MSHA RIN 1219-AB65
Department of Labor
Mine Safety and Health Administration
30 CFR Part 75

Proximity Detection Systems for Continuous Mining Machines in Underground Coal Mines

The following comments are submitted by:

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§ 75.1732 Proximity Detection Systems.

Operators shall install proximity detection systems on certain mobile machines.

Comment: The preamble states "The three MSHA-approved proximity detection systems operate using electromagnetic technology." What are the long-term health effects of persons wearing components that rely on this technology? The preamble did not discuss the health effects of wearing these devices. Miners should be assured that wearing of these devices will not cause long-term health problems. Before the rule comes into effect, the miners who will wear the devices need to know that they will not suffer health problems.

(a) Machines covered. Operators must equip continuous mining machines (except full-face continuous mining machines) with a proximity detection system in accordance with the following dates.

Compliance date	Machine type	Date of manufacture
November 30, 2011...	Continuous Mining Machines (except full-	After August 31, 2011.

	face continuous mining machines).	
February 28, 2013...	Continuous Mining Machines (except full-face continuous mining machines).	On or before August 31, 2011.

Comment: The "date of manufacture" and the "compliance date" are described differently in the preamble than what is published in the proposed rule. The preamble uses the "date of publication of the final rule" to set the "date of manufacture" and the "date of compliance." The proposed rule uses the "date of publication of the proposed rule" to set the "date of manufacture" and the "date of compliance." This is contradictory and confusing. The following comments about dates are based on the dates set in the proposed rule.

The "date of manufacture" for newly built continuous miners should be set after the date of publication of the final rule not the date of publication of the proposed rule. It is difficult for compliance and unfair to set the "date of manufacture" as the date of publication of the proposed rule. Equipment manufacturers and mine operators will not know the requirements of the final rule until it is published. Using a date of 90 days after the date of publication of the final rule for the "date of manufacture" would be more practical.

The "compliance date" for continuous miners built after the date of the final rule should be set at six months following the date of the final rule. The coal mining industry needs more time than three months after the date of publication of the final rule to make proximity devices as part of the production and installation process. It is very likely that the date given in the proposed rule of November 30, 2011, will be before the date of publication of the final rule. Even three months after the date of the final rule would be a hardship on the coal mining industry. The "compliance date" for continuous miners built after the date of the final rule should be set at six months following the date of the final rule.

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The "compliance date" for continuous miners built on or before the date of the final rule should be set in final rule dependent on the publication date. Equipment manufacturers, rebuild shops, and mine operators need more time than one year and six months after the date of publication of the final rule to make proximity devices as part of the rebuild process. Mine operators will need extra time to make the installation of proximity devices part of the rebuild process or retrofit process. It is possible that the February 28, 2013, date will be before the publication of the final rule. The addition of proximity devices should be done in the rebuild process where the devices and hardware can be properly installed and protected. Three years after the date of the final rule would be more appropriate time frame for compliance.

The exemption of the full-face continuous mining machines from the rule is wrong. Full-face continuous miners must tram from working place to working place just as non full-face continuous miners do only less frequently. Full-face miners can mine in one entry from crosscut to crosscut before changing working places but then they must back all the way out of the working place and through a crosscut and over to another working place to start mining again. Full-face continuous miners cut entries and crosscuts only as wide as the mining head and thus the entries and crosscuts are generally narrower than place-change continuous miners. This makes the tramming more difficult and can increase the danger to miners near the continuous miner. Pinning, crushing, and striking hazards exist for full-face continuous miners.

In MSHA's webcast May 3, 2005, Slide 17 showed that seven (7) out of the 29 fatalities concerning remote control continuous mining machine fatalities involved maintenance of the continuous miner. Additionally, MSHA's Remote Controlled Continuous Mining Machine Fatal Accident Analysis Report states in the conclusion that "Performing maintenance was the second most dangerous work function (6 out of 33 fatalities)." A full-face continuous miner controlled by remote control has to undergo maintenance just as place-change continuous miners do. Full-face continuous miners must have more maintenance done because the continuous miner also has two roof bolting stations on the continuous

miner. Pinning, crushing, and striking hazards exist for full-face continuous miners.

A fatality occurred on a continuous miner with a roof bolting station at a trona mine. MSHA's Remote Controlled Continuous Mining Machine Fatal Accident Analysis Report declared "OCI Wyoming LP, Big Island Mine & Refinery, Green River, Sweetwater Co., WY, 02/01/04 - A roof bolter operator was fatally injured at an underground trona mine. The victim left the roof bolting station mounted on the remote controlled continuous miner without activating the emergency stop switch located in his operator's cab. The miner operator, standing on the other side of the continuous miner, backed it (setting over) from the face to clean up spillage. The victim tried to pass between the conveyor boom and rib when he was struck and pinned against the rib." Trona mining is similar to coal mining. As the accident at the trona mine shows, pinning, crushing, and striking hazards exist for full-face continuous miners.

When mining with full-face continuous miners, two miners bolt the roof along side of the continuous miner. Very little room exists between the machine and the ribs for the miners doing the roof bolting. Additionally, the continuous miner operator must stand near the continuous miner because of the lack of room from the narrow entries. Some full-face continuous miners cut coal and deposit the coal on the floor behind the continuous miner where a loading machine gathers the coal and deposits the coal in shuttle cars. The coal deposited on the floor further limits the room for the person operating the continuous miner machine and forces the operator to be alongside the continuous miner. The coal on the floor also makes escape difficult. The fact that two persons are roof bolting and a person is operating the loading machine means that at least three more people are in the working place where coal is being mined versus what is in a working place where a place-change continuous miner is working. Ventilation tubing also hangs along the roof and rib further decreasing the available space for miners to stand. Pinning, crushing, and striking hazards exist for full-face continuous miners.

(b) Requirements for proximity detection systems. A proximity

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detection system must:

(1) Cause a machine to stop no closer than 3 feet from a miner except for a miner who is:

Comment: This regulation will cause persons to rely on a mechanical safety system instead of exercising care when being near the continuous miner or operating the continuous miner. If the system works every time a miner comes too near an operating continuous miner then the miner will be safe. No one will be injured or killed. What happens when the proximity system fails? No machine operates properly all the time.

The proximity device could be used to kill the machine so that work could be done on or near the machine. This could cause accidents to occur. What is done to prevent this type of action?

Prior to the time when lights were required on the continuous miner, the operator of the continuous miner had a greater awareness of persons in the area because the cap light that miners wore was the only source of light. Now, continuous miner operators and other persons can be blinded by the lights on the continuous miner and on other equipment and not see everyone near them. Light from the continuous miner can reflect off curtains hiding the fact that a person could be on the other side of the curtain. Lighting on the machine can contribute to the pinning, crushing, and striking hazards.

The three-foot distance is an arbitrary distance. The need is to stop the continuous miner before a person contacts the miner. Inspectors will write citations for a system that stops the continuous miner at 2.5 feet and not 3 feet. The person would be safe but a citation can and will be written. The standard should be a performance-orientated standard. Eliminate the distances.

MSHA has increased the risk of pinning, crushing, and striking hazards during tramming of continuous miners. Because of a Procedure Instruction Letter Number 110-V-09 formerly 108-V-03 issued by MSHA Headquarters, new mines and new mechanized mining units in existing mines that use continuous miners must start

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with a 20-foot cut depth approved in their ventilation plans. An on-site evaluation must be conducted to gain approval for cut depths beyond 20 feet. This causes a mechanized mining unit that is using a 20-foot cut depth to tram the continuous miner twice as often and twice as far than if a 40-foot cut depth was approved. Continuous miners with scrubbers have been studied and used successfully for more than 30 years. A 40-foot cut depth has proved to be safe. Each mechanized mining unit does not need to be studied.

The face ventilation index, a term created by MSHA Technical Support and a measure of the face ventilation effectiveness, is almost always better when the curtain is setback 35 to 40 feet from the face than when 20 feet from the face. "This number is defined as the theoretical methane concentration in the face area minus the intake methane concentration. The theoretical concentration is the amount of gas released (face liberation) divided by the face return air quantity." The 40-foot setback distance controls the respirable dust better than a 20-foot setback when combined with the flooded-bed scrubber and blowing line curtains. The Pittsburgh Technical Support Center and the MSHA districts have done many studies on cut depths greater than 20 feet and have proved them to be safer and more healthful than the 20-foot setback distance for blowing line curtains. MSHA has increased the pinning, crushing, and striking hazards by requiring mines to use a 20-foot cut depth. Sometimes, MSHA will state that a mine is over the 50% mark on the roof fall list of all mines and use that statistic to deny a mine the use of the 40-foot setback. The roof falls that enter into the list may not be anywhere near the face and yet MSHA denies the use of the 40-foot cut based on the roof fall list. MSHA could take immediate action to decrease the risks.

Studies need to be done to determine if more than a 40-foot cut depth can be taken safely and healthfully. MSHA Headquarters arbitrarily declared more than a decade ago that 40 feet was to be the maximum curtain setback distance to be approved by MSHA district managers. PIL 110-V-03 states "Given present technology, experience indicates that maximum cut depth should not exceed 40 feet." MSHA arbitrarily cut the distance off at 40 feet. A deeper setback distance than 40 feet could even further reduce the risk of pinning, crushing, and striking

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hazards because the continuous miner would tram from place to place less often and less distance. Even if proximity devices are required to be used on continuous miners, the depths of cuts should be increased to what has already been proved to be safe and healthy. This would reduce the amount of time and distance a continuous mining machine moves. This would increase safety to all persons on the mining unit.

(i) In the on-board operator's compartment; or

(ii) Remotely operating a continuous mining machine while cutting coal or rock, in which case, the proximity detection system must cause the machine to stop before contacting the machine operator.

Comment: This section of the regulation should state while cutting or loading coal or rock. This would make the language consistent with § 75.325(a)(1). Sometimes coal or rock is loaded off the floor with the continuous miner but cutting is not taking place. Sometimes coal or rock is loaded off the floor with the cutting head turning but cutting of coal is not taking place.

(2) Provide an audible or visual warning signal, distinguishable from other signals, when the machine is 5 feet and closer to a miner except for a miner who is:

Comment: This could give a false security that the proximity detection system is working. A miner could walk close to the continuous miner because he or she thinks that the proximity device is working and it will stop the machine's movement. It would be better to have no audible or visual signal so that a miner must always assume that the system is not working properly and exercise caution when near a continuous miner.

Is an audible warning or visual signal needed when the proximity device will shut the continuous miner down when a miner comes too close to the continuous miner? This is just another thing to maintain and something that could go wrong but offers no protection to the miners. This enables MSHA to write a citation or order for something that has no safety benefit. Eliminate the warning signal.

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The five-foot distance is an arbitrary distance. The safety need is to stop the continuous miner before a person contacts the miner. Inspectors will write citations for a system that warns at 4.5 feet and not 5 feet. The person would be safe but a citation can and will be written. The standard should be a performance-orientated standard. The signal should be eliminated. If MSHA chooses to keep a warning signal then eliminate the distances.

(i) In the on-board operator's compartment; or
(ii) Remotely operating a continuous mining machine while cutting coal or rock.

Comment: This section of the regulation should state while cutting or loading coal or rock. This would make the language consistent with § 75.325(a)(1). Sometimes coal or rock is loaded off the floor with the continuous miner but cutting is not taking place.

(3) Provide a visual signal on the machine that indicates the system is functioning properly;

Comment: This could give a false security that the proximity detection system is working. A miner could walk close to the continuous miner because he or she thinks that the proximity device is working and it will stop the machine's movement. It would be better to have no visual signal so that a miner must always assume that the system is not working properly and exercise caution when near a continuous miner.

Is a visual signal needed to show that the proximity device is working? This is just another thing to maintain and something that could go wrong. This enables MSHA to write a citation or order for something that offers no safety benefit. Eliminate the visual signal.

(4) Prevent movement of the machine if the system is not functioning properly. However, a system that is not functioning

properly may allow machine movement if an audible or visual warning signal, distinguishable from other signals, is provided during movement. Such movement is permitted only for purposes of relocating the machine from an unsafe location for repair;

Comment: What is functioning properly? This is just another thing to maintain and something that could go wrong. This is another requirement to enable MSHA to write a citation or order.

(5) Be installed to prevent interference with or from other electrical systems; and

Comment: Joy Manufacturing stated in their submitted comments at the Charleston hearing that "All electro-magnetic based systems are subject to potential interference from other sources – i.e., Coiled trailing cable, large metal objects, power centers." Joy Manufacturing is the leading manufacturer of continuous miners. If the leading manufacturer of continuous mining machines declares that "systems are subject to potential interference from other sources" the technology must not exist to use electro-magnetic systems.

(6) Be installed and maintained by a person trained in the installation and maintenance of the system.

Comment: It is not necessary to require that the person working on the system be "trained in the installation and maintenance of the system." Either the person working on the system can perform the work or he or she cannot. The preamble states "Proximity detection systems are needed because training and outreach initiatives alone have not prevented these accidents and the systems can provide necessary protections for the miners." As stated in the quote from the preamble, training does not provide the intended result. Training should not be mandated. The rule should be a performance based rule.

(c) Examination and checking. Operators must:

(1) Designate a person who must perform a visual check of machine-mounted components of the proximity detection system to verify that components are intact, that the system is functioning properly, and take action to correct defects--

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(i) At the beginning of each shift when the machine is to be used;

Comment: This section permits MSHA to write two citations or orders if the system is not functioning properly. MSHA will issue one citation or order for the system not working and one citation or order for an inadequate examination or check. Either the system is working properly or it is not. Requiring an examination before the machine is placed into operation at the start of the shift is not needed. It is not fair. MSHA is trying to up the negligence of the mine operator when the system fails. MSHA wants to be able to use Section 104(d) of the Federal Mine Safety and Health Act of 1977 and use the examination requirement to substantiate a finding of "unwarrantable failure." This examination section needs to be eliminated. It should be up to the mine operator to determine how often and when the proximity device is checked for proper operation. Either the system is working properly or it is not. The rule should be a performance based rule.

(ii) Immediately prior to the time the machine is to be operated if not in use at the beginning of a shift; or

Comment: This section permits MSHA to write two citations or orders if the system is not functioning properly. MSHA will issue one citation or order for the system not working and one citation or order for an inadequate examination or check. Either the system is working properly or it is not. Requiring an examination before the machine is placed into operation at the start of the shift is not needed. It is not fair. MSHA is trying to up the negligence of the mine operator when the system fails. MSHA wants to be able to use Section 104(d) of the Federal Mine Safety and Health Act of 1977 and use the examination requirement to substantiate a finding of "unwarrantable failure." This examination section needs to be eliminated. It should be up to the mine operator to determine how often and when the proximity device is checked for proper operation. Either the system is working properly or it is not. The rule should be a performance based rule.

(iii) Within 1 hour of a shift change if the shift change occurs without an interruption in production.

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(2) Check for proper operation of miner-wearable components at the beginning of each shift that the component is to be used. Defects must be corrected before the component is used.

Comment: This section permits MSHA to write two citations or orders if the system is not functioning properly. MSHA will issue one citation or order for the system not working and one citation or order for an inadequate examination or check. Either the system is working properly or it is not. Requiring an examination before the miner-wearable component is placed into operation at the start of the shift is not needed. It is not fair. MSHA is trying to up the negligence of the mine operator when the system fails. MSHA wants to be able to use Section 104(d) of the Federal Mine Safety and Health Act of 1977 and use the examination requirement to substantiate a finding of "unwarrantable failure." This examination section needs to be eliminated. It should be up to the mine operator to determine how often and when the miner-wearable components are checked for proper operation. Either the system is working properly or it is not. The rule should be a performance based rule.

(3) Designate a qualified person under Sec. 75.153 to examine proximity detection systems for the requirements in paragraphs (b)(1) through (5) of this section at least every 7

days. Defects in the proximity detection system must be corrected before the machine is returned to service.

Comment: This section permits MSHA to write two citations or orders if the system is not functioning properly. MSHA will issue one citation or order for the system not working and one citation or order for an inadequate examination. Either the system is working properly or it is not. Requiring an examination each week is not needed. It is not fair. MSHA is trying to up the negligence of the mine operator when the system fails. MSHA wants to be able to use Section 104(d) of the Federal Mine Safety and Health Act of 1977 and use the examination requirement to substantiate a finding of unwarrantable failure. This examination section needs to be eliminated. It should be up to the mine operator to determine how often and when the proximity device is examined for proper operation. Either the system is working properly or it is not. The rule should be a performance based rule.

(d) Certification and records. The operator must make and retain certification and records as follows:

(1) At the completion of the check required under paragraph (c)(1) of this section, a certified person under Sec. 75.100 must certify by initials, date, and time that the check was conducted. Defects found as a result of the check in (c)(1) of this section, including corrective actions and date of corrective action, must be recorded.

Comment: This section greatly increases the paperwork burden to the mine operator. The regulation permits MSHA to write two citations or orders if the system is not functioning properly. MSHA will issue one citation or order for the system not working and one citation or order for an inadequate check if the record indicates that no problems with the system was found. Either the system is working properly or it is not. Requiring an examination of the proximity detection system each shift is not needed. The rule should be a performance based rule. The mine operator should be able to determine the frequency at which the system has to be examined to assure it is working properly. It is not necessary to designate a rigid schedule. MSHA is trying to up the negligence of the mine operator when the system fails. MSHA wants to be able to use Section 104(d) of the Federal Mine

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Safety and Health Act of 1977 and use the examination requirement to substantiate a finding of "unwarrantable failure." This examination and record keeping sections need to be eliminated. Even if the checks of the system are kept in the regulations the record keeping requirement should be eliminated.

(2) Defects found as a result of the check in (c)(2) of this section, including corrective actions and date of corrective action, must be recorded.

Comment: This section greatly increases the paperwork burden to the mine operator. The regulation permits MSHA to write two citations or orders if the system is not functioning properly. MSHA will issue one citation or order for the system not working and one citation or order for an inadequate check if the record indicates that no problems with the system was found. Either the system is working properly or it is not. Requiring an examination of the proximity detection system each shift is not needed. The rule should be a performance based rule. The mine operator should be able to determine the frequency at which the system has to be examined to assure it is working properly. It is not necessary to designate a rigid schedule. MSHA is trying to up the negligence of the mine operator when the system fails. MSHA wants to be able to use Section 104(d) of the Federal Mine Safety and Health Act of 1977 and use the examination requirement to substantiate a finding of "unwarrantable failure." This examination and record keeping sections need to be eliminated. Even if the checks of the system and the miner-wearable components are kept in the regulations the record keeping requirement should be eliminated.

(3) At the completion of the examination required under paragraph (c)(3) of this section, the qualified person must record and certify by signature and date that the examination was conducted. Defects, including corrective actions and date of corrective action, must be recorded.

Comment: This section greatly increases the paperwork burden to the mine operator. The regulation permits MSHA to write two citations or orders if the system is not functioning properly. MSHA will issue one citation or order for the system not working and one citation or order for an inadequate examination if the

record indicates that no problems with the system were found. Either the system is working properly or it is not. Requiring an examination of the proximity detection system once each week is not needed. The rule should be a performance based rule. The mine operator should be able to determine the frequency at which the system has to be examined to assure it is working properly. It is not necessary to designate a rigid schedule. MSHA is trying to up the negligence of the mine operator when the system fails. MSHA wants to be able to use Section 104(d) of the Federal Mine Safety and Health Act of 1977 and use the examination requirement to substantiate a finding of unwarrantable failure. The examination and record keeping sections need to be eliminated. Even if the checks of the system and the miner-wearable components are kept in the regulations the record keeping requirement should be eliminated.

(4) Make a record of the persons trained in the installation and maintenance of proximity detection systems required under paragraph (b)(6) of this section.

Comment: This greatly increases the paperwork burden for the mine operator. A record of the persons trained in the installation and maintenance of the proximity detection system offers no safety benefit. This is another record that MSHA can cite.

(5) Maintain records in a secure book or electronically in a secure computer system not susceptible to alteration.

Comment: This greatly increases the paperwork burden for the mine operator. This is another record book. MSHA requires too many records.

(6) Retain records for at least one year and make them available for inspection by authorized representatives of the Secretary and representatives of miners.

Comment: This greatly increases the paperwork burden for the mine operator. This is another record book. MSHA requires too many records.

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(e) New technology. Mine operators or manufacturers may apply to MSHA for acceptance of a proximity detection system that incorporates new technology. MSHA may accept a proximity detection system if it is as safe as those which meet the requirements of this section.

Comment: Why when it comes to MSHA that they "may" accept a proximity detection system that incorporates new technology. MSHA must accept new technology.