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COLOR KEY:

- Wireless Connection (Blue dashed arrow)
- "Leaky" Radiating Cable (Yellow arrow)
- CAT5 Cable (Red arrow)
- Transmission Line (Black arrow)

Arrows indicate system construction flow.
Communication between products is generally bi-directional.

SUMMARY

In 2006, the Mine Improvement and New Emergency Response (MINER) Act was signed into law. The act calls for improvements in safety practices and requires the installation of wireless two-way communication and electronic tracking systems by 2009. It represented the first revisions to federal mine safety laws since 1977.

Even mines that are not within MSHA jurisdiction need the ability to perform asset tracking, video surveillance, and battery backup and to deploy various wireless communication technologies.

FEATURES

- MSHA-approved products
- Wide variety of industry-leading products
- Turnkey system design
- MSHA-approved integrators

BENEFITS

- Avoids costly fines and downtime
- Improves safety
- Guarantees worker safety
- Eliminates need for full-time design support

REAL WORLD EXAMPLES

Situation: In order to comply with mandates, a mining company needed to install two-way wireless communication and RFID tracking systems.

Problem: The customer is not familiar with wireless RF technology and time was a major factor because installation must be completed by June 2009.

Solution: The mining company was referred to an MSHA-approved integrator who was able to install a leaky feeder system, bringing the company into compliance well ahead of schedule. The customer has found the system to be easy to maintain and expand.

Situation: A gold mine in Nevada is expanding due to its newfound concentration of gold.

Problem: As the pit enlarges, mine operators are having trouble tracking assets and maintaining communications between workers.

Solution: To improve communication, the mine installed a mesh network using 5 GHz spectrum. They installed an asset tracking system using GPS technology to deter theft of company property. In addition to the tracking system, they installed wireless video cameras throughout the pit to reinforce the deterrence.

Situation: Due to a short deadline, an MSHA-approved integrator has an immediate need for numerous products to meet mandated federal deadlines.

Problem: Typically, lead times from manufacturers run longer than expected.

Solution: The integrator contacted TESSCO, who partners with respected MSHA-approved manufacturers and stocks products that support various wireless communication and tracking technologies.

ADDITIONAL CONSIDERATIONS

- What type of mineral is being mined?
- What is the method of mining?
- What is the coverage distance?
- What type of network is needed: voice, data, video, tagging, or tracking?

MSHA-APPROVED PRODUCTS AND TECHNOLOGIES

- Radiating (leaky) cable
- Fire-retardant coax cables
- Fire-retardant twisted pair cables
- Mesh networks
- Electronic tracking (RFID)
- Lightning protection

PRODUCTS

- Asset tracking devices
- Video surveillance
- Access points
- NEMA enclosures
- Antennas and amplifiers
- Wireless modems
- Battery backup
- Tools and safety equipment
- RF test equipment
- Two-way radio accessories

Knowledge Solutions

Providing the intelligence for optimum, faster decisions

- TESSCO.com
- The Wireless Guide
- The Wireless Journal
- The Wireless Updates
- The Wireless Bulletins