) of this section.

(3) When the distance from the tailpiece at loading points to the first outby sensor reaches 125 feet when point-type sensors are used such sensors shall be installed and put in operation within 24 production shift hours after the distance of 125 feet is reached. When sensors of the kind described in paragraph (5)(A)(2) of this section are used, such sensor shall be installed and put in operation within 24 production shift hours after the equivalent distance which has been established for the sensor from the tailpiece at loading points to the first outby sensor is first reached.

(B) Automatic fire sensor and warning device systems shall be installed so as to minimize the possibility of damage from roof falls and the moving belt and its toad.

(C) Infrared, ultraviolet, and other sensors whose effectiveness is impaired by contamination shall be protected from dust, dirt, and moisture.

(D) The voltage of automatic fire sensor and warning device systems shall not exceed 120 volts

(E) Except when power must be cut off in the mine under the provisions of 22A-2-3fa). automatic fire sensor and warning device systems shall be capable of giving warning of fire for a minimum of 4 hours after the source of power to the belt is removed unless the belt haulageway is examined for hot rollers and fire as provided in paragraph (5)(E)(1) or (2) of this section.

(1) When an unplanned removal of power from the belt occurs an examination for hot rollers and fire in the operating belts of a conveyor system shall be completed within 2 hours after the belt has stopped. (2) When a preplanned removal of power from the belt occurs an examination for hot rollers and fire on the operating belts of a conveyor system may commence not more than 30 minutes before the belts are stopped and shall be completed within 2 hours after the examination is commenced, or the examination shall be commenced when the belts are stopped and completed within 2 hours after the belts are stopped.

(6)(A) Automatic fire sensor and warning device systems shall upon activation provide an effective warning signal at either of the following locations:

(1) At all work locations where men may be endangered from a fire at the belt flight: or

(2) At a manned location where personnel have an assigned post of duty and have telephone or equivalent communication with all men who may be endangered.

(B) The automatic fire sensor and warning device system shall be monitored for a period of 4 hours after the belt is stopped, unless an examination for hot rollers and fire is made as prescribed in (5)(3)(E)

(C) The fire sensor and warning device system shall include a means for rapid evaluation of electrical short and open circuits, ground faults, pneumatic leaks, or other defect detrimental to its proper operational condition.

(D) Automatic fire sensor and warning devices shall include a manual reset feature.

(7) Automatic fire sensor and warning device systems may be used to actuate deluge-type water systems, foam generator systems, multipurpose drv-powder systems, or other equivalent automatic fire suppression systems.

(8)The electrical components of each automatic fire sensor and warning device system shall:

(A) Remain functional when the power circuits are de-energized as required by 22A-2-40C55): and

(B) Be provided with protection against ignition of methane or coal dust when the electrical power is de-energized as required by 22A-2-3(a).

(10)(A) Automatic fire sensor and warning device systems shall be inspected weekly, and a functional test

of the complete system shall be made at least once annually. Inspection and maintenance of sucfc systems shall be by a qualified person.

(B) A record of the annual functional test conducted in accordance with paragraph (a> of this section shall be maintained by the operator. A record card of the weekly inspection shall be kept at each belt drive.

(10)(A) Where the average air velocity along the belt haulage entry exceeds 100 feet per minute the fire suppression system in the belt haulageway shall conform with the following additional sensor and cache requirements:

(B) The maximum distance between sensors along the belt haulageway shall be 40 percent of those-distances specified or established in accordance with 22A-2-39fo)(5)(A)(1) or (2). as applicable, and shall be installed and put in operation within the period of time specified in 22A-2-39(o)(5)(AK3).

(11) Each fire hydrant shall be tested by opening to insure that it is in operating condition, and each fire hose shall be tested, at intervals not exceeding 1 year. A record of these tests shall be maintained at an appropriate location.