WEST VIRGINIA
SECRETARY OF STATE
NATALIE E. TENNANT
ADMINISTRATIVE LAW DIVISION

Form #2

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OFFICE OF WEST VIRGINIA
SECRETARY OF STATE

NOTICE OF A COMMENT PERIOD ON A PROPOSED RULE

AGENCY: Board of Coal Mine Health and Safety TITLE NUMBER: 36

RULE TYPE: Exempt CITE AUTHORITY: 22A-6-4

AMENDMENT TO AN EXISTING RULE: YES ____ NO x

IF YES, SERIES NUMBER OF RULE BEING AMENDED: ____

TITLE OF RULE BEING AMENDED: ____

IF NO, SERIES NUMBER OF RULE BEING PROPOSED: 47

TITLE OF RULE BEING PROPOSED: Hoisting machinery; telephones; safety devices; hoisting engineers and drum runners

IN LIEU OF A PUBLIC HEARING, A COMMENT PERIOD HAS BEEN ESTABLISHED DURING WHICH ANY INTERESTED PERSON MAY SEND COMMENTS CONCERNING THESE PROPOSED RULES. THIS COMMENT PERIOD WILL END ON 6 November 2011 AT 5:00pm ONLY WRITTEN COMMENTS WILL BE ACCEPTED AND ARE TO BE MAILED TO THE FOLLOWING ADDRESS:

1615 Washington Street East
Charleston WV 25301

FAX: 304.558.0062

THE ISSUES TO BE HEARD SHALL BE LIMITED TO THIS PROPOSED RULE.

Authorized Signature

ATTACH A **BRIEF** SUMMARY OF YOUR PROPOSAL

Rule Title: Hoisting machinery; telephones; safety devices; hoisting engineers and drum runners

3. **Explanation of above estimates (including long-range effect):**
Please include any increase or decrease in fees in your estimated total revenues.

None

MEMORANDUM

Please identify any areas of vagueness, technical defects, reasons the proposed rule **would not** have a fiscal impact, and/or any special issues **not** captured elsewhere on this form.

N/A

Date: 5 October 2011

Signature of Agency Head or Authorized Representative

APPENDIX B

FISCAL NOTE FOR PROPOSED RULES

Rule Title: Hoisting machinery; telephones; safety devices; hoisting engineers and drum runners

Type of Rule: [X] Legislative [ ] Interpretive [ ] Procedural

Agency: Board of Coal Mine Health and Safety

Address: 1615 Washington Street East
Charleston WV 25301

Phone Number: 304.957.2306 Email: joel.l.watts@wv.gov

Fiscal Note Summary

Summarize in a clear and concise manner what impact this measure will have on costs and revenues of state government.

None.

Fiscal Note Detail

Show over-all effect in Item 1 and 2 and, in Item 3, give an explanation of Breakdown by fiscal year, including long-range effect.

FISCAL YEAR			
Effect of Proposal	Current Increase/Decrease (use "-")	Next Increase/Decrease (use "-")	Fiscal Year (Upon Full Implementation)
1. Estimated Total Cost	0.00	0.00	0.00
Personal Services	0.00	0.00	0.00
Current Expenses	0.00	0.00	0.00
Repairs & Alterations	0.00	0.00	0.00
Assets	0.00	0.00	0.00
Other	0.00	0.00	0.00
2. Estimated Total Revenues	0.00	0.00	0.00

Rule Title: Hoisting machinery; telephones; safety devices; hoisting engineers and drum runners

WEST VIRGINIA BOARD OF COAL MINE HEALTH AND SAFETY

1615 Washington Street, E. • Charleston, West Virginia 25311 • Telephone 304-558-1425 • Fax 304-558-0062

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: Proposed Rule 36.47: Hoisting machinery; telephones; safety devices; hoisting engineers and drum runners

Date: 5 October 2011

Action: Comment Period for Proposed Rule (6 October 2011 to 6 November 2011)

Authority: §22-6-4

The Board of Coal Mine Health and Safety is created pursuant to WV Code §22A-6-1

§36-47-1

The Board of Coal Mine Health and Safety is opening up a comment period for a proposed rule on Hoisting and elevators. It is an increase in safety to 22A-2-36. This is in response to a fatal which occurred involving hoisting machinery. The Rule was first proposed to the Board by former Director Ron Wooten and has been examined and modified by a sub-committee of the Board and then by the entire Board, meeting 27 September 2011.

TITLE 36
LEGISLATIVE RULES
BOARD OF COAL MINE HEALTH AND SAFETY

SERIES 47

Hoisting machinery; telephones; safety devices; hoisting engineers and drum runners

§36-47-1. General

1.1 Scope. This rule governs the use of hoisting machinery, communication, safety devices, hoisting engineers and drum runners in underground coal mines.

1.2 Authority. WV Code 22-6-4.

1.3 Filing Date_____

1.4 Effective Date_____

§ 36-47-2. Effect of Law and Regulations.

2.1 These regulations shall have the effect of law and violations shall be deemed a violation of law and so cited with the same effect as law.

§ 36-47-3 Communications:

3.1 The operator of every coal mine shall have at least two effective methods of communication, approved by the Director, for signaling from the top to the bottom and intermediate landings of shafts/slopes, 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/slope station(s) and person(s) at the hoist room; Signaling systems used for communication between shaft/slope stations and the hoist room shall be tested daily.

§ 36-47-4 Hoist Equipment:

4.1 General

1. Hoists shall have rated capacities consistent with loads handled or hoisted. The load capacity of the hoist system shall be posted in a conspicuous place at the loading point(s) and hoisted loads shall not exceed those limits.

2. Hoisting equipment used to transport personnel shall be equipped with over-speed, over-wind, over-lap, and automatic stop controls.

3. Every hoist utilizing a platform, cage, or other device used to transport personnel shall be equipped with brakes capable of stopping the fully loaded platform, cage, or other device. Cages, platforms, or other devices used to transport personnel in shafts and slopes shall be equipped with safety catches or other equally effective devices approved by the Director that act quickly and effectively in the event of an emergency. Such catches or devices shall be tested at least once every sixty days. A record shall be made in a book approved by the Director of the tests of the safety catches or other devices. Each entry shall be signed by the person making the tests and countersigned by a responsible official.

4. Hoists used to transport persons shall be equipped with two (2) independent means of braking that are each capable of stopping and holding the fully loaded platform, cage, or other device at any point in the shaft, slope, or incline.

5. Where the mine is operated 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.

6. In no instance shall more than twenty persons be transported on a cage or car without the approval of the director.

7. No person shall ride on a loaded cage or car used to carry materials or equipment in any shaft, slope, or incline, nor in a cage or car that is directly or indirectly connected to such a loaded cage or car.

8. A sufficient cover shall be provided overhead on hoisting equipment used to transport personnel.

9. The empty cage/car shall be operated up and down the shaft/slope at least one round trip at the beginning of each shift, and after the hoist has been idle for one hour or more before hoisting or lowering men.

10. Where a hoisting engineer is required, he or she shall be readily available at all times when men are in the mine.

11. Cages and elevators shall have an emergency power source unless provided with other escapeway facilities. Emergency power sources shall be tested at least once every thirty (30) days and the date and results of such tests shall be recorded.

12. Machinery and related components used for lowering and hoisting persons and/or equipment into or out of shafts/slopes shall be properly maintained in a safe operating condition, equipped with a reliable indicator, and visually inspected once in each twenty-four hour period by a certified electrician who has been trained in the inspection of hoisting/elevator equipment.

4.2 Drum clutch; cage construction

1. The clutch of a free-drum on a personnel hoist shall be provided with a locking mechanism or interlocked with the brake to prevent accidental withdrawal of the clutch.

2. Cages used for hoisting persons shall be constructed with the permanent sides enclosed to a height of at least six feet and the sides used to enter and exit the case shall have gates, safety chains, or bars across the ends of the case when person are being hoisted or lowered.

3. Self-dumping cages, platforms, or other devices used for transportation of persons shall have a locking device to prevent tilting when persons are transported.

4. Precautions shall be taken to protect persons working in shaft sumps.

5. Workers shall wear safety belts while doing work in or over shafts.

4.3 Daily Visual Examinations:

Hoists and elevators shall be examined daily according to the manufacturer's recommended guidelines and such examinations shall include, but not be limited to, the following:

1. Elevators: An examination of the rope for wear, broken wires, and corrosion, especially at excessive strain points such as near the attachments and where the rope rests on sheaves;

2. Hoists and elevators:

    a. An examination of the rope fastenings for defects;
    b. An examination of safety catches;
    c. An examination of the cages, platforms, elevators, or other devices for loose, missing or defective parts;
    d. An examination of the head sheaves to check for broken flanges, defective bearings, rope alignment, and proper lubrication;
    e. An observation of the lining, wear pads, rollers, and all other equipment and appurtenances installed in the shaft.
    f. At the completion of each daily examination, the person making the examination shall certify, by signature and date, that the examination has been made. If any unsafe condition is found during the examinations required, the person conducting the examination shall make a record of the condition and the date. Management shall ensure any unsafe conditions are corrected prior to hoisting operations. Certifications and records shall be retained for one year.

4.4 Entrances to shafts and slopes.

1. General

A waiting station with sufficient room, ample clearance from moving equipment, and adequate seating facilities shall be provided where personnel 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. Personnel shall not travel or perform work in slopes or other types of hoistways during hoisting operations, except as approved by the Director or a representative of the Director.

2. Shafts

1. All open entrances to hoist shafts shall be equipped with an approved safety gate at the top of the shaft and at each landing. Such gates shall be self-closing and shall be kept closed except when the cage is at such landing.
2. 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/car or other hoisting apparatus.

3. Slopes

1. 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.
2. Signal lights and horns shall be installed and maintained at waiting station(s), landings, and at intervals throughout the length of slope(s), sufficient to give warning of hoisting equipment operating in the slope.

4. Standards of conduct

1. Engineers or drum runners employed to operate hoisting equipment shall be competent, sober, and shall be continuously responsible for the safe operation of hoisting equipment. No one shall interfere with any part of the hoisting machinery, the duties of hoisting personnel, or any phase of the hoisting operation. An Engineer is not required for automatically operated cages, cars, elevators or platforms.
2. Where required, hoisting engineers shall be available at all times when personnel are present in the mine. No engineer is required for automatically operated cages, elevators, or platforms.

5. Automatic elevators:

1. The doors of automatic elevators shall be equipped with interlocking switches so arranged that the elevator car will be immovable while any door is opened or unlocked, and arranged so that such door or doors cannot be inadvertently opened when the elevator car is not at a landing.

2. 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 in the event of an emergency

3. A slack cable device shall be used where appropriate on automatic elevators which will automatically shut-off the power and apply the brakes in the event the elevator is obstructed while descending.

4. Each automatic elevator shall be provided with a telephone or other effective communication system by which aid or assistance can be obtained promptly.

6. Guide Ropes:

If guide ropes are used in shafts for personnel hoisting applications other than shaft development, the nominal strength (manufacturer's published catalog strength) of the guide rope at installation shall meet the minimum value calculated as follows: Minimum value = Static Load x 5.0.

7. Wire ropes; scope

1. This section applies to wire ropes in service used to hoist (i) and (ii) herein, but do not apply to wire ropes for elevators:
    1. Persons, materials, and equipment in shafts or slopes underground;
    2. Loads in shaft or slope development when persons work below the suspended loads.

2. Minimum rope strength.
    At installation, the nominal strength (manufacturer's published catalog strength) of wire ropes used for hoisting shall meet the minimum rope strength values obtained by the following formulas in which "L" equals the maximum suspended rope length in feet:

    a. Winding drum ropes (all constructions, including rotation resistant).
        i. For rope lengths less than 3,000 feet: Minimum Value = Static Load x (7.0--0.001L)
        ii. For rope lengths 3,000 feet or greater: Minimum Value = Static Load x 4.0
    b. Friction drum ropes.
        i. For rope lengths less than 4,000 feet: Minimum Value = Static Load x (7.0--0.0005L)

        ii. For rope lengths 4,000 feet or greater: Minimum Value = Static Load x 5.0
    c. Tail ropes (balance ropes).
        i. Minimum Value = Weight of Rope x 7.0

3. Initial measurement

   After initial rope stretch but before visible wear occurs, the rope diameter of newly installed wire ropes shall be measured at least once in every third interval of active length and the measurements averaged to establish a baseline for subsequent measurements. The established baseline measurement shall be recorded and kept on file and accessible to representatives of the Director throughout the lifespan of the ropes.

4. Lubrication of ropes

   Wire ropes used for hoisting equipment or personnel shall be adequately lubricated according to the manufacturer's specifications.

5. Examinations.

   1. At least once every seven (7) calendar days, each wire rope in service shall be visually examined along its entire active length for visible structural damage, corrosion, and improper lubrication or dressing. In addition, visual examination for wear and broken wires shall be made at stress points, including the area near attachments, where the rope rests on sheaves, where the rope leaves the drum, at drum crossovers, and at change-of-layer regions. When any visible condition that results in a reduction of rope strength is present, the affected portion of the rope shall be visually examined on a daily basis. At the completion of each examination required by this section, [(g)(5)(i)], the person making the examination shall certify, by signature and date, that the examination has been made. If any condition listed in this section, [(g)(5)(i)], is present, the person conducting the examination shall make a record of the condition and the date. Certifications and records of examinations shall be retrained for one year.

   2. Before hoisting of equipment or personnel with a newly installed wire rope, the wire rope shall be examined:

      a. Wherever wear is evident;
      b. Where the hoist rope rests on sheaves at regular stopping points;
      c. Where the hoist rope leaves the drum at regular stopping points; and
      d. At drum crossover and change-of-layer regions.

   3. At least once every one-hundred eighty (180) calendar days, nondestructive tests shall be conducted of the active length of the rope and rope diameter measurements shall be made at least once every ninety (90) calendar days.

   4. The person making the measurements or nondestructive tests as required by paragraph (3) of this section shall record the measurements or test results and the date. This record shall be retained until the rope is retired from service.

6. Load end attachments.

   1. Wire rope shall be attached to the load by a method that develops at least 80 percent of the nominal strength of the rope.
   2. Except for terminations where use of other materials is a design feature, zinc (spelter) shall be used for socketing wire ropes. Design feature means either the manufacturer's original design or a design approved by a registered professional engineer.
   3. Load end attachment methods using splices are prohibited.

7. Drum end attachment.

1. For drum end attachment, wire rope shall be attached—
    i. Securely by clips after making one full turn around the drum spoke;
    ii. Securely by clips after making one full turn around the shaft, if the drum is fixed to the shaft; or
    iii. By properly assembled anchor bolts, clamps, or wedges, provided that the attachment is a design feature of the hoist drum. Design feature means either the manufacturer's original design or a design approved by a registered professional engineer.
2. A minimum of three full turns of wire rope shall be on the drum when the rope is extended to its maximum working length.

8. End attachment re-termination.

    1. Damaged or deteriorated wire rope shall be removed by cutoff and the rope re-terminated where there is
        i. More than one broken wire at an attachment;
        ii. Improper installation of an attachment;
        iii. Slippage at an attachment; or
        iv. Evidence of deterioration from corrosion at an attachment.

9. End attachment replacement.
    1. Wire rope attachments shall be replaced when cracked, deformed, or excessively worn.

10. Retirement of wire ropes
    1. Unless damage or deterioration is removed by cutoff, wire ropes shall be removed from service when any of the following conditions occurs:
        i. The number of broken wires within a rope lay length, excluding filler wires, exceeds either—
            1. Five percent of the total number of wires; or
            2. Fifteen percent of the total number of wires within any strand;
        ii. On a regular lay rope, more than one broken wire in the valley between strands in one rope lay length;
        iii. A loss of more than one-third of the original diameter of the outer wires;
        iv. Rope deterioration from corrosion;
        v. Distortion of the rope structure;
        vi. Heat damage from any source;
        vii. Diameter reduction that exceeds six percent of the baseline diameter measurement; or
        viii. Loss of more than ten percent of rope strength as determined by nondestructive testing.