



**From the Assistant Secretary's desk**  
**A/S Main, MSHA officials observe new safety technologies during mine visits**

During President's Day break, Kevin Stricklin, MSHA's administrator for Coal, and I took the opportunity to visit three coal mines to view some of the mine safety technology and processes being developed with the support of industry. We were accompanied at times by MSHA's Acting Director for Technical Support, George Gardner; MSHA's District 2 Manager, Tom Light; MSHA's District 3 Manager, Bob Cornett, and their respective staff.

I always have been a hands-on person and mine trips are an invaluable learning experience. These were no exception. It is always important to hear directly from and see those in the mining industry leading the way and developing new safety technologies. There is no better place to do that than at the source – the mine.

We first visited Alpha Natural Resources' Emerald Mine, which employs 695 miners in southwestern Pennsylvania. We were joined by Alpha's representative Terry Theys, Director of Safety Engineering; UMWA Local Union 2258 local representatives, including president Tony Swetz; the director of the Pennsylvania Bureau of Deep Mine Safety, Joe Scaffoni; representatives of the National Institute for Occupational Safety and Health (NIOSH) and others.

While there, we saw a demonstration of a new rock dusting method under development. Adequate rock dusting is key to safety in underground coal mines as it neutralizes the coal dust and reduces chances of a catastrophic mine explosion. The new "foam rock dusting" process we observed, which still is the subject of continuing research, is currently being evaluated by MSHA, NIOSH, and the mining industry.

On Monday, February 20<sup>th</sup>, we visited CONSOL Energy's Robinson Run No. 95 Coal Mine, near Morgantown, WV, which employs 588 miners. Kevin and I met with CONSOL Energy representatives including Vice President for Safety Lou Barletta; UMWA Local Union 1501 representatives including Safety Committee Chairman Bruce Vernon; and representatives of Lockheed Martin.

During the visit, we participated in underground and surface demonstrations of a through-the-earth wireless communication technology being developed by Lockheed Martin. Using this technology, wireless voice communications were successfully sent through 850 feet of solid earth to mining personnel located

underground. Words spoken on one end were clearly heard on the other. I tested the system myself and had a good discussion about the potential benefits for miners, particularly during mine emergencies, with the participants. This is truly breakthrough technology that, for the first time, can send voice signals through this depth of solid ground, and was fostered by the 2006 MINER Act. The Lockheed Martin system also provided quick two-way texting and had promising features allowing the signal to transfer to coaxial "leaky feeder" cable.

Through-the-earth communications for use during mine emergencies have been sought for years since underground mine communications are often destroyed during mine fires or explosions.

On Tuesday, February 21<sup>th</sup>, we visited CONSOL Energy's Bailey Mine in southwestern Pennsylvania to view a demonstration of life-saving proximity detection technology designed for use in underground coal mines.

During the Bailey Mine visit we traveled underground with CONSOL Safety Director Todd Moore and Vice President Lou Barletta. We observed a scoop, shuttle cars, and a loading machine equipped with proximity detection devices operating on a continuous mining section. CONSOL has worked with equipment manufacturers to install and advance this new technology.

Proximity detection technology uses electronic sensors to detect motion or the location of one object relative to another. Proximity detection systems can provide a warning and stop heavy mobile machines before they pin, crush or strike any miner in the confined underground coal mine environment. While the proximity detection systems are further advanced on continuous mining machines in the United States, general section equipment is just beginning to be equipped with these devices. CONSOL is one of the companies taking the lead to apply the devices to section mining equipment.

The Bailey Mine employs 946 miners, and I spoke with miners and company representatives who commented positively about the safety benefits and adoption of the new technology.

Last summer we focused attention through our Watch Out! safety initiative on mine accidents involving the pinning, crushing and striking of miners by heavy machinery underground. MSHA conducted a review of fatal and non-fatal accidents of this kind to identify those that could have been prevented by using a "proximity detection system." Our review concluded that use of this warning system would have possibly prevented more than 71 fatalities over a recent 27-year period if utilized on the underground mining equipment. When put to

proper use, we could clearly see how this technology could save many more lives and prevent hundreds of thousands of injuries in the future.

These demonstrations gave us the chance to see how technological improvements could potentially improve our ability to protect our nation's miners.