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Proximity Detection Systems for Mobile Machines in Underground Mines

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General Comment

See attached file(s)

Comments of the National Lime Association on: Proximity Detection Systems for Mobile Machines in Underground Mines: Proposed Rule (RIN 1219-AB78) (attached)

Attachments

nla comments - proximity detection - final

AB78-COMM-16

December 14, 2015

Mine Safety and Health Administration
Office of Standards, Regulations, and Variances
1100 Wilson Blvd., Room 2350
Arlington, Virginia 22209-3939

(Submitted electronically to
Regulations.gov)

RE: Proximity Detection Systems for Mobile Machines in Underground Mines: Proposed Rule (RIN 1219-AB78)

The National Lime Association (NLA) is pleased to present its comments on the Proposed Rule on Proximity Detection Systems for Mobile Machines in Underground Mines.

NLA is the industry trade association for the manufacturers of high calcium quicklime and dolomitic quicklime (calcium oxide) and hydrated lime (calcium hydroxide), which are collectively and commonly referred to as "lime." Lime is used in a wide array of critical applications and industries, including for environmental control and protection, metallurgical, construction, chemical and food production. With plant operations located in 24 states, NLA's members produce greater than 99 percent of the United States' calcium oxides and hydroxides. Because NLA's members operate both surface and underground mines under the jurisdiction of MSHA, NLA and its members have a substantive interest in this rulemaking.

NLA's members are pledged to safety as a primary value of the lime industry, and NLA's Health and Safety Committee has worked with MSHA staff to improve the overall safety of the lime industry workforce. NLA stands ready to continue to work with MSHA as new rules and legislation are implemented.

NLA commends MSHA for addressing the risks to miners working near mobile machines in underground mines. While the proposed rule primarily addresses this risk in underground coal mines, MSHA has also asked for comment on whether (and when) MSHA should also require proximity detection systems on machines in underground metal/non-metal mines. For the reasons below, NLA believes that significant additional review will be needed before MSHA can determine what additional requirements, if any, should be imposed on metal/non-metal mines to reduce risks from mobile equipment.

1. The Proposal Has Not Laid Sufficient Groundwork for a Final Rule Requiring Proximity Detection in Metal/Non-Metal Mines

NLA's reading of the proposed rule indicates that MSHA does not contemplate including requirements for metal/non-metal mines in a final rule deriving from this proposal, but rather is essentially making a request for information on this topic. It is clear that much more work will need to be done before a proposed rule for metal/non-metal mines can be issued. For example, the Preliminary Regulatory Economic Analysis accompanying the proposal only considers economic impacts on the coal sector. In addition, the majority of research and subsequent knowledge gained with the proximity detection technology has been carried out solely in coal mines.

As a result, NLA would strongly oppose the promulgation of a final rule requiring proximity detection in underground metal/non-metal mines without a separate proposed rule with specific consideration and analysis of the issues relating to the use of the technology in such mines. Nevertheless, NLA will respond below in general terms to the questions raised in the proposed rule.

2. The Risk Addressed Is Much Lower in Metal/Non-Metal Mines than in Coal Mines

MSHA states in the preamble that at underground coal mines there have been 42 fatalities that could have been prevented by proximity detection devices since 1984. At underground metal/non-metal mines, the comparable number is 5. There are approximately the same number of underground coal and underground metal/non-metal mines in the United States. Accordingly, the risk over time of incidents involving mobile equipment and miners has been much lower at metal/non-metal mines.

The most likely reason for this difference lies in the configuration of metal/non-metal mines and the kind of equipment used there. In most metal/non-metal mines, individual miners are much less likely to be "dismounted" from mobile equipment than in coal mines. There are many fewer remote-controlled machines in metal/non-metal mines, such as remotely controlled continuous mining machines (RCCMs). (There are no RCCMs in use in the lime industry, for example.) This changes the risk profile of the lime industry considerably.

In addition, many underground metal/non-metal mines have large open vault areas, and are generally less constricted than typical coal mines. This enhances visibility, as well as making it easier to separate mobile machinery from dismounted miners.

Does this lower level of risk mean that MSHA should not consider methods to reduce risks even further in metal/non-metal mines? Not at all. However, it does suggest that MSHA should consider whether a broader range of measures might be effective in addressing the risk, and that possible problems created by use of a new technology should be carefully considered.

3. MSHA Should Study Multiple Technologies in Metal/Non-Metal Mines

NLA is unaware of any metal/non-metal mines in the United States that are currently using the proximity detection technology addressed in the proposed rule. However, there are many

underground metal/non-metal mines that use various technologies to reduce the risk of contact between miners and mobile machines (as well as contact between such machines, and contact between the machines and mine walls and other objects). Some mobile equipment is equipped with radar or similar sensing devices, and many have backup cameras, alarms, enhanced lighting, and other devices. Many underground mines have work practices and rules designed to reduce the risk of contact incidents. Undergrounds mines in the lime industry typically require the use of reflective clothing for dismounted miners (see discussion below).

Since there have been relatively few fatalities in metal/non-metal mines as a result of proximity, it is likely that the existing technologies (or a combination of them) are already effective in reducing this risk where they are being used. This would be an important factor to study in considering a potential rule: in the mines in which fatalities did occur, were other technologies in use, and if so, how and why did they fail?

In considering a future proposed rule for underground metal/non-metal mines, MSHA should consider the option of a performance-based standard. The standard for coal mines, Section 75.1372, includes very specific requirements for the installment and operation of proximity detection technology, including a requirement that the system must be able to automatically stop functioning when there is a proximity alarm. This level of specificity may not be appropriate for metal/non-metal mines, given the lower overall risk, and the possibility that other technologies and approaches may be equally effective at further reducing risk.

4. MSHA Should Evaluate Proximity Detection Technology Performance in Coal Mines Before Expanding the Requirement

MSHA's final rule requiring proximity detection technology for continuous mining machines in underground coal mines was promulgated on January 13, 2015, less than a year ago, and its first compliance deadline was on November 16, 2015. This is quite recent, and allows for little evaluation of performance of proximity detection systems in real coal mines in the United States, in advance of the current proposal addressed at additional coal mine equipment. NLA expects coal industry commenters to raise this point, and to urge MSHA to take more time to collect and review real-life data associated with this technology before it is expanded.

This is even more important with respect to metal/non-metal mines. It will be very helpful to be able to understand the potential problems with this technology before applying it to a new set of very different mines. As some commenters on the previous RFI noted, there are concerns that the technology could set off electric detonators used in underground stone mines. There are also questions about whether the technology could interfere with communication, how it will function when multiple mobile machines are near each other, and the best ways of installing, calibrating, and using the systems. All of this should become more clear as there is more experience with use of the technology in coal mines.

5. Any Reflective Clothing Standard Should Be Performance-Based

Most, if not all, underground mines in the lime industry currently require the use of reflective clothing by miners who are dismounted from mobile equipment. NLA does not oppose a standard that would require the use of appropriate reflective clothing under such circumstances.

However, the standard should be performance-based, and not overly prescriptive, to avoid the possibility of requiring mines that are already using such clothing from having to replace it (at significant cost) if it does not meet overly specific requirements. MSHA should propose language before proceeding to a final rule on this topic.

In sum, NLA supports MSHA's efforts to consider the best means to reduce the risk of contact between miners and mobile machinery in underground metal/non-metal mines. However, MSHA should not simply expand the coal mine requirements to all mines, but should consider alternate options that incorporate flexibility in recognition of the varied layout of metal/non-metal mines, and after having an opportunity to review the performance of proximity detection systems in coal mines.

NLA appreciates the opportunity to comment on these important issues.

Very truly yours,

/s/

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