

August 13, 2008

In the matter of:
Webster County Coal Corporation
Dotiki Mine
I.D. No. 15-02132

Petition for Modification

Docket No. M-1991-019-C

PROPOSED AMENDED DECISION AND ORDER

On August 1, 1991, MSHA issued a Proposed Decision and Order (PDO) granting a petition for modification of the application of 30 C.F.R. §75.1103-4(a)(1) to Webster County Coal Corporation, Dotiki Mine ("Dotiki"), located in Webster County, Kentucky. The petition became final on August 31, 1991, and its terms and conditions permitted the use of a carbon monoxide monitoring system (a CO sensor) that identifies the location of sensors in lieu of identifying belt flights.

30 C.F.R. § 75.1103-4(a)(1) provides in pertinent part:

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

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. . . .

The primary safety goal of 30 C.F.R. § 75.1103-4 (a)(1) is the early detection of a fire or explosive condition to ensure the protection of all coal miners. Early detection of such conditions would allow for a rapid response to the condition(s) and rapid evacuation of miners in the event of such conditions.

At the time of the original request, the primary fire detection system at the Dotiki mine was a heat-point sensor system. Since 1991, Dotiki has been using the CO sensor system as a secondary means of fire detection as well as to identify the location of sensors in lieu of belt flights conditioned upon compliance with certain terms and conditions outlined in the petition.

The petition was to allow the use of a low-level carbon monoxide (CO) detection system, installed in all belt entries, where a monitoring system identifies a sensor location in lieu of identifying each belt flight. Such monitoring devices were to be located so that the air is monitored at each belt drive and tailpiece and at intervals not to exceed 2,000 feet along each conveyor belt entry. The terms and conditions, as written in 1991, required that the low-level carbon monoxide monitoring system provide either a visual or an audible alert signal, to be activated when the carbon monoxide level at any sensor reaches 10 parts per million (ppm) above the ambient level for the mine. In addition, an audible alarm signal, clearly distinguishable from the alert signal, is to be activated when the carbon monoxide level reaches 15 ppm above the ambient level for the mine. MSHA proposes to amend M-1991-019-C due to recent research indicating that alert and alarm levels set at 10 and 15 ppm respectively and spaced at 2000-foot intervals do not adequately protect miners.

Findings of Fact and Conclusion of Law

The MSHA regulation at 30 C.F.R. § 44.53 allows an MSHA Administrator to propose amendments or revisions in the terms and conditions of petitions by issuing an amended proposed decision and order, along with a statement of reasons for the amendments, when one or both of the following conditions occurs:

- (1) There has been a change in circumstances which originally supported the terms and conditions of the modification.
- (2) The Administrator determines that findings which originally supported the terms and conditions of the modification are no longer valid.

Since the granting of Petition M-1991-019-C, MSHA has concluded that the terms and conditions outlined in Petition M-1991-019-C no longer reflect the appropriate level of protection for miners afforded by early warning fire detection systems. MSHA has reached this determination based upon research reports from the United States Bureau of Mines (USBM) such as Charles D. Litton, Charles P. Lazzara and Frank J. Perzak, Fire Detection for Conveyor Belt Entries, USBM Report of Investigation 9380 (1991); Ronald Conti and Charles Litton, A Comparison of Mine Fire Sensors, USBM Report of Investigation 9572 (1995); John Edwards and Gene Friel, Comparative In-Mine Evaluation of Carbon Monoxide and Smoke Detectors, USBM Report of Investigation 9622 (1996); and a review of the history of reportable belt entry fires to evaluate the effectiveness of various types of detection methods and the causes of these fires. After consideration of the research and the reports, it became clear to MSHA that decisions to grant a modification of § 75.1103-4 should be amended to reduce the CO sensor alert

and alarm levels to 5 and 10 ppm respectively and sensor spacing should be reduced to 1000-foot intervals.

The conditions at the Dotiki mine have not changed. However, the Administrator has determined that there has been a change in the circumstances that originally supported the terms and conditions of the modification. Accordingly, MSHA is amending these terms and conditions to reflect that CO sensors alert and alarm levels shall be set at 5 ppm and 10 ppm respectively and the spacing of the sensors shall be reduced from 2,000 feet to 1,000 feet to ensure that at all times the same measure of protection is afforded the miners as that afforded under 30 C.F.R. § 75.1103-4. MSHA believes that these changes will provide appropriate “early warning” detection of fires and explosive conditions.

The alternative method proposed by the Petitioner (as amended by MSHA) will at all times guarantee no less than the same measure of protection afforded the miners under 30 C.F.R. § 75.1103-4(a)(1). On the basis of research and reports, an amended petition for modification of the application of 30 C.F.R. § 75.1103-4(a)(1) is granted to the Dotiki Mine. When this amended PDO becomes final, it will supersede the PDO issued August 1, 1991.

ORDER

Wherefore, pursuant to the authority delegated by the Secretary of Labor to the Administrator for Coal Mine Safety and Health, and pursuant to Section 101(c) of the Federal Mine Safety and Health Act of 1977, 30 U.S.C., § 811(c) and 30 C.F.R. § 44.53, it is ordered that Webster County Coal Corporation’s modification of the application of 30 C.F.R. § 75.1103-4(a) in the Dotiki Mine is hereby:

GRANTED, for the use of a carbon monoxide monitoring system that identifies the location of sensors in lieu of identifying belt flights, conditioned upon compliance with the following amended terms and conditions:

1. An early-warning fire detection system (carbon monoxide monitoring system) shall be installed as follows:
 - a. Sensors shall be installed near the center and in the upper third of the belt entry in a location that would not expose personnel working on the system to unsafe situations. Sensors shall not be located in intersections, abnormally high areas, or in other areas where airflow patterns do not permit products of combustion to be carried to the sensors.

- b. Sensors shall be installed between 50 and 100 feet downwind of each belt drive, drive/belt take-up combination, and at intervals not to exceed 1,000 feet along each conveyor belt entry.
 - c. Sensors shall be installed at each tailpiece or not more than 50 feet downwind of the tailpiece in a location that will prevent damage from mobile equipment.
 - d. Only one carbon monoxide sensor shall be required where a belt drive discharges onto a belt conveyor tailpiece as a continuation of a belt conveyor haulage system and the belt drive, belt take-up, and belt tailpiece are on the same split of air. If the receiving conveyor belt tailpiece is located outside the rib line of the dumping belt entry where the belt haulage system changes direction, an additional sensor shall be required at the tailpiece.
2. The early-warning fire detection system shall be designed and maintained as follows:
- a. The carbon monoxide monitoring system shall be capable of providing both visual and audible signals. A visual or audible alert signal shall be activated when the carbon monoxide level at any sensor reaches 5 parts per million (ppm) above the ambient level for the mine. An audible and visual alarm signal distinguishable from the alert signal shall be activated when the carbon monoxide level at any sensor reaches 10 ppm above the ambient level for the mine. The District Manager is authorized to require lower alert and alarm levels.
 - b. Audible and visual alarm devices used on the sections shall be of the permissible type if installed in areas where permissible equipment is required. Alarm devices shall give visual and audible signals that can be seen and heard on the working sections and at a location on the surface of the mine where at least one responsible person is on duty at all times when miners are underground. Alert devices shall give visual or audible signals that can be seen or heard at such surface location.
 - c. The carbon monoxide sensor located at or near the section loading point shall activate the alarm signal on the working section.
 - d. The carbon monoxide monitoring system shall activate alert and alarm signals at a location on the surface of the mine where at least one

responsible person is on duty at all times when miners are underground.

- e. The carbon monoxide monitoring system shall be capable of monitoring electrical continuity and detecting electrical malfunctions such as open circuits, short circuits, and ground faults in the system.
 - f. The carbon monoxide monitoring system shall be capable of identifying any activated sensor(s). A map or schematic identifying each belt flight and the details for the monitoring system shall be posted at the mine.
 - g. The carbon monoxide monitoring system shall be capable of giving warning of a fire for a minimum of four hours after the source of power to the belt is removed as required by 30 C.F.R. § 75.1103-4(e). When power is removed due to fan stoppage, the carbon monoxide monitoring system shall be deenergized if not intrinsically safe as required by 30 C.F.R. § 75.313(e).
3. Air velocity in the belt conveyor entry shall meet the following requirements:
- a. The air in the belt conveyor entry shall have a velocity of at least 50 feet per minute (fpm) and have a definite and distinct movement in the designated direction.
 - b. Velocity measurements shall be determined at locations in the entry which are representative of the cross-sectional areas found throughout the entry and not at locations where the entry is abnormally high (e.g. belt drives) or low (e.g. under overcasts).
4. When the carbon monoxide monitoring system gives a visual or audible alert signal all miners in the working sections on the same split of air shall be notified immediately and an investigation shall be conducted to determine the cause of the actuation. When the carbon monoxide system gives an audible and visual alarm signal all miners in the same split(s) of air shall be withdrawn immediately to a safe location at least one sensor outby the sensor(s) activating the alarm, unless the cause is known not to be a hazard to the miners. When the carbon monoxide warning system gives an audible and visual alarm signal at shift change no one shall be permitted to enter the mine except qualified persons designated to investigate the source of the alarm. If miners are en route underground,

they shall be held at or withdrawn to a safe location, at least one sensor outby the sensor(s) activating the alarm. Only after a determination is made as to the source of the alarm and that the mine is safe to enter shall the miners be permitted underground. The mine evacuation plan required by 30 C.F.R. § 75.1502 shall be revised to specify the actions to be taken for alert and alarm signals. Such revisions shall be approved by the District Manager. A record of each alert and alarm signal given and the action taken shall be maintained at the mine for a period of one year.

5. Personnel stationed at the surface location described in condition 2(d) shall have two-way communications with all working sections. When the established alert and alarm levels are reached, such persons shall notify all working sections and other locations where personnel are normally assigned to work (e.g. belt transfer points). Personnel stationed at the surface location shall also be trained in the operation of the carbon monoxide monitoring system and in the proper procedures to follow in the event of an emergency or malfunction and, in that event, shall take appropriate action immediately.
6. The carbon monoxide monitoring system shall be examined visually at least once each shift. The monitoring system shall be inspected at intervals not exceeding seven days to ensure that the system is operating properly. The monitoring system shall be calibrated with known concentrations of carbon monoxide and air mixtures at intervals not to exceed 31 calendar days. An inspection record shall be maintained on the surface and made available to all interested persons. The inspection record shall show the date and time of each weekly inspection and monthly calibration and all maintenance performed, whether at the time of the weekly inspection or otherwise.
7. If at any time the carbon monoxide monitoring system or any portion of the system required by this Proposed Decision and Order has been deenergized for reasons such as routine maintenance or failure of a sensor unit, the belt conveyor may continue to operate provided the miners in the affected working section are notified and the affected portion of the belt conveyor entry is continuously patrolled and monitored for carbon monoxide in the following manner until the affected monitoring system is returned to normal operation:
 - a. The patrolling and monitoring must be conducted by a person or persons trained in the mine evacuation plan, the operation of a

handheld carbon monoxide detection device, use of the two-way communication device provided, and the following procedures:

- (1) The trained person(s) performing monitoring shall be provided with a two-way communication device enabling the person(s) to communicate with the surface;
 - (2) Each of these trained persons shall be provided with a hand-held carbon monoxide detection device. A carbon monoxide detection device shall also be available for use on each working section;
 - (3) If one sensor becomes inoperative, the trained person shall monitor at that sensor location;
 - (4) If two or more adjacent sensors become inoperative, a trained person shall patrol and monitor the area affected; and
 - (5) If the complete system becomes inoperative, a sufficient number of trained person(s) shall patrol and monitor the affected entries of the mine so that the affected entries will be traveled in their entirety once each hour.
- b. The procedure outlined above is applicable only for a short period of time, to be determined by the reasonable amount of time required to repair or replace the equipment causing the malfunction. The mine operator shall begin corrective action immediately and continue until the defective equipment causing the malfunction is replaced or repaired. The responsible person on the surface shall immediately establish two-way communication with the working section(s) and notify them of the particular malfunction(s) or problem(s).
8. The details for the early-warning fire detection system including, but not necessarily limited to, type of monitor, specific sensor location on the mine map, and the alert, alarm, and ambient levels shall be included as a part of the mine ventilation plan required by 30 C.F.R. § 75.370. The District Manager may require additional carbon monoxide sensors to be installed as part of said plan to ensure the safety of the miners.
 9. Prior to implementing the alternative method, the early-warning fire detection system shall be inspected by MSHA and be fully operational and in compliance with the terms and conditions of this Proposed Decision and Order.

10. Within 60 days after this Proposed Decision and Order becomes final, the Petitioner shall submit proposed revisions for its approved 30 C.F.R. Part 48 training plan to the Coal Mine Safety and Health District Manager. These proposed revisions shall specify initial and refresher training regarding the compliance with the conditions specified by the Proposed Decision and Order.
11. If a petition for modification of 30 C.F.R. § 75.350 is granted, and air is coursed through the belt entry to ventilate working places, all applicable terms and conditions specified in the Proposed Decision and Order which modify 30 C.F.R. § 75.350 will supersede corresponding terms and conditions of this Proposed Decision and Order.

Pursuant to 30 C.F.R. § 44.53(b), amendments to the granted modifications will become final 30 days after service of this Proposed Decision and Order to Amend, unless a hearing is requested on the Decision and Order. Any party to this action desiring a hearing on this matter must file in accordance with 30 C.F.R. § 44.14, within 30 days. The request for hearing must be filed with the Administrator for Coal Mine Safety and Health, 1100 Wilson Boulevard, Arlington, Virginia 22209-3939.

If a hearing is requested, the request shall contain a concise summary of the position on the issues of fact or law desired to be raised by the party requesting the hearing, including specific objections to the proposed decision. A party other than Petitioner who has requested a hearing may also comment upon all issues of fact or law presented in the petition, and any party to this action requesting a hearing may indicate a desired hearing site. If no request for a hearing is filed within 30 days after service thereof, the Order to Amend will become final.

Kenneth A. Murray
Deputy Administrator
Coal Mine Safety and Health