
From: Carino, Charlie [ccarino@fiberinstrumentsales.com]
Sent: Tuesday, February 14, 2006 11:31 AM
To: zzMSHA-Standards - Comments to Fed Reg Group
Cc: Provenzano, John
Subject: RIN 1219-AB44

This correspondence is in response to the Request for Information regarding Underground Mine Rescue Equipment and Technology, as requested by MSHA (RIN 1219-AB44).

Fiber Instrument Sales, Inc. (FIS) has developed a security system for quickly pinpointing the location of trapped miners (please see attached leaflet regarding our Mine Security System). In addition to locating accident victims, the system will also identify the location of cave-ins and explosions, regardless of whether anyone is present at the site.

Our answers to questions presented in section E of MSHA's "Request for Information" are as follows:

E. Communications

1. MSHA: What types of communication systems can be utilized in an emergency to enhance mine rescue?

FIS Answer: Since accident victims may be unconscious or otherwise unable to use a communication system, the communication system itself must automatically communicate to rescuers the exact location of the accident. The FIS Mine Security System does exactly that.

2. MSHA: Current systems include permissible hand-held radios, hand-held radios using small diameter wires, pager systems, sound powered telephones, leaky feeder systems that "leak" radio signals out of and into special cables, and inductive coupled radios that use existing mine wires as a carrier for radio signals. Are there other systems?

FIS Answer: Yes, a two-way, battery-powered phone system is available as an option with the FIS Mine Security System. This fiber optic "Talk Set" communicates over the system's fiber optics sensing cable, so no additional cabling is required.

3. MSHA: Should a particular system be required over another? If so, which system and why?

FIS Answer: Because of explosive atmospheres that can exist in mines, a fiber optic communications system is preferred over copper wire systems. Copper systems carry electricity, which can spark an explosion. In contrast, the FIS Mine Security System is a fiber optic system that carries no electricity anywhere within the cable run. It's sensing cable cannot short out, and it is immune to water and dampness typical of mine

environments.

4. MSHA: What new communication devices or technology may be well suited for day-to-day operations and also assist miners in the event of an emergency?

FIS Answer: Fiber Optic Talk Sets, used in conjunction with the FIS Mine Security System, allow two-way communication over the security system's existing fiber optic "sensing" cable. Using fiber optic splitters, talk sets can be permanently or temporarily attached to the installed cable at intervals along the mine corridor. This provides for day-to-day communication as well as emergency use.

5. MSHA: How should information be securely, reliably, and quickly transmitted during emergencies from remote locations to the mine rescue Command Center, or from MSHA headquarters to District offices? What technology should be used to quickly and securely transmit information from the mine site to or from MSHA headquarters, to District offices, mining companies, and the media?

FIS Answer: The FIS Mine Security System offers an optional IP module that can send accident alerts and location information off site, via the Internet, to an unlimited number of designated agencies and personnel. Alerts can be received via e-mail, pager, PDA, and so forth.

In terms of "secure" transmissions, phone conversations over fiber optic cable (e.g. between accident victims and rescue personnel) are far more secure than communications via radio or copper wire phone systems, which are easily tapped.

6. MSHA: How can the number of relay points be minimized in a rescue situation so that communications do not get garbled or misunderstood?

FIS Answer: The FIS Mine Security System does not require active components such as repeaters, amplifiers, or "relay points" anywhere along the cable run. That means there is virtually no chance of "equipment failure" that could degrade communications. Also, the fiber optic cable is immune to electrical interference, such as may be caused by rescue equipment or nearby radio transmissions.

7. Not Applicable to our system

8. Not Applicable to our system

MSHA also requested information regarding several "Key Issues." Our reply regarding costs, including the impact on small or remote mines, is as follows:

The FIS Mine Security System represents an exceptional value, particularly when one considers that it is capable of monitoring up to 10 miles of mine corridor without requiring electrical power anywhere within the mine. The base price of the Control Unit is \$9,950, plus cable (cable price depending on length), and Mouse Trip devices (price depending on number of devices required, at \$69 each).

The exceptional monitoring distance and relatively low cost of this system makes improved mine security practical for even small and remote mines.

About Fiber Instrument Sales

FIS is a manufacturer and distributor of fiber optic communications equipment and security systems. We serve over 11,000 customers worldwide, from all segments of the fiber optics industry. These include telecommunications, contractors, resellers/distributors, researchers, government, education and more. As a GSA supplier, FIS products meet high government standards for performance and reliability.

One thing that differentiates FIS from many other security system developers is our expertise in fiber optic technology. We have been able to use our specialized knowledge to create a number of innovative security systems, including perimeter monitoring systems, all-weather video surveillance systems, a utility cover monitoring system, a vehicle crash barrier detection system, safe optical transducers for combustible environments and more. FIS security systems are used in both commercial and military applications.

Fiber Instrument Sales is headquartered at the FIS Research Park in Oriskany, New York. For more information, contact John Provenzano, Security Manager, at FIS:

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Websites: www.fiberinstrumentsales.com

www.fiber-fence.com

<<MIne_Security.pdf>>

Mine Security System

The light at the end of the tunnel

Features

- 10 mile sensing distance
- Up to 500 mouse trips may be installed per system
- RS232 and Relay Output Interface
- Fiber Optic Phone Capability

Developed by FIS, the innovative Mine Monitoring System uses fiber optic sensing cable to monitor up to 10 miles of mine corridor.

Should a cave-in or explosion disturb the cable, or if the cable is manually pulled by a trapped miner (Fig. 1), the level of light within the optical cable will change. This causes the Control Unit, to which the cable is attached, to signal visual and audible alarms (Screen 2). The Control Unit also displays an image map (Screen 1) that shows the exact location of the accident and/or trapped miner.*

*Accurate to within a few feet

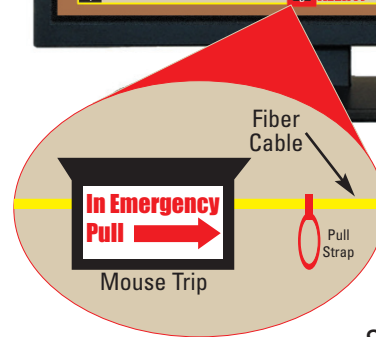
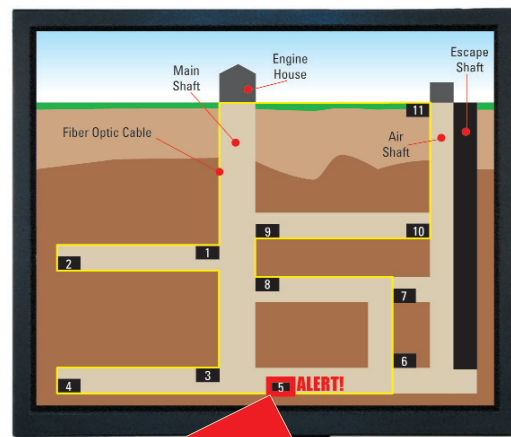
This unique passive system combines safe, non-electric fiber optic sensing cable with patented Mouse Trips™ to provide enhanced monitoring protection. The system contains an OTDR that measures reflected signals within the cable (similar to radar technology) to pinpoint the accident location. A two-way, battery-powered fiber optic phone system is an available option.

The FIS Mine Monitoring System is based on patented Fiber Fence™ technology which is used to protect airports, nuclear power plants, power stations and chemical plants throughout the world.

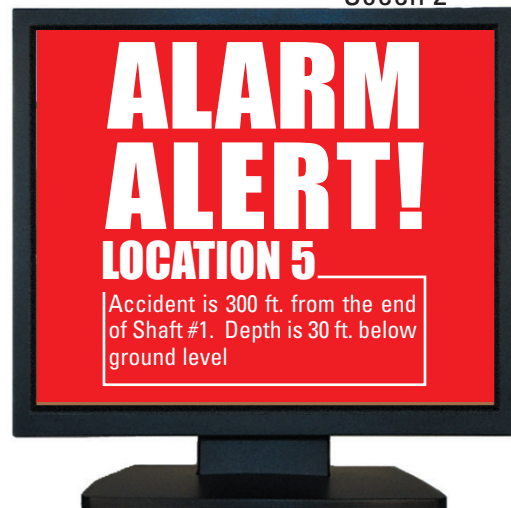
ORDERING INFORMATION

PART #	DESCRIPTION	PRICE
S-FF-0001	Fiber Fence (10 mile range)	\$9,950.00
S-FFMT	Fiber Fence™ Mouse Trip™ (each)	\$69.00

Screen 1



Screen 2



fis
FIBER INSTRUMENT SALES, INC.

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