Specific Comments of the

National Mining Association

On the

Draft Program Policy Letter

Guidance for Compliance with Post-Accident Two-Way Communications and Electronic Tracking Requirements

Of the

Mine Improvement and New Emergency Response Act

January 8, 2009

COMM-18A

I. Communications

Coverage Area

The mining industry has been working with MSHA, NIOSH, and communication vendors for the last three years to develop new systems and enhance existing systems in order to provide survivable mine-wide communications coverage outby the working face. The PPL specifies coverage on a working section (inby the loading point) to include all intersections. There is a significant difference both technologically and operationally in what will be required to accomplish this task, compared to where the efforts have been focused in the last three years. The working sections "move" once or twice a week and the working section communication is at the end of the communication infrastructure whereas the focus has been within the communication infrastructure. Furthermore, on a continuous miner section there is considerable movement of equipment within these entries and power sources can be located a significant distance outby. Until working section communication methods and/or equipment is designed, tested, demonstrated, and shared with the mining community it is unreasonable to impose this requirement.

The PPL should read:

- The system should generally provide near continuous coverage along the escapeways, belt entries, and main track/travel entries of the mine.
- The system infrastructure shall be extended to the location of the communication facility of each working section required by 30 C.F.R. §75.1602-2 and be terminated with an antenna.
- Miners should follow an established check-in/check-out procedure or an equivalent procedure when assigned to work in bleeders or other remote areas of the mine that are not provided with communications coverage.

Standby Power for Underground Components and Devices

- Our limited practical experience indicates that untethered radios will remain operational at the end of a normal shift. We are concerned; however, that the proposed duty cycle in the draft PPL is not representative of a normal shift and therefore the radios may fail to function in a practical underground mining application as prescribed in the PPL.

Surface Considerations

- We do not believe that all surface components of communication systems need to be located in the same facility as the dispatcher/communication person. The dispatcher/communication person only needs to have access to the system (like any other user). The only requirement for servers and other critical communication components should be to locate them in a secure area on the surface.

Survivability

- The concept of redundant signal pathways needs to be more clearly defined. The details of how an operator's system is to achieve and maintain redundancy/survivability are confusing and could significantly increase system requirements with no attendant safety benefit. The definition of redundancy should be based on mine-specific risk-based factors. Mines should not be required to build in redundancy requirements that address every possible contingency.
- Redundancy should also be primarily focused on emergency-related risks as opposed to routine operations. For example, if a mine's system loses its redundant capacity, a reasonable time should be allowed to restore operational status before other measures, up to and including evacuation of the affected area, are instituted.
- The concept of vulnerable areas also needs to be better defined. For example, the vulnerable area in "front of seals" should be limited to the entry immediately in front of the seals.

Maintenance

- We find no need or basis to require that all untethered devices be checked on a weekly basis. The focus should be on complying with the manufacturer's maintenance requirements, and requiring each miner to check the device he/she is assigned on a daily basis.

II. Electronic Tracking System

Performance

The mining industry has been working with MSHA, NIOSH, and tracking vendors for the last three years to develop new systems and enhance existing systems in order to provide survivable mine-wide tracking outby the working face. The PPL specifies 200 foot tracking coverage on a working section (inby the loading point) to include all intersections. There is a significant difference both technologically and operationally in what will be required to accomplish this task, compared to where the efforts have been focused in the last three years. The working sections "move" once or twice a week and the working section tracking is at the end of the tracking infrastructure whereas the focus has been within the tracking infrastructure. Furthermore, on a continuous miner section there is considerable movement of equipment within these entries and power sources can be located a significant distance outby. Until working section tracking methods and/or equipment is designed, tested, demonstrated and shared with the mining community it is unreasonable to impose this requirement.

The value added to a tracking system by providing "micro-tracking" inside a working section is questionable. A tracking system that provides the identity of miners on the working section appears to be adequate. That design can readily be accomplished with presently available electronic tracking systems. In the event of

an emergency, the surface location will have information on who was on the working section.

The proposed PPL correctly points out that MSHA-approved electronic tracking systems are currently available, but these systems have not proven capable of reliably determining the location of miners on a working section including all intersections to within 200 feet. All of the electronic tracking systems that are available rely on fixed location devices, commonly referred to as readers or nodes, to recognize the presence of unique battery-powered devices that are associated with individual miners. In order for this type of technology to accurately determine the location of miners within 200 feet, readers or nodes must be spaced no further than 200 feet apart. Considering that a typical continuous miner production section consists of eight or more parallel entries separated by ventilation controls, this could require dozens of devices to be located between the section loading point and the working face. Additionally, due to the dynamic nature of the working section, this network of readers or nodes would have to be reconfigured and components be relocated on a daily basis while being exposed to the harsh conditions of the active mining environment. The reliability of this type of system implementation, despite the best efforts of maintenance personnel, would inevitably be well below acceptable standards. Not only would the system fail to function properly in the working section, it could reduce the reliability of other parts of the system that are installed in more critical areas of the mine. Clearly, installing an electronic tracking system in a manner that inherently decreases its reliability will not enhance the safety of miners.

Maintenance issues are especially relevant as the movement of working sections and the equipment operating in the working sections will require significant maintenance for the "backbones" used for both tracking and communications. Clearly, knowing if miners remain on a section after an accident is important. The specific intersections that people are last located in are not. The primary goal of any evacuation system involving working sections is to receive a warning to evacuate and then to establish that the crew has in fact evacuated.

A tracking device should also be established that specifically tracks activity at the refuge alternative location.

The PPL provides a list of strategic locations where tracking and communications are to be provided. There is no rationale provided for this list. Further, there is no specific need to know the precise location of a person as it relates to power centers, belt drives, transfers, etc. (+/- 200 feet). Certainly there is no rationale or justification for this specificity requirement. Knowing that someone is within a zone that includes these locations is clearly detail enough.

Most important is the need to recognize that a one-size-fits-all requirement cannot govern the design of individual mine-tracking systems. Individual risk factors presented at each operation must be critically evaluated when designing tracking systems. To assume that the geologic and operating parameters in each mine will enable the installation of cookie-cutter tracking system designs is wrong and has

the potential to result in installations that are less protective than might otherwise be accomplished when mine-specific risk factors are considered.

The PPL should read:

While the required capabilities of a particular tracking system will depend on mine-specific circumstances an effective electronic tracking system generally should be capable of:

- Determining the location of miners along the escapeways, belt entries and main track/travel entries of the mine at intervals not exceeding 2,000 feet (for example an RFID reader located every 2,000 feet in these entries).
- Determining which miners are located in each working section of a mine.
- Determining if miners have entered an emergency shelter (75.1500).

Survivability

- The concept of redundant signal pathways needs to be more clearly defined. The details of how an operator's system is to achieve and maintain redundancy/survivability are confusing and could significantly increase system requirements with no attendant safety benefit. The definition of redundancy should be based on mine-specific risk-based factors. Mines should not be required to build in redundancy requirements that address every possible contingency.
- Redundancy should also be primarily focused on emergency-related risks as opposed to routine operations. For example, if a mine's system loses its redundant capacity, a reasonable time should be allowed to restore operational status before other measures, up to and including evacuation of the affected area, are instituted.
- The concept of vulnerable areas also needs to be better defined. For example, the vulnerable area in "front of seals" should be limited to the entry immediately in front of the seals.

Surface Considerations

- With regard to storing tracking data, we believe the guidance in the PPL goes too far. It is only relevant to store tracking data for two-weeks if you have an emergency situation. Storing routine tracking data for two weeks should not be a requirement. It's not relevant to coordinating an escape or rescue. In addition, the notion of storing tracking data for two weeks for accident investigations is too broad (see definition of "accident" at 30 C.F.R. sec. 50.2(h)).

Maintenance

- We find no need or basis to require that all devices worn by the miner be checked on a weekly basis. The focus should be on complying with the manufacturer's maintenance requirements, and requiring each miner to check the device he/she is assigned on a daily basis.