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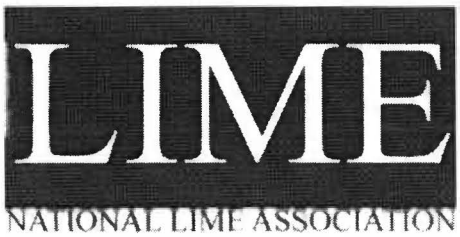
General Comment

See attached comments of the National Lime Association

Attachments

NLA comments on RIN 1219-AB91

AB91-COMM-11



December 21, 2018

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

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Regulations.gov)

RE: Safety Improvement Technologies for Mobile Equipment at Surface Mines, and for Belt Conveyors at Surface and Underground Mines: Request for Information (RIN 1219-AB91)

The National Lime Association (NLA) is pleased to present its response to the Request for Information on Safety Improvement Technologies for Mobile Equipment at Surface Mines, and for Belt Conveyors at Surface and 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 committed to safety as a core 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 and MSHA recently renewed their Alliance to pursue common safety goals. 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 with powered haulage in surface and underground mines. NLA previously filed comments in 2015 on a proposed rule addressed to coal mines, but which also requested input on the potential for proximity detection systems at metal/non-metal mines, and those comments are incorporated here by reference.

GENERAL COMMENTS

While NLA believes that progress in technology has been made since the 2015 review of this issue, we continue to believe 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 further reduce risks from powered haulage. Nevertheless, NLA strongly believes that MSHA, with the assistance of NIOSH, should continue to pursue this issue and assist in the development and identification of technologies that can reduce the powered haulage risks in mine settings.

As we noted in our 2015 comments, the type of proximity detection technology used in coal mines is not currently in wide use in the metal/non-metal sector. However, there are many metal/non-metal mines that use various technologies to reduce the risk of contact between miners and mobile machines (as well as contact between vehicles, 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 mines have work practices and rules designed to reduce the risk of contact incidents. Since there have been relatively few fatalities in metal/non-metal mines that could have been prevented through the use of additional proximity detection devices, it is likely that the existing technologies (or a combination of them) are already effective in reducing this risk where they are being used properly. This would be an important factor to study in considering a potential rule: in the mines in which fatalities did occur, what technologies were in use, and if so, how and why did they fail?

In considering a future proposed rule for underground metal/non-metal mines or for surface 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 significant differences in equipment and mining techniques between coal mines and metal/non-metal mines (as well as the many differences among metal/non-metal mines), and the possibility that other technologies and approaches may be equally effective at further reducing risk.

NLA believes that it is essential to have a very good understanding of how various technologies will perform in the metal/non-metal mine environment before they are required. The experience in coal mines should be studied, as well as the experience of mines in other countries that have employed such technology. There have been 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. Some of these issues are addressed in more detail in the specific comments below.

Finally, NLA would like to add one additional general comment. We believe MSHA should reconsider the use of the "Powered Haulage" category to include both mobile equipment and conveyors. While both move material, the hazards and potential safety solutions are very different for these types of equipment, and NLA believes that separating them would increase clarity. Conveyors typically present hazards akin to other stationary equipment with moving

parts, and the protective measures usually focus on guarding, emergency stop capability, start-up alarms, and lockout/tagout/try. Mobile equipment, on the other hand, presents hazards including collisions and travel over high walls, with very different safety solutions. It would make more sense to use categories of "Mobile Equipment" and "Stationary Equipment with Moving Parts" in place of "Powered Haulage."

RESPONSES TO MSHA QUESTIONS

A. Seatbelts

1. What are the advantages, disadvantages, and costs associated with a seatbelt interlock system?

   NLA Response: The obvious advantage of an interlock system is that it would, if used properly, prevent the operation of mobile equipment unless the operator is wearing a seatbelt. The disadvantages are more difficult to identify, which is why experience with these systems should be studied. For example, an interlock system could delay operation of equipment in an emergency situation. It is also possible that efforts to bypass the interlock system could result in some miners operating equipment without seatbelt protection.

2. Are seatbelt interlock systems available that could be retrofitted, and if so, onto which types of machines and how? What are the costs associated with retrofitting machines with these systems?

   NLA Response: It will be important to work with mobile equipment manufacturers to identify retrofit solutions that will be effective and will not void existing equipment warranties, or interfere with existing safety features. Many companies will prefer to avoid the issues and high costs of retrofitting, and instead upgrade features as equipment is replaced.

3. Are some types of mobile equipment unsuited for use with seatbelt interlock systems, and if so, which machines and why?

   NLA Response: Again, it will be important to work with manufacturers to explore this question. Some pieces of equipment are operated from a standing position (for example, a walk-behind skid steer), and traditional seat belt systems would not be appropriate for this type of equipment.

4. Reliability is the ability of a system to perform repeatedly with the same result. Please provide information on how to determine the reliability of seatbelt interlock systems.

   NLA Response: Experience with such systems over an extended period should be reviewed. In addition to mechanical reliability, it should be considered whether employee resistance could impede the reliability of these systems. Recall that American automobile manufacturers at one time introduced various automatic seatbelt systems, which have

largely been abandoned. There were various reasons for this change, but one of them was the incidence of persons disconnecting the seatbelt entirely or bypassing the shoulder harness component of the seatbelt.

5. Some engineering controls encourage and promote seatbelt use without directly preventing or affecting equipment operation. These engineering controls include audible and visual warning devices, such as lights and buzzers/bells that remind equipment operators to fasten their seatbelts. What are the advantages, disadvantages, and costs associated with these warning devices?

   NLA Response: There is likely to be less resistance to the use of such systems, since most workers will be familiar with similar systems in their personal vehicles.

B. Collision Warning Systems and Collision Avoidance Systems

6. What are the advantages, disadvantages, and costs associated with collision warning systems and collision avoidance systems?

   NLA Response: Systems that cause large pieces of mobile equipment to stop operating suddenly could create additional hazards. Many companies will prefer to avoid the issues of retrofitting, and instead upgrade features as equipment is replaced.

7. Please provide information on how collision warning systems and collision avoidance systems can protect miners, *e.g.,* warning, stopping the equipment, or other protection. Include your rationale. Include successes or failures, if applicable.

   NLA Response: As with seatbelt systems, warning systems may cause less resistance from workers, and are less likely to create additional hazards. However, they require workers to observe and react to the warning. In addition, multiple false positive signals can desensitize workers to hazardous situations.

8. What types of mobile equipment can, and should, be equipped with collision warning and collision avoidance systems? For example, systems that work well on haul trucks may not work well on other mobile equipment; certain types of equipment may be more likely to be used near smaller vehicles; or some types of equipment may have larger blind areas.

   NLA Response: Large haul trucks present some of the greater risks of contact with other vehicles and are also the most likely to present additional hazards if suddenly halted. This may argue for better warning and camera systems, and experience in other industries and other countries should be studied.

9. Collision warning systems and collision avoidance systems may require multiple technologies that combine positioning/location, obstacle detection, path prediction, peer-to-peer communication, or alarm functions. What combination of technologies would be most effective in surface mining conditions? Please provide your rationale.

NLA Response: This question can best be answered by studying existing approaches in the field.

10. Please describe situations, if any, in which it would be appropriate to use a collision warning system rather than a collision avoidance system.

    NLA Response: As noted above, use of a warning system could be preferable if sudden halting of a piece of equipment (i.e. on a grade, or in the middle of a turn) could present its own hazards.

11. Please describe any differences between a surface coal environment and a surface metal and nonmetal environment that would influence your response to the questions above.

    NLA Response: Surface metal and nonmetal operations can vary substantially from coal operations, and from each other. Flexibility should be provided to allow solutions to be developed that match the operating environment.

C. Highwall and Dump Points

12. Which technologies or systems can prevent highwall and dump point overtravel? Please describe the advantages, disadvantages, and costs associated with these technologies or systems.

    NLA Response: As with collision prevention, technologies that cause equipment to stop operating must be studied to ensure that they do not create their own new hazards.

13. Many surface mines use GPS on equipment for tracking, dispatching, and positioning. How can these systems be used to provide equipment operators better information on their location with respect to highwall or dump points?

    NLA Response: The reliability of GPS systems will need to be evaluated. Note that such systems may not be functional underground.

14. What are the advantages, disadvantages, and costs associated with ground and aerial markers?

    NLA Response: Again, use of these systems in existing mines should be studied.

D. Autonomous Mobile Equipment

15. Please identify the types of autonomous mobile equipment in use at surface mines.

    NLA Response: NLA is not aware of any autonomous equipment in use at lime operations.

16. Please describe the advantages and disadvantages associated with autonomous mobile equipment.

NLA Response: See response to question 15.

17. Please provide information related to any experience with testing or implementing autonomous mobile equipment, including costs and benefits.

NLA Response: See response to question 15.

E. Belt Conveyors

18. What technologies are available that could provide additional protections from accidents related to working near or around belt conveyors? Can these technologies be used in surface and underground mines?

NLA Response: It is NLA's view that most accidents involving conveyors feature one of the following: (1) inadequate guarding, (2) failure to lockout/tagout equipment, or (3) failure to use proper crossovers. All of these could be improved by use of various technologies, such as monitoring systems for lockout/tagout, or for positioning of guards. Practical obstacles to such systems (including cost) should be studied.

19. Please provide information related to any experience with testing or implementing systems that 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. Please also include information and data on the costs and benefits associated with these systems.

NLA Response: NLA has no data on the use of these systems, other than having seen presentations about their potential use. We believe they should be studied by MSHA, and by the mining industry.

F. Training and Technical Assistance

20. Please provide suggestions on how training can increase seatbelt use and improve equipment operators' awareness of hazards at the mine site.

NLA Response: Training in seatbelt use is essential, and failure to use seatbelts is often a serious disciplinary violation at mines.

21. Please provide suggestions on how training can ensure that miners lock and tag conveyor belts before performing maintenance work.

NLA Response: Similarly, lockout/tagout training is essential, and failure to follow the requirements is often a serious disciplinary violation.

G. Benefits and Costs

MSHA requests comment on the costs, benefits, and the technological and economic feasibility of suggested engineering controls to improve miners' safety. Your answers to these questions will help MSHA evaluate options and determine an appropriate course of action.

NLA Response: To the extent new technologies are available "off the shelf," and have been used and tested in other industries and other countries, costs will be easier to identify, to budget for, and to control. Many companies will prefer to avoid the issues and high costs of retrofitting, and instead upgrade features as equipment is replaced.

H. Other Information

22. Please provide any data or information that may be useful to MSHA to determine non-regulatory initiatives the Agency should explore.

NLA Response: See NLA's 2015 comments for additional points.

NLA appreciates the opportunity to comment on these important issues.

Very truly yours,

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