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MSHA APPROVAL PROCESS

Steven Luzik

Chief, Approval and
Certification Center



What Does “Approved” Mean

- Official notification from MSHA that the device under consideration has met the requirements of the applicable part (Part 23 – telephones and signal devices).
- No probable explosion hazard under normal operations when used in gassy or dusty atmospheres.
- In the case of communication equipment MSHA has no performance requirements.
- Not an endorsement by the Agency.

CATEGORIES OF UNDERGROUND EQUIPMENT/PRODUCTS

- Outby equipment does not require MSHA approval.
- Equipment intended to be used inby is required to be MSHA approved.

MSHA APPROVED EQUIPMENT/PRODUCTS

- Face machinery (continuous miners, longwall mining systems, shuttle cars, roof bolters, scoops, etc.)
- Support machinery (pumps, fans, etc.)
- Gas detection instrumentation (methane monitors, hand-held methane detectors, other gas detectors, personal alarms, atmospheric monitoring systems, etc.)
- Lighting products (cap lamps, flashlights, headlights, etc.)

MSHA APPROVED EQUIPMENT/PRODUCTS

- Communication equipment (hand-held radios, mine page phones, longwall face communication systems, leaky feeder communication systems, etc.)
- Other instrumentation (noise meters, electrical measurement instruments, dust monitors, etc.)
- Permissible diesel-powered machinery
- Explosives
- Materials (conveyor belt, cables, hose conduit, brattice cloth and ventilation tubing, hydraulic fluids, etc.)

MSHA APPROVED COMMUNICATION SYSTEMS

- Mine Page Phones
- Leaky Feeder Systems
- Hand Held Portable Radios
- Other Communication Devices

MINE PAGE PHONES

- MSA Loudmouth Page Phone
- Gai-tronics Model 491-204 Mine Dial Page Phone
- Conspec part No. 911075 Paging Receiver
- Pyott-Boone Model Nos. 118 and 119 Page Phone
- Mine Safe Electronics Communication IIA Mine Phone

LEAKY FEEDERS

- **Leaky Feeder" systems are two-way radio systems that feature a base station on the surface that communicates with individual underground radio units, such as walkie-talkie radios.**
- **To allow radio frequencies to function underground, it is necessary to replace a standard surface antenna system with a cable network.**
- **The cable is designed to "leak" signal, which allows radio transmissions to both leak from the cable and also enter the cable. The systems are generally used for both data and voice communications.**

LEAKY FEEDER SYSTEMS

- Mine Radio Systems (MRS) Flexcom
- Varis Mine Technologies Model IS Leaky Feeder Communication System
- DAC Type RFM 2000 Radio System
- El-Equip, Inc Model VHF-1 Radio System

HAND-HELD TWO-WAY COMMUNICATION DEVICES

- Motorola HT1000 and MT2000
 - It's no longer available
- MSHA is currently evaluating a couple of two way radios for approval

OTHER MSHA-APPROVED COMMUNICATION DEVICES

- Mine Site Technologies PED Cap Lamp/Pager - approved for use on MSA, Koehler and NLT cap lamps [Part 19 Electric Cap lamps]
- Mine Site Technologies Tracker IV TAG System – RFID transmitter device approved under IS standards [Part 18.68] Intrinsic safety

MSHA APPROVAL PROCESS FOR TELEPHONES AND SIGNALING DEVICES

- Title 30 Code of Federal Regulations Part 23
 - Must be explosion-proof or intrinsically safe
 - Must be supplied with back-up power supply in the event of a power outage
 - Entire system must be IS or XP in the event of a loss of ventilation

MSHA APPROVAL PROCESS

- Applicant submits:
 - Application letter
 - Drawings and specifications
 - QA Information

- Fee estimate and authorization

- Assigned investigator reviews for compliance with 30 CFR

- If necessary, sends discrepancy letter

MSHA APPROVAL TESTING AND EVALUATION

- 30 CFR Part 6 permits MSHA to accept test and evaluation results conducted by independent laboratories (e.g. UL and FM)
- Products/equipment must be inspected against submitted documentation
- Currently looking at equivalent standards in their original form or with enhancements as alternatives to our Approval requirements [IS and X/P]

MSHA QUALITY ASSURANCE REQUIREMENTS

- Approval-holder responsible for producing products in accordance with approved drawings and specifications
- MSHA Post-approval product audit program
- After receiving equipment/products, owner is responsible for maintaining in accordance with MSHA approval

Thank You for Your Attention!

