Lockheed Martin Conducts Successful In-Mine Test Of Its Through-The-Earth Wireless Communication System

System provides emergency communications capability for trapped miners

Lockheed Martin conducted an in-mine test of its MagneLink(TM) Magnetic Communication System (MCS).

Testing was conducted at the National Institute of Occupational Safety and Health (NIOSH) Test Mine in Bruceton, Pa. on June 15 and 16.

MagneLink MCS is a wireless, through-the-earth communications system developed to meet the mining industry's post-accident emergency communications requirement. The system provides voice communication and texting to give trapped miners fail-safe communication during a catastrophe.

The system works by transmitting magnetic waves through the earth without the transmission wires and in-ground infrastructure currently required to communicate via standard radio transmissions. It is a portable, two-way, voice- and text-capable emergency communication system operating at ranges sufficient to communicate from the surface into deep underground mines.

"During the test, MagneLink MCS performed superbly," said Warren Gross, MagneLink MCS program manager. "The system interfaced with hand-held radios similar to the Miner Emergency Radios (MERs) and functioned as a multi-band receiver, establishing communications with multiple MagneLink MCS units without the requirement for the MCS units to be on the same channel to receive transmissions."

MagneLink MCS will bring a significant emergency communications capability to the mining industry in the event of an accident where miners are trapped and have no other means of communicating with rescue teams on the surface.

"Lockheed Martin has leveraged its advanced communications and signal processing expertise to successfully develop this unique system in coordination with NIOSH to help saver miners' lives following a mine accident," said Gross.

Lockheed Martin previously conducted two additional MagneLink MCS in-mine tests.

In December 2009, the MagneLink MCS Engineering Development Model's functionality for voice and text communications was successfully demonstrated at a commercial mine in Dilliner, Pa.

In March 2010, Lockheed Martin tested MagneLink MCS at the Contrary Portal of CONSOL Energy's Buchanan Mine in Mavisdale, Va. The system demonstrated successful two-way voice communications to a depth of 1550 feet and two-way text communications to a depth in excess of 1550 feet.

Lockheed Martin and the Mining Safety and Health Administration (MSHA) are currently working to certify the equipment for use in mines. MagneLink MCS systems will be available following MSHA certification.

Headquartered in Bethesda, Md., Lockheed Martin is a global security company that employs about 136,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The Corporation reported 2009 sales of $45.2 billion.

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