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## Comment from Josh Roberts, United Mine Workers of America

This is a Comment on the **Mine Safety and Health Administration (MSHA) Proposed Rule: Safety Improvement Technologies for Mobile Equipment at Surface Mines, and for Belt Conveyors at Surface and Underground Mines.**

For related information, [Open Docket Folder](#) 

### Comment

See attached file(s)

### Attachments (1)

**Comments of the United Mine Workers of America on the RFI Safety Improvement Tech**

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**Comments of the United Mine Workers of America**  
**Safety Improvement Technologies for Mobile Equipment at Surface Mines, and for Belt**  
**Conveyors at Surface and Underground Mines**  
**Docket No. MSHA-2018-0016**  
**RIN 1219-AB91**  
**December 20, 2018**

The Mine Safety and Health Administration (MSHA) is seeking information and data on engineering controls that could reduce the risk of accidents and improve miner safety. MSHA is also seeking suggestions from stakeholders on: Best practices, training materials, policies and procedures, innovative technologies, and any other information they may have to improve safety in and around mobile equipment, and working near and around belt conveyors.

Mining safety could be substantially improved by preventing accidents that involve mobile equipment at surface coal mines and metal and nonmetal mines and belt conveyors at surface and underground mines. The Mine Safety and Health Administration (MSHA) is taking a number of actions related to mobile equipment and belt conveyors to improve miners' safety, including providing technical assistance, conducting awareness campaigns, and developing best practices and training materials. MSHA is also considering the role of engineering controls that would increase the use of seatbelts, enhance equipment operators' ability to see all areas near the machine, warn equipment operators of potential collision hazards, prevent equipment operators from driving over a highwall or dump point, and help prevent entanglement hazards related to working near moving or re-energized belt conveyors.

Mobile equipment used at surface coal mines, surface metal and nonmetal mines, and the surface areas of underground mines is a broad category that includes bulldozers, front end loaders, service trucks, skid steers, haul trucks, and many other types of vehicles and equipment. Accidents involving mobile equipment have historically accounted for a large number of the fatalities in mining, especially in metal and nonmetal mines. In 2017, for example, nearly 40 percent of the 28 mining fatalities and more than 30 percent of injuries involved mobile equipment.

Since 2007, 61 miners have been killed in accidents involving mobile equipment. MSHA conducted an investigation of all of these accidents. MSHA determined that contributing factors in many of these accidents included: (1) No seatbelt, seatbelt not used, or inadequate seatbelts; (2) larger vehicles striking smaller vehicles; and (3) equipment operators' difficulty in detecting the edges of highwalls or dump points, causing equipment to fall from substantial heights.

## **Seatbelts**

MSHA has preliminarily determined that mobile equipment operators are more likely to survive rollover and tipping accidents when they are wearing a seatbelt. MSHA examined 38 fatal accidents that occurred since 2007 involving mobile equipment in which the deceased was not wearing a seatbelt. MSHA determined that 35 of the victims (92 percent) might have survived had they been wearing a seatbelt. The Agency believes that engineering controls could increase the use of seatbelts by equipment operators. For example, engineering control devices could ensure that mobile equipment operators use a seatbelt by affecting equipment operation in the event the operator does not fasten the seatbelt.

Other engineering controls could increase equipment seatbelt use without impeding or halting machine operation. These controls include high-visibility seatbelt materials and warning devices, such as warning lights and audible warning signals, that remind the equipment operator to fasten the seatbelt. Some warning signals stop after a period of time; others continue until the seatbelt is fastened. Additional engineering controls could promote seatbelt usage by making equipment operation impractical or uncomfortable, or by notifying mine management if the seatbelt is not used (or not used properly).

## **Large Equipment Striking Smaller Equipment**

There are areas around mobile equipment in which the equipment operator cannot see other miners, equipment, or structures (i.e., “blind areas”). Mobile equipment size and shape and the operator's cab location can each create unique blind areas. Blind areas have contributed to mobile equipment operators driving over highwalls or dump points, colliding with other equipment, and striking miners. Engineering controls, such as collision warning systems and collision avoidance systems, could provide equipment operators with additional information about their surroundings and help reduce accidents. These systems could provide warnings when other vehicles, miners, or structures pose a potential collision hazard. Collision avoidance systems could provide an additional level of safety by activating machine controls, such as automatic braking, to avoid collisions.

Autonomous mining systems may also have the potential to improve miner safety. Autonomous mining systems, which are controlled remotely, do not require an on-board operator, thereby removing the miner from hazardous situations. In addition, autonomous mining systems are equipped with GPS technology and use enhanced safety features, such as collision avoidance systems, which can indicate the location of other nearby equipment and miners, thereby reducing striking accidents and fatalities.

## **Highwalls and Dump Points**

Since 2007, there have been 20 fatal accidents in surface coal and metal and nonmetal mines involving bulldozer operators and haul truck drivers who traveled over the edge of the highwall or dump point. Systems that integrate technologies such as GPS, radar, and radio frequency identification tagging could help equipment operators better identify the edges of highwalls or dump points. Other practices, such as ground markers and aerial markers, also could help equipment operators identify their locations relative to the edges of highwalls or dump points when pushing or dumping material. Devices that provide visual, audible, or other signals could also warn equipment operators of hazards surrounding their locations.

## **Belt Conveyors at Surface and Underground Mines**

Since 2007, there have been 17 fatalities related to working near or around belt conveyors, of which 76 percent were related to miners becoming entangled in belt drives, belt rollers, and discharge points. Factors that contribute to entanglement hazards include inadequate or missing guards, inadequate or an insufficient number of crossovers in strategic locations, and/or inappropriate lock out/tag out procedures. Systems that can sense a miner's presence in hazardous locations; ensure that machine guards are properly secured in place; and/or ensure machines are properly locked out and tagged out during maintenance would reduce fatalities.

**The United Mine Workers of America has long been an advocate for incorporating new technology into the workplace that may provide protection to our miners. The UMWA knows all too well the dangers of powered haulage accidents. Since 1984, the UMWA has been involved in investigating 74 fatalities of members who were involved in powered haulage accidents. Most of which could have been avoided through more advanced mine safety technologies.**

**We are anxious to hear from manufacturers and see the new technologies that are available to improve protections in the workplace. Hazards around mobile equipment and belt conveyors have long been a major source of accidents and fatalities. MSHA points out that since 2007, 61 miners have been killed in accidents involving mobile equipment. During that same period, there have been 17 fatalities related to working near or around belt conveyors. The use of new technologies could go a long way in reducing those numbers. Many of the mine safety technologies that are available today were unthinkable over 30 years ago.**

**For example; the use of current automobile technologies such as collision avoidance systems, collision warning systems, seat belt warning signals, and engineering controls could all add a much needed improvement in preventing these type accidents.**

**We agree that the time has come to incorporate some of these life-saving technologies in order to protect our nation's miners from future accidents. Therefore, please accept the United Mine Workers blessings and support in this endeavor.**