

MineTracer Ensures Wireless Communications and Tracking Performance Under MINER Act

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Mine operators are currently being asked to choose a wireless communication and tracking system before MSHA has finalized its performance standards. While MSHA is still formulating the performance *specifics*, however, the performance *areas* have already been outlined. They include: coverage area, tracking precision, standby power capacity, surface facilities, and most importantly survivability, since the ability to know the location of miners and communicate with them after an event is the core of the MINER Act's intent for these systems.

The MineTracer Communication and Tracking System was approved by MSHA in January 2008, the first system approved under 30 CFR Part 23. This system is flexible enough to meet any standard required by MSHA. Venture Design is so certain of this, we are guaranteeing the system. MineTracer is an excellent and affordable stand-alone wireless tracking and communications system, but is also fully compatible with existing leaky feeders, particularly the industry-leading Varis system. MineTracer excels in the key MSHA performance areas. Specifically,

Required coverage area - While it is possible to provide 100% coverage for every entry and crosscut in the mine, it just doesn't make sense. We believe that MSHA will follow West Virginia's lead and require communications and tracking on two escapeways, the main travel entry and a second escapeway. Unlike RFID tracking systems that simply detect a miner passing through a zone, MineTracer provides true continuous tracking of miners and vehicles in the mine. With continuous coverage on main travel entries to the working faces, maximum safety monitoring and operations management can be achieved economically.

Tracking precision - Location accuracy is fundamental to the overall effectiveness of safety tracking underground. Short-range RFID readers placed every thousand feet along a travel entry can not provide accurate, continuous information on miners' locations. Emergency services personnel will tell you that "time is life" in finding and helping injured people. We believe that a reasonable and achievable tracking accuracy requirement is +/- one crosscut or +/- 100



Mobile Location Tag



MineTracer Text Communicator

feet. Certainly this level of performance is more useful for safety, for day-to-day management, and for rescue operations than dealing with thousand-foot voids. Since MineTracer tracking tags are monitored by multi-

ple wireless readers, triangulation is used to achieve a typical tracking accuracy of +/- 75 feet. A miner's chance of surviving an accident increases dramatically if dispatchers and rescuers know where he is.

MineTracer provides this security.

Standby power capacity - The current MSHA policy letter requires 24 hours of standby performance in the event of a power failure, and that communication and tracking systems operate

for a portion of every hour. MineTracer is both an extremely low power user and a low maintenance system. In an average sized mine with 12 miles of coverage area along two escapeways, only two AC power connections are required. MineTracer has been designed so that the entire installation (not just part of it) operates *continuously* on battery power for at least 48 hours following AC power shutdown in a mine, because intermittent or part-time operation does not provide the safety net that miners need to survive.

Survivability features - Survivability of a communications and tracking system during a mine disaster is critical. All undamaged portions of the system must still operate and exchange information with the surface in order to assist trapped or injured miners as much as possible. If the main communications path to the surface has been blocked by a roof fall, fire, or other event, there **must** be alternate or redundant paths for the information to travel. The fundamental design of every MineTracer installation provides alternate paths to the surface in the event that the primary communication path is cut off. MineTracer also self-diagnoses component failures and reports the problem and the location immediately to the dispatcher.

The true test of MineTracer must be with the miners and operators who depend on it. Mona Marcum, dispatcher at the Big Branch Mine appreciates its ability to tell her where her miners are. "With the MineTracer System, I know where they are at all times...it's like having hundreds of extra eyes underground...If we have a miner down, I can send a rescue team...minutes make a difference."

Mine operators must make a decision on a communications and tracking system. They must be in compliance with MSHA's performance requirements and MineTracer is guaranteed to meet those requirements, but meeting the letter of the law should not be the driver behind the decision. Bringing miners out safely is the key, and MineTracer can help do it.

Please contact Eric.Pirttima@venturedesignservices.com or BillHensler@wholesaleminesupply.com about the details and the many additional safety and operations features of the MineTracer system or visit www.ventureminetracer.com.



Wireless Reader



Mona Marcum, Dispatcher