



FACT SHEET

Proposed Rule on Proximity Detection Systems for Mobile Machines in Underground Mines



INTRODUCTION

The proposed rule would prevent serious injuries and fatalities by requiring underground coal mine operators to equip coal hauling machines and scoops on working sections with proximity detection systems.

The proposed rule would strengthen protection for miners working near these machines by minimizing the potential for pinning, crushing, and striking accidents. From 1984 through 2014, 42 fatal and 179 non-fatal pinning, crushing, or striking injuries occurred in underground coal mines – injuries that may have been prevented by the use of proximity detection systems on coal hauling machines and scoops. More recently, from 2010 through 2014, 41 pinning, crushing, or striking accidents involving coal hauling machines and scoops have been reported: 23 that involved coal hauling machines and 18 that involved scoops. Nine of these accidents were fatal.

In the proposal, MSHA also requests comments on whether this technology should be required in underground metal and nonmetal mines. The comment period closes on December 1, 2015. MSHA will also hold public hearings during the comment period to provide the public with an opportunity to present their views on the proposed rule. The public hearing dates and locations will be announced in a separate notice.

MAJOR PROVISIONS OF THE PROPOSED RULE

The proposal would require mine operators to use proximity detection systems that—

- Cause a coal hauling machine or scoop to stop automatically before contacting a miner;
- Provide audible and visual warning signals when a miner gets too close to the machine;
- Provide a visual signal on the machine that indicates the system is functioning properly;
- Prevent movement of the machine, except for repair purposes, if the system is not functioning properly;
- Prevent adverse interference with or from other electrical systems; and
- Are installed and maintained in proper operating condition by a person trained in the system's installation and maintenance.

MSHA is proposing to phase-in the requirements for proximity detection systems on coal hauling machines and scoops. Compliance would be required—

- Eight months after the rule goes into effect for:
 - new coal hauling machines and scoops manufactured after the effective date of the rule, and

- coal hauling machines and scoops equipped with an existing (but non-compliant) proximity detection system, which can be modified underground; and
- Thirty-six months after the rule goes into effect for:
 - coal hauling machines and scoops equipped with an existing (but non-compliant) proximity detection system, which cannot be modified underground or needs to be replaced with a new proximity detection system, and
 - coal hauling machines and scoops manufactured before the effective date of the rule and not equipped with a proximity detection system.

BACKGROUND

MSHA has approved four proximity detection systems for use in underground coal mines. Two of these systems are currently being used on a number of underground coal hauling machines and scoops.

- As of June 2015, mine operators have voluntarily equipped 155 of the approximately 2,116 underground coal hauling machines and scoops with proximity detection systems.

This proposed rule is compatible with the requirements of MSHA's final rule on Proximity Detection Systems for Continuous Mining Machines in Underground Coal mines, published on January 15, 2015.

BENEFITS

- MSHA estimates that the proposal would prevent 15 fatalities and 70 injuries over 10 years.
- MSHA prepared several different estimates of the annualized net benefits from a low of -\$2.0 million to a high of \$8.5 million.
- The total quantified net benefits of the proposed rule over 10 years at a 7 percent discount rate would be -\$14.7 million or -\$2.0 million annualized.
- At a 3 percent discount rate, the corresponding values would be \$2.9 million and \$0.3 million annualized.
- MSHA anticipates that the proposed rule would result in additional unquantified savings to mine operators by avoiding some of the production delays typically associated with mine accidents.