SQUIRE PATTON BOGGS

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Squire Patton Boggs (US) LLP
2550 M Street, NW
Washington, DC 20037

1801 California Street, Suite 4900
Denver, Colorado 80202

O +1 303 830 1776
F +1 303 894 9239
squirepattonboggs.com

Peter S. Gould
T +1 303 894 6176
peter.gould@squirepb.com

December 15, 2015

Ms. Sheila McConnell
Acting Director
Office of Standards, Variances and Regulations
Mine Safety and Health Administration
201 12th Street South, Suite 4E401
Arlington, VA 22209-3939

Re: *Murray Energy Corporation and Affiliates' Comments on MSHA's Proposed Rule, "Proximity Detection Systems for Mobile Machines in Underground Mines;" RIN 1219-AB78; 80 FED. REG. 53070 (Sept. 2, 2015)*

Dear Ms. McConnell:

We respectfully submit these comments on behalf of Murray Energy Corporation and its Affiliates ("MEC") in response to the Mine Safety and Health Administration's ("MSHA") proposed rule entitled "Proximity Detection Systems for Mobile Machines in Underground Mines." *See* 80 FED. REG. 53,070 (Sept. 2, 2015).

MEC supports the proposed regulation's goal to strengthen safety protections for underground miners; however, the rule, as proposed, is so technologically and economically flawed as to render implementation impossible and impracticable for mine operators. As described in detail below, MEC opposes the proposed regulation for the following reasons: 1) the rule calls for the use of technology that is not yet ready for implementation and operation on mobile equipment; 2) the proposed rule is economically infeasible in that MSHA has grossly underestimated the costs to mine operators, due in large part to MSHA's reliance on inaccurate cost data; 3) the proposed time frames for implementation of the rule are unachievable, particularly in light of the training that must accompany the use of proximity detection systems; 4) the proposal is not ripe for regulatory action, as the Agency has more questions than answers about how to implement the technology on mobile equipment.

I. The proposed rule is premature, as the technology required for successful implementation of the rule is not yet operational for mobile equipment.

MEC maintains that MSHA has neither conducted a thorough examination of the operational readiness of proximity detection systems on mobile equipment, nor met its burden of assessing the

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ability of underground coal mine operators across the country to implement the technology within the proposed time frame.

a. There is a dearth of data on the effectiveness of Proximity Detection Systems on underground mobile equipment.

In the introduction to the proposed rule on proximity detection systems ("PDSs") for mobile equipment in underground coal mines, MSHA explains that its proposal is designed "to be comparable to the requirements for proximity detection systems on continuous mining machines" and is intended to "take advantage of **existing proven technology**, to minimize the burden on mine operators, and allow for advances in proximity detection technology." 80 FED. REG. at 53,072 (emphasis added). A thorough review of the record reveals that the technology is neither "proven" nor ready for implementation on mobile equipment across all U.S. underground coal mines. Rather, MSHA overlooks critical gaps in the reliability and feasibility data, inappropriately assumes that use of PDSs on continuous mining equipment is equivalent to use of the technology on mobile equipment, and relies primarily on anecdotal evidence to support its assertion that the technology is ready for widespread use.

Although four PDSs have been "approved" for use in underground coal mines by MSHA, such "approval" only indicates that the systems meet the permissibility requirements in 30 C.F.R. Part 18 and are therefore not a spark or thermal ignition hazard in a potentially explosive atmosphere. In fact, MSHA specifically notes in the Proximity Detection Single Source Web Page that "approval" of the four systems "does not address system performance."[1] Neither the proposed rule nor MSHA's information page on Proximity Detection contains any concrete data on the effectiveness of PDSs on underground mobile equipment, which is likely because no such quantifiable data exists. The National Institute for Occupational Safety and Health ("NIOSH"), which acts as an impartial third party to evaluate commercially available PDSs, kicked off a pilot research project as recently as October 1, 2014 to evaluate the "Applicability of Proximity Detection to Mobile Underground Coal Equipment." In the description of the research goals of the project, NIOSH acknowledged that "**little or no research has been conducted** to quantify the performance of [proximity detection] systems [on mobile equipment] and to determine whether they provide protection specifically against striking and pinning hazards."[2] The description further states:

> Extensive research has been conducted on proximity detection in relation to continuous mining machines, and the systems on the market for mobile equipment were developed based on this research. These systems are now being adapted to other mobile equipment such as shuttle cars and scoops. This pilot project will determine the performance of these systems in terms of detection range, accuracy, repeatability, and reproducibility. Measured performance will be compared to ideal performance determined through simulations of machine motions designed to capture typical and extreme scenarios in the mine. The research aims to reduce

[1] *See Proximity Detection/Collision Warning Information from Technical Support*, MINE SAFETY & HEALTH ADMINISTRATION, http://www.msha.gov/Accident_Prevention/NewTechnologies/ProximityDetection/ProximitydetectionSingleSource.asp (last visited Nov. 11, 2015).

[2] National Institute for Occupational Safety & Health, *Mining Project: Applicability of Proximity Detection to Mobile Underground Coal Equipment*, CENTERS FOR DISEASE CONTROL & PREVENTION, http://www.cdc.gov/niosh/mining/researchprogram/projects/project/applicability_of.html (last visited Nov. 11, 2015) (emphasis added).

> traumatic injuries and fatalities in the mining workplace. Ultimately, this project will produce an assessment of proximity detection systems for mobile underground coal haulage equipment, and could be used by stakeholders to improve system design and implementation.[3]

To date, the results of the NIOSH "Pilot Project" are not yet published. Given the absence of any quantifiable data evaluating the performance of PDSs on underground mobile equipment, MSHA's assertion that the technology is "proven" and ready for nationwide rollout appears to be based solely on: 1) an assumption that proximity detection on mobile equipment is functionally equivalent to proximity detection on continuous miners; 2) MSHA's observations of PDSs in use at a handful of mine operations in the U.S. and South Africa in recent years; and 3) input from system manufacturers and several operators who have implemented PDSs on continuous miners. *See* 80 FED. REG. at 53,072 ("In April 2010, MSHA observed the use of proximity detection systems in three underground mines in the Republic of South Africa. . . . In September 2011, MSHA observed two coal hauling machines equipped with an MSHA-approved proximity detection system being used in an underground coal mine in the [U.S.]. . . . In June 2013, MSHA observed an MSHA-approved proximity detection system on a coal hauling machine and on a scoop at an underground coal mine in the [U.S.]").

MSHA's assumption that proximity detection on mobile equipment is functionally equivalent to proximity detection on continuous miners is problematic in that it fails to acknowledge the significant difference in installing and using PDSs on continuous miners, which are relatively stationery pieces of equipment with few pinch or pivot points, versus using such systems on the variable types of mobile equipment at underground coal mines. To date, MSHA is making decisions based on casual observation of companies who want to sell these systems and mine operators who want to appear to be making a good impression with the Agency. At a minimum, MSHA or NIOSH should evaluate the commercially available PDS systems for accuracy, repeatability, reliability, potential electrical interference, response time, and fail safe design, and there should be standards set for these items so that mine operators can have more confidence that the relevant products on the market will function properly and indeed result in safer workplaces for miners.

MEC strongly recommends that more research be conducted that focuses specifically on the performance of PDSs on underground mobile equipment before such technology becomes mandatory for all underground coal mine operators.

b. The experience of multiple mine operators with proximity detection systems on mobile equipment suggests the technology is not yet ready for widespread implementation.

Any meaningful discussion of the experience of mine operators in implementing and using the technology on mobile equipment to date is noticeably absent from the proposed rule and record. Although MSHA concedes that several commenters raised concerns about the lack of operational experience with the approved PDSs and about the reliability and need for further testing, MSHA declines to address or respond to these concerns in any way. *See* 80 FED. REG. at 53,073. MSHA merely counters that "a representative of a South African mining company that uses a proximity detection system . . . stated . . . that the system . . . did not have a single reliability problem over a

[3] *Id.*

period of 18 months" and further that a proximity detection manufacturer stated that its system has been "installed on many types of underground mobile equipment in Australia and Canada." *Id.*

Testimony of the experiences of operators who have installed and are using PDSs on mobile equipment in underground coal mines suggests that the technology is far from "proven" or reliable and is certainly not ready for nationwide rollout. For example, at the October 6, 2015 hearing held by MSHA in Denver, Barry Belay of Peabody Energy's Twentymile Coal Mine stated that after installing PDSs on its Joy continuous miners, his mine had experienced several problems, including varying zones and difficulties in maintenance of the system and its components. Transcript of the Denver hearing, Oct. 6, 2015, at 26 ("Dv. Tr."). A maintenance supervisor at Twentymile reiterated in his testimony that Peabody is experiencing numerous problems with its PDSs, including poor battery life on locators. *Id.* Additionally, some of MEC's diesel scoops and ram cars do not yet interface with the currently available PDSs. Without compatible technology, MEC would be unable to comply with the proposed rule on these machines and would be forced to request a variance or exemption from MSHA.

Moreover, numerous mine operators have expressed concern that PDSs can potentially interfere with other mine electrical systems, which could, in turn, reduce miner safety in the underground environment. In the proposed rule, one commenter expressed concern that "a proximity detection system may detonate explosives due to electromagnetic field interference," while another commenter suggested that "electromagnetic interference may actually prevent proximity detection systems from functioning properly and providing the designed protection to miners." 80 FED. REG. at 53,079 (other commenters stated that electrical systems used in the mine, including PDSs, can adversely affect the function of other electrical systems through the generation of electromagnetic interference, which includes radio frequency interference). Several commenters suggested that systems must be designed and tested for possible and known sources of interference before a requirement for proximity detection is issued. *Id.* Testimony at MSHA hearings on the proposed rule reiterated such concerns. For example, Jeff Yates, a representative of the Alpha Fairmont Deep Mine 41, indicated that interference is an imminent threat to miner health and safety. At the Charleston hearing, Mr. Yates stated that his mine had implemented PDSs on multiple pieces of equipment, and that the mine had experienced interference issues from the magnetic fields from electrical cables and from multiple wearable devices. *See* Ch. Tr. at 38. He also stated that having operators too close to electrical cables has caused machines to shut down. *Id.*

Although the Agency stated in the proposed rule that manufacturers of the approved PDSs have assured the Agency that "their systems do not have interference issues" and that MSHA has "not received reports of adverse interference . . . from . . . the approximately 583 proximity detection systems in use in underground coal mines," MSHA clearly does not have adequate data to respond to these concerns. 80 FED. REG. at 53,079. Indeed, the Agency acknowledged that "there have been instances of adverse performance of a remote controlled system, an atmospheric monitoring system, and a machine-mounted methane monitoring system when a hand-held radio was in use near the affected systems." *Id.* Instead of asking the system manufacturers to conduct further testing on the interference issue prior to rule implementation, the proposed rule merely shifts the burden back to mine operators, requiring them "to evaluate a proximity detection system used on coal hauling machines and scoops for interference that adversely affects other electrical systems, including blasting circuits and other proximity detection systems, in the mine and take adequate steps to prevent adverse interference." *Id.* In other words, MSHA is mandating that operators bear the expense of installing equipment that could potentially adversely interfere with existing mine

systems and then is requiring those same operators to shoulder the added expense of developing a "work around" to avoid such interference.

The proposed rule should not be finalized and implemented until PDSs on mobile equipment are designed and properly tested for possible known sources of interference. The Mine Act empowers the Secretary to develop "improved mandatory health or safety standards for the protection of life and prevention of injuries in coal or other mines." 30 U.S.C. § 811(a). If the use of PDSs carries the possibility of interfering with mine electrical systems in a manner that could actually hinder, rather than improve, safety in the mining industry, then the proposed rule runs counter to the letter and the spirit of the Mine Act and must be withdrawn.

Based on the foregoing and contrary to what MSHA may argue, the technology required for successful implementation of this rule is not yet operational. MEC urges the Agency to collect more data and to postpone implementation of the proposed rule until the proximity detection technology actually proves ready for use on underground mobile equipment.

II. The proposed rule is economically infeasible because the costs estimated by MSHA for implementation are inaccurate and are based upon unreliable data.

MSHA's proposed rule is not economically feasible for underground coal mine operators. The industry is currently not positioned to bear the significant cost to purchase, install and train miners to use a technology that is not yet proven to be effective, especially since the Agency has materially underestimated the costs of compliance, as explained in more detail below. According to MSHA's data, the proposed rule affects 300 active underground coal mines in the U.S. that use mobile mining machines. MSHA estimates that there are 2,116 mobile machines that would be affected by the requirements of the proposed rule, of which 1,987 would need completely new PDSs and the remaining 129 mobile machines would need updated systems to bring them in compliance with the regulation.[4] Underground coal mine operators would be required to equip mobile machines with PDSs within three years after the effective date of the rule. Each approved PDS consists of machine-mounted components and miner-wearable components for **each miner** on the working section.[5]

MSHA estimates that the total undiscounted cost of the proposed rule over a 10-year period would be approximately $160.8 million.[6] The figure includes equipment purchase and installation costs, costs associated with regulatory approvals, training costs, and maintenance costs. According to MEC's own calculations and those of fellow mine operators, MSHA has materially underestimated the compliance costs associated with the proposed rule across all of these categories, due in part to the Agency's unsupportable assumptions about price, maintenance costs and training costs. For example, MSHA estimates that there are seven miners present on the working section at any given time. 80 FED. REG. at 53,074. At MEC's operations, a minimum of eleven miners are typically

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[4] *Preliminary Regulatory Economic Analysis for Proximity Detection Systems for Mobile Machines in Underground Mines Proposed Rule*, MINE SAFETY & HEALTH ADMINISTRATION, OFFICE OF STANDARDS, REGULATIONS, AND VARIANCES (Aug. 2015), http://www.msha.gov/REGS/REA/2015-pds-mobile-%20economic-evaluation.pdf (MSHA's figures are based on the Agency's calculus that in each of the 722 active working sections using mobile machines in U.S. coal mines, there are, on average, one continuous mining machine, a scoop, and either one shuttle car and two coal hauling machines; or, one continuous mining machine, one shuttle car and a continuous haulage system.

[5] *Id.*

[6] *Id.*

present on a full-face miner section during production. This number does not include managers, maintenance personnel, and inspectors who may also be present. Additionally, the amount of miners on the section can double during shift changes. More miners in the working section converts to the need for more miner-wearable components, and possibly more machines, in addition to increased time and resources invested in training individuals on PDSs. MSHA's inaccurate estimate of the number of miners present on the working section is just one example of how the Agency's projected economic impact presents an inaccurate and artificially deflated picture of the total cost of the proposed rule to operators.

Additionally, MSHA relied on outdated price figures, thereby overestimating the revenues derived from underground coal mines. The Agency used the average open market U.S. sales price of underground coal for 2013 in calculating revenue. *See* 80 FED. REG. at 53,083. However, this two-year old value of $60.98 per ton does not reflect the current price conditions. MEC finds that the current price of Appalachian steam coal is benchmarked at only $43 per ton, with a further price drop forecasted. Accordingly, the economic impact on underground coal operators will be far greater than MSHA projected in its *Preliminary Regulatory Economic Analysis* for the proposed rule, in that operators will be forced to absorb the high cost of compliance during a period of unprecedented low revenue stemming from lower coal prices.

In sum, the proposed rule imposes substantial and onerous upfront costs on operators, particularly in the three years following implementation of the proposed rule. Mine operators certainly should not be saddled with the economic burden of implementing a technology that has not demonstrated an ability to enhance miner safety underground.

III. The proposed implementation schedule is impractical and unachievable, particularly given the training requirements associated with the use of proximity detection systems.

MEC is extremely concerned with the ability of the mining industry to comply with the overly optimistic and unnecessarily aggressive implementation schedule of the proposed rule. As published, the proposed rule provides several implementation schedules depending on the type of equipment in use at an operation. First, the rule provides an 8-month period, following the effective date of the final rule, for installation of PDSs on machines manufactured after the effective date of the rule. *See* 80 FED. REG. at 53,085-86. Machines manufactured and equipped with a proximity detection system on or before the effective must comply with the proposal's requirements within 8 months after the effective date if modifications to the existing proximity detection system can be made underground. *Id.* at 53,086. For machines manufactured and equipped with a proximity detection system on or before the effective date of the rule, compliance with the rule is required within 36 months if underground modification is not possible or if the proximity detection needs to be replaced. *Id.* Finally, those machines not equipped with a proximity detection system on or before the effective date of the final rule must meet the requirements of the rule no later than 36 months after the effective date of the final rule. *Id.* Ms. McConnell testified at the Charleston hearing that this timeline was based on the continuous mining machine final rule phase-in period and on the agency's understanding of the typical rebuild cycle. Transcript of the Charleston hearing, Oct. 19, 2015, at 36 ("Ch. Tr.").

In MEC's view and in response to MSHA's request for comments on the proposed timeline for phase-in, 36 months is an insufficient amount of time for a mine to install PDSs on coal hauling

machines and scoops manufactured and not equipped with a PDS before the effective date of the rule. The Agency states in the proposed rule that "proper functioning of a proximity detection system is directly related to the quality of the installation and maintenance of the system." 80 Fed. Reg. at 53,079. MSHA's statement supports MEC's view that installation should be done at re-build – outside of the mine – to ensure the proper functionality and adequate testing of all components prior to operation in a production situation. In MEC's case, many haulage machines and scoops will not be scheduled for maintenance or re-build within a 36-month time period, meaning that the rule, if finalized, would necessitate the scheduling of additional service time and would translate to downtime of working sections due to equipment unavailability. This would significantly interrupt mine production, and MSHA has not considered the cost of this disruption in estimating the cost of implementation of the proposed rule.

As previously stated, MSHA estimates that 2,116 mobile machines would be affected by the requirements of the proposed rule, of which 1,987 would need completely new PDSs and the remaining 129 mobile machines would need updated systems to bring them in compliance with the regulation. More information from systems manufacturers is required to determine whether they will have adequate supply to meet the equipment and timeline demands, particularly since manufacturers must also supply mines with PDSs for continuous miners.

Not only is the compliance timeline in the proposed rule impractical from an equipment availability and installation standpoint, but it also fails to properly account for the considerable amount of time it will take operators to adequately train miners to install, maintain and utilize the new technology. MSHA suggests that miners receive training from manufacturers' representatives and provide training to other miners who may undertake installation and maintenance duties at the mine. 80 FED. REG. at 53,079 (referring to the "train-the-trainer" concept). Even assuming a train-the-trainer model is implemented, given the sheer number of miners across the 300 underground coal mines who will need to be trained to properly install, maintain and use the systems, MSHA underestimates the ability of manufacturers to meet the training demand that will follow if the rule becomes final. Moreover, because all PDSs currently require miner-wearable components, all affected miners will need to be properly task-trained before the systems are utilized. MSHA appears to nearly ignore the time, expense and loss of production that such training imposes on mine operators. The purpose of this rule is to save lives, and therefore MSHA must give adequate consideration and attention to training time.

IV. Mandatory installation of PDSs on coal hauling machines and scoops is not yet ripe for regulation as evidenced by the sheer number of subjects in the proposed rule on which MSHA requests comments and additional information from operators.

MSHA's multiple requests for information – the Agency seeks comments and additional information from operators over twenty times in the proposed rule – point to critical gaps in the Agency's data on the proposed technology and suggest that the Agency simply does not have adequate information to support its position that mandating use of PDSs on mobile mine equipment will enhance miner safety underground. In other words, MSHA's need to obtain so much feedback on subjects that are fundamental to the successful implementation of the proposed rule is a clear indicator of the premature nature of this rulemaking. Indeed, the proposed rule operates more like an extension of a request for information than a proposed regulation.

Given its significant experience in the coal mining industry, MEC provides feedback on several of MSHA's requests for comments. As an overarching matter, MEC is extremely concerned about the unforeseen consequences posed by the technology, which has the potential to dangerously change how miners interact with underground mobile equipment. MEC has already witnessed multiple instances whereby miners have taken higher risks because of a false sense of security created by a PDS. MEC is concerned that implementation of PDSs on all mobile machines will lead miners to unsafely rely on the devices and to act contrary to their intuition and training. MSHA itself has admitted that "miners working near mobile machines equipped with proximity detection systems would engage in different unfamiliar machine operating procedures resulting from new work positions, machine movements, and new visual or auditory signals." 80 FED. REG. at 53,075. It is MEC's strong view that operators who have been working in safe positions should see no impact from installation of a PDS. MSHA needs to modify the proposed rule to ensure that a miner or machine operator works in the safest position possible. The first priority should be a safe working position for a miner or machine operator, and second a noncontact rule. MSHA's comment infers that the PDS will force an operator into a less safe or less efficient position and could change the safe OEM design of how the machine operates. A significant number of contact injuries and fatalities can be avoided by simply modifying human behavior and improving training rather than subjecting cautious miners to "unfamiliar machine operating procedures," which may actually lead to a less safe environment. MEC is very concerned that, rather than enhancing miner safety, the proposed rule merely exchanges one identified hazard for another, potentially more serious hazard.

MEC offers the following additional comments in response to some of MSHA's requests for information in the proposed rule.

a. *MSHA should not apply the proposed requirements to mobile machines other than coal hauling machines and scoops, nor should the Agency expand the PDS requirements to equipment used off the working sections.*

MSHA seeks comments on whether the proposed requirements should apply to mobile machines other than coal hauling machines and scoops and on whether the requirements should apply to machines in use off the working section. *See* 80 FED. REG. at 53,073. MSHA has failed to provide any statistics regarding whether mobile equipment other than scoops and coal hauling machines or mobile equipment in use off the working section have been responsible for pinning, crushing or striking accidents. More information on the danger of these mobile machines to miners is needed before MSHA adds more layers of regulation to operators. If MSHA can find no evidence that mobile machines operating off the working sections have caused pinning, crushing or striking accidents, it is not reasonable for the Agency to expand the requirements in the proposed rule to that equipment, particularly when such an extension would require all persons travelling underground to be equipped with, and trained on using, a miner-wearable component. Additionally, MEC finds that the interaction of the machines with miners occurs far less frequently off the working section than on the working section, making the extended application of the proposed requirements unnecessary. Furthermore, there are many machines, such as loading machines used with full-face miners, around which the operator has clear vision, meaning PDSs are not needed or warranted.

b. *MEC supports a performance based approach, rather than a prescriptive set of requirements, particularly as to the size of the detection zone around machines and specific stopping distances and times.*

Mine operators need the flexibility to configure PDSs and machine responses based on the individual applications underground. Machines that interact with other equipment, machines that require a ground standing operator to be in contact, and machines that lack specific capabilities for motion control may need allowances outside of prescriptive requirements. In other words, a "stop all machine movement" requirement cannot be applied universally to all mobile equipment affected by the proposed rule, unless the intent is for miners to remove their personal device to do certain required tasks. By way of explanation, MEC operates two classes of mobile equipment. One class of equipment that includes Shuttle Cars and Ram Cars do not require a miner to stand on the ground nearby to perform required tasks; however, the second class of equipment, which includes, scoops, bolters and some feeder breakers, requires a miner to touch or be near the machine in order to do some work, meaning some variation in PDS functionality is required.

Scoops on continuous miner sections, for example, are used for many tasks including, carrying supplies on a section, moving power centers and safety chambers, carrying roof straps and long metal structures, rock dusting, lifting gear reducers, motors, and other heavy components into place, carrying belt structure, pulling tail pieces, just to name a few. Many of these tasks require fine motion control of the bucket or ram, and the scoop operator has to be directed by a miner standing near the front of the bucket because an operator has no vision of this area. The scoop operator, who in most cases has clear vision of the miner providing direction, depends totally on the miner standing near the bucket of the machine for direction. There are other scoop operations that are required when a miner is inside what is considered the regular stop zone. For example, when aligning the bolt holes in a gear case on a Continuous Miner, a miner may need to be standing in close proximity in order to see the bolt holes and direct the scoop operator to align the component. A miner must stand in the scoop bucket as a winch rope is unwound (under power) to pull the winch rope out to use it. A hopper-type rock duster requires a miner to stand directly beside the scoop to operate the duster. Some auxiliary hydraulic devices like drills have controls that require a miner to stand close to the scoop to operate. All these examples require a miner to stand near a scoop or other piece of mobile equipment in order to do a required task, even when there is some associated machine motion. Allowances must be made in the proposed rule for such activities. If a miner cannot do his job safely because of the PDS, he could remove his miner-wearable component, which defeats the purpose of the rule.

c. MSHA should not require a PDS to cause a machine to slow before causing it to stop.

In response to MSHA's request for comment on whether a PDS should be required to slow a machine before stopping it, *see* 80 FED. REG. at 53,077, MEC responds that MSHA should not make a requirement that "machines slow down before stopping" because some machines do not have this capability (i.e. battery powered DC traction drives), and in many cases, it is more important to stop the machine as fast as possible to prevent contact with miners. Although MEC understands that MSHA may be attempting to protect the on-board operator through consideration of the slowing before stopping requirement, most haulage machines and scoops in underground coal mines, in MEC's experience, do not travel fast enough for a sudden stop to pose a safety hazard to on-board operators. It is much more important for the equipment to stop immediately when a miner enters a zone with increased probability of pinching or crushing injuries.

d. The warning signals provided by the current PDS suppliers are effective in ensuring miners' safety, and additional warning signals are unnecessary.

MSHA also seeks comments on whether requiring audible warning signals in addition to visual warning signals on the machine would improve safety in the mines, and whether requiring the use of specific visual warnings on the machine would ensure that miners are being alerted. *See* 80 FED. REG. at 53,078. In MEC's view, there is no demonstrated need or value for additional warnings other than those provided by the current PDS suppliers. The two available PDSs, which provide an audible and visual warning signal on the miner-wearable component and a visual warning signal on the machine, have proven very effective in providing feedback to miners and operators. Specifically, the multiple, distributed, visual indicators on the current PDSs are very effective at letting the operator know if his machine is not moving because of the PDS. Additionally, the warning signals serve as a very useful tool in training a miner on the location of the zones. With the noise generated by most mobile machines, requiring an audible indicator would likely yield no benefit to the miners' safety.

Finally, in the event that a component of the proximity detection system is malfunctioning, MSHA would allow the system to be overridden or bypassed, provided that the machine is equipped with a special audible or visual warning signal to alert miners to the malfunctioning system. MSHA seeks comments on whether both an audible and visual warning signal is needed to alert all miners on the working section that a component of the machine mounted PDS is not functioning properly. MEC suggests that MSHA require the same warning indicator for malfunctioning PDS as for any other non-PDS machine system and the OEM bypass.

e. MEC seeks clarification on the scope of the "longwall working section" exemption from the proposed rule and responds to MSHA's request for comments on whether PDSs should be required on scoops or coal haulage machines operating on longwall working sections.

MEC requests that MSHA clarify the scope of the longwall section exemption in the proposed rule. Does this exemption include the different modes of operation associated with a longwall: operating, teardown, and setup? As to MSHA's request for information on whether scoops or coal haulage machines create a hazard to miners on longwall working sections such that the use of proximity detection should be required, MEC responds: a PDS would be unworkable during longwall setup and teardown because miners cannot move to a safe location which is far enough away from a scoop to prevent unnecessarily activating the PD Stop function. Miners have to move inside shields or into the panline to allow a scoop to pass them on the face. In either case, the miner cannot get far enough from the scoop as it passes to be out of the PDS zone. Moreover, during longwall set up or recovery, there are many tasks that involve connecting, disconnecting, lifting, pushing, moving, dragging, and rotating a piece of longwall equipment where a miner is in close proximity to the bucket or fork end of the scoop. A scoop operator does not have any vision of the area directly in front of the scoop bucket or forks and depends on a miner who can see this area for instruction to control the motion of the bucket or forks to control or attach, or detach a load. Additionally, some mines use a Pettito Mule to recover longwall shields. The same issues exist as with scoops. Finally, the marker fields generated from the PDS equipped machines will couple to continuous metallic structures and change the response of the PD system. The Longwall shields and panline are continuous metallic structures.

MEC believes it would create a higher risk situation if the PDS was required in some operations of the longwall and not others. The PDS should not be activated and de-activated, depending on the application in association with a longwall. Accordingly, the longwall exemption should be clarified and expanded to cover longwall setup, operation and teardown.

f. If MSHA were to require miners to wear reflective material, requiring 100 square inches on the miner's outermost piece of clothing will suffice.

MSHA also seeks comments on whether it should require that miners wear reflective material to make them more visible to equipment operators, and if so, how much and where. *See* 80 FED. REG. at 53,076. The use of reflective PPE is wholly unrelated to the PDS that are the focus of the proposed rule, which further underscores MEC's claim that the Agency is conducting what amounts to a request for information rather than a proposed rulemaking. Nevertheless, if MSHA were to require miners to wear reflective material, MEC believes that requiring 100 square inches of reflective material on the miner's outermost layer of clothing is adequate.

Conclusion

MEC appreciates your consideration of these comments. While MEC supports MSHA's goal to improve miner safety and health through implementation of advanced technology in the underground environment, the proposed rule does not adequately consider technological and economic feasibility issues and potential interference problems that could lead to unsafe conditions in the underground environment. Further, the proposal would establish an impractical phase-in schedule, given the associated training requirements and costs. Lastly, the number of issues on which MSHA seeks comments from operators suggests that it lacks information critical to successfully implementing this proposed rule. For these reasons MEC urges MSHA to withdraw the proposed rule in its current form and work with all stakeholders to craft a proposed rule for proximity detection system implementation for mobile machines in underground mines that recognizes the realities of the mine environment where our employees work every day.

Sincerely,

Squire Patton Boggs (US) LLP

Peter S. Gould