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SUBJECT: Approval of Communication and Tracking Devices Required by the Mine Improvement and New Emergency Response Act of 2006 (MINER Act)

Scope

This program policy letter (PPL) is intended for Mine Safety and Health Administration (MSHA) personnel, equipment manufacturers, repair facilities, underground mine operators, underground independent contractors, miner's representatives, and other interested parties.

Purpose

This PPL is issued to establish approval guidelines for communication and tracking devices under Title 30 Code of Federal Regulations (30 C.F.R.) Part 23, *Telephones and Signaling Devices*, to address the provisions of the MINER Act.

Policy

The following guidelines are being administered by the Approval & Certification Center when processing applications for approval of communication and tracking products for those underground mines or operations required to have permissible equipment:

- Any component or system used to provide voice, text, or signaling data (e.g., tracking) that is intended to remain operational in the event of an emergency is considered a telephone or signaling device and evaluated under 30 C.F.R. Part 23.
- Line powered devices must be equipped with a standby power source to allow continued operation in the event the line power is lost during an emergency. The standby power source must be capable of providing additional operating capacity (24 hours recommended) based on an 80% idle time, 10% transmit time and 10% receive time, denoted as 80/10/10 ratio.
- When operating under standby power, all components of a communication or tracking system must be MSHA-accepted as intrinsically safe, or housed in an MSHA certified explosion-proof enclosure. Communication and tracking system components include any interconnecting cables.
- All cables between communication and tracking components must be MSHA-approved as flame-resistant or enclosed in MSHA-approved, flame-resistant hose conduit.
- Intrinsically safe batteries of portable assemblies that are housed in enclosures too large to be subjected to the MSHA intrinsic safety drop test (greater than 5 kg) will be evaluated in accordance with the battery enclosure requirements of §§ 7.44(a), (b), (d), (e), (f), (h), (l) and (m).
- Standby power sources that include rechargeable batteries must be designed or equipped with means to mitigate the explosion hazard of battery off-gassing. Examples of available mitigation techniques include venting of the enclosure or automatic de-energization when an explosive gas concentration reaches 20% of the gas' lower explosive limit.
- The standby power source will be subject to MSHA's "Criteria for the Evaluation and Test of Intrinsically Safe Apparatus and Associated Apparatus" (<http://www.msha.gov/techsupp/acc/application/acri2001.pdf>) to ensure that it does not create a hazardous condition in the de-energized line power portion of the power supply or in the in-coming line power cable (back-feed protection).

- Any potential for radio frequency interference (RFI) with blasting circuits must be detailed by the approval applicant. The approval applicant must specify the maximum output power, normal operating frequency, and the safe distance from blasting circuits.
- Person-wearable tracking tags are considered portable apparatus and therefore are subjected to the MSHA intrinsic safety drop test. Machine-mounted (asset) tracking tags are subjected to an impact test.
- Cap lamps powering communication and/or tracking related components are required to meet the performance requirements specified in § 19.9(a) when both the cap light and communication and/or tracking component are in operation. To assure sufficient operational capability in various scenarios, the cap lamp battery should be capable of providing sufficient power to effectively operate the communication and/or tracking component for a period of time beyond the 10-hour minimum (4 hours additional recommended).
- Where lightning arrestors for conductors between surface and underground locations are required, system approval documentation must specify the lightning arrestor used to comply with §§ 57.12069 and 75.521, and to ensure that it does not invalidate the Part 23 approval.

Background

The regulations for approval of Telephones and Signaling Devices are specified in 30 C.F.R. Part 23.

The MINER Act included the following requirement for communications and tracking equipment:

“Not later than 3 years after the date of enactment of the Mine Improvement and New Emergency Response Act of 2006, a[n emergency response] plan shall, to be approved, provide for post accident communication between underground and surface personnel via a wireless two-way medium, and provide for an electronic tracking system permitting surface personnel to determine the location of any persons trapped underground or set forth within the plan the reasons such provisions can not be adopted.”

The requirements in 30 C.F.R. Part 23 were intended for audible and visual communication devices. However, the concepts of safety and functionality in potentially hazardous atmospheres are also applicable to the communications and tracking equipment required by the MINER Act. MSHA has therefore provided these clarifying interpretations.

Authority

Mine Improvement and New Emergency Response Act of 2006 (MINER ACT)

Filing Instructions

This PPL should be filed behind the tab marked "Program Policy Letters" at the back of Volume II of the Program Policy Manual.

Internet Availability

This PPL may be viewed on the World Wide Web by accessing the MSHA home page (<http://www.msha.gov>) and choosing "Compliance Info" and "Program Policy Letters."

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