MSHA/OSRV

Document Number 192


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**COMMENTS BY LINK DERICK**
**On behalf of the**
**COLORADO MINING ASSOCIATION**
**For the**
**BELT AIR TECHNICAL STUDY PANEL**

The Colorado Mining Association would like to thank the Panel for the opportunity to provide comments concerning the use of belt air (air coursed through an entry containing a belt conveyor) to ventilate the working faces of underground coal mines. These comments reflect the unified views of the members of the Colorado Mining Association (CMA), which currently represents seven underground coal mines in the State of Colorado. CMA, founded in 1876 and incorporated in 1897, is an industry association whose members include the producers of coal, metals and other minerals throughout Colorado and the west. Our 700 members also include individuals and organizations providing services and supplies to the industry.

As you know, the Coal Mine Health and Safety Act of 1969 established interim ventilation standards, including a prohibition on the use of belt air to ventilate working faces. Through grandfathering, mines utilizing belt air were allowed to continue such practice with the approval of the District Manager. Numerous operators subsequently filed Petitions for Modifications which were granted, allowing the use of belt air to ventilate working places. The granting of the petitions further supported that belt air could be safely utilized to ventilate working places since MSHA imposed conditions requiring operators to at all times guarantee a level of protection equal to or greater than the protection afforded by the regulation. In some instances, the inability to ventilate working places with belt air was found to result in a diminution of safety.

In 1988, MSHA published a proposed ventilation rule (53 FR 2382) which would allow the use of belt air for ventilating working places as long as additional safety precautions were taken, including, but not limited to, the use of an atmospheric monitoring system (AMS). At the public hearings on the proposed rule, industry and academia generally concluded "that the use of air in

the belt entry provides positive ventilation and reduces the possibility of a methane buildup in the belt entry". However, at least one labor association maintained that "the use of air in the belt entry reduces safety due to increased exposure to products of combustion and greater dust levels" (64 FR 17481). At the completion of the public hearings, MSHA conducted a "thorough review" of the safety issues related to the use of belt air. At the end of the review, MSHA stated in their report entitled **Belt Entry Ventilation Review** that "directing belt entry air to the face can be at least as safe as other ventilation methods provided that carbon monoxide monitors or smoke detectors are installed in the belt entry". However, the **Safety Standards for Underground Coal Mine Ventilation** final rule published in 1992 did not include provisions that would have allowed operators to utilize belt air. MSHA instead referred the issue to an advisory committee as authorized under the Mine Act. In their final report in 1992, the Advisory Committee further supported the proponent's view by stating that "Belt haulage entries can be safely used as intake aircourses to ventilate working places provided additional safety and health conditions are met". The 1992 final rule was later revised in 1996, which did not include a provision for the use of belt air due to impending rulemaking.

In 2003, MSHA published a notice of proposed rulemaking (68 FR 3936) to modify the 1996 final rule on **Safety Standards for Underground Coal Mine Ventilation** to allow the use of belt air to ventilate working faces. In 2004, MSHA published the final rule **Underground Coal Mine Ventilation – Safety Standards for the Use of a Belt Entry as an Intake Air Course to Ventilate Working Sections and Areas Where Mechanized Mining Equipment is Being Installed or Removed,** which allowed the use of belt air. In the preamble to final rule (64 FR 17480), MSHA states that "The use of belt air, under the conditions set forth in the final rule, will maintain the level of safety, and therefore not reduce protections, currently afforded miners in underground mines while implementing advances in mining technology". The preamble (64 FR 17483) further states that "It is important to note that NIOSH, in comments to the proposed rule, states that the use of belt air may have a positive effect on reducing dust levels in the face area. In addition, NIOSH states 'The development of improved atmospheric monitoring systems with fewer failures and false alarms has addressed previous reliability concerns'".

In underground coal mines in Colorado, belt air is typically used to ventilate sections with at least three entries, whereas in Utah mines, the belt air is used to ventilate two entry sections. Belt air can be safely used in both circumstances. Since the mines represented by CMA are typically a three, or more, entry system, my comments will address the safe usage of belt air in these sections. CMA supports the comments of the Utah Mining Association, which addresses the safe use of belt air in two entry systems.

Five of the seven underground coal mines in Colorado either have in the past, or are currently using, belt air to ventilate working faces. All of these mines have safely utilized belt air for years. The enhanced safety at these operations is a result of the following:

- An AMS is required in each belt entry utilized to ventilate a working face. The AMS systems are much more effective in detecting products of combustion as compared to the point-type heat sensors currently in use in many belt entries where only elevated levels of heat can be detected. The incipient stages of a fire are more readily detected by the carbon monoxide sensors currently in use. These sensors have proven to be protective for smoldering and flaming coal-type fires (64 FR 17483) whereas the point-type sensors rely on latent fire properties.
- Additional continuous monitoring for either carbon monoxide or smoke is required in the primary escapeway for all sections utilizing belt air. This monitoring provides additional protection to the miners through an early warning system activated immediately upon an indication of a potential problem.
- Alert and alarm levels for carbon monoxide have been established to provide earlier warning than those previously approved in Petitions for Modifications. This has further enhanced the safety of all section miners.
- Sensors are installed at key locations along the entire belt air course. These sensors are required at the section tailpiece, transfer points, drive, take-up unit, at and inby point feed locations (if used), at each belt air split, and at intervals not to exceed 1,000 feet. The 1,000 foot spacing is reduced to 350 feet when there is a reduced air velocity (<50 feet per minute) in the belt entry.

- Additional intake air coursed through the belt entry to the working face increases the total air quantity in the working section, directly reducing methane levels, diesel emissions, and dust levels. In mines with elevated methane liberation, the additional air provided in the belt entry is absolutely necessary for methane dilution purposes. For example, in a typical three entry longwall headgate, the volume of air provided to the working face can be increased by nearly 30% when belt air is utilized to ventilate the working section. Eliminating the use of belt air would be a diminution of safety to the miners.
- The total quantity of air reaching the working section is maximized by avoiding leakage of air from the intake to return air courses, increasing ventilation efficiency. This allows sufficient distribution of air throughout the working section as needed.
- Water used for fire fighting purposes and air flow in the belt entry are in the same direction, enhancing fire fighting capabilities. When the air flow and water flow are in opposite directions in the entry, smoke in the entry may prevent access to fire hydrants and fire fighting equipment necessary to extinguish the fire. When belt air is not in use, firefighting in the belt entry must be done on the down wind side of the fire. To fight a fire from the up wind side of the fire when belt air is not in use requires the water supply line to pass through the fire area. This increases the likelihood of the water line being damaged, resulting in loss of water or water pressure. In addition, a broken water line can result in flooding of down dip areas, potentially trapping inby personnel.
- Minute concentrations of combustion products can be easily detected by the sense of smell or sight, even before being detected by the carbon monoxide sensors, and certainly, well before point-type heat sensors detect the combustion.
- The use of belt air in working sections allows for the alternate escapeway to be on a separate intake air split, rather than the section return air split or the beltline air that is coursed in an outby direction but is a continuation of the primary intake escapeway, further enhancing the safety of the miners in the event of an emergency. In three- entry longwall gateroads, belt air cannot be coursed towards the working section and then regulated into the return air course near the loading point, since the beltline is not adjacent to the return air course.
- Dust concentrations from the belt entry are regularly monitored to ensure continued compliance with respirable dust standards. Bimonthly dust samples are required to be collected and submitted to MSHA for verification purposes.
- In the event of an outby mine fire, the use of belt air allows the entries to be pressurized to control smoke. In the event of a fire on the intake air course, the belt entry can be pressurized to leak air into the intake. For a fire on the belt entry, the intake can be pressurized to leak air into the belt entry.
- The use of belt air has allowed mines, particularly in the west, to reduce ventilating pressure differentials. A high ventilation pressure differential from the intake to return entry allows air to be drawn through the natural cleat and fractures of the coal, potentially leading to spontaneous combustion. The Elk Creek Mine, the West Elk Mine, and several mines that have since closed in Colorado have unfortunately incurred fires or heatings as a result of increased ventilating pressures.

In closing, I again thank the Panel for the opportunity to provide comments on the use of belt air. Underground coal mines have safely utilized belt air for many years. Continued use of belt air for ventilating working faces, coupled with the improvements in atmospheric monitoring systems, only enhances miner safety. MSHA, NIOSH, Advisory Committee, and academia universally state that belt air can be safely used to ventilate working faces, and in fact state the use of belt air provides potential enhancement of miner safety. The use of belt air improves the overall quality and quantity of section ventilation, directly affecting methane control, dust control, spontaneous combustion mitigation, and fire detection capability. We encourage the Panel to support its continued use.