



Testimony of

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Education  
And Related Agencies

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Good morning. My name is Bruce Watzman, and I am the vice president of safety, health and human resources for the National Mining Association (NMA).

NMA appreciates the opportunity to appear before you to discuss efforts to improve mine safety, progress made since passage of the Mine Improvement and New Emergency Response (MINER) Act of 2006 and the challenges that remain to realize our goal to return every miner home safely after every shift.

The Crandall Canyon mine accident has affected our nation's entire mining community and we mourn our fallen heroes. The mining industry is determined to return to the path it was on for much of the past three decades, when it achieved steady reductions in fatalities and serious injuries. That is why we supported strong new mine safety legislation last year, established an independent commission to provide recommendations for new safety risk-based systems, and continue to partner with the National Institute for Occupational Safety and Health to develop and test new safety and communication technology.

### **MINER Act**

Following last year's tragic events in West Virginia and Kentucky, the coal industry worked with Congress to pass the most sweeping mine safety reforms in more than three decades. The requirements, as implemented through Emergency Response Plans, recognize the need for a forward-looking risk assessment, that good safety practices continually evolve based upon experience and technological development, and that every underground coal mine presents a unique environment and what may work in one may not be effective or desirable in another.

Since passage of the MINER Act the industry has moved aggressively to identify technology that satisfies the law's requirements as quickly as possible. While more work needs to be done, the industry has made significant investments and progress. Briefly,

- 100,000 additional self-contained self-rescuers (SCSRs) have been placed into service, with an equal number on back order.
- All underground coal mines have submitted emergency response plans including plans to supply breathable air and other supplies to sustain miners trapped underground. Units to meet these requirements are being ordered and installed without the normal testing that a device such as these would normally receive.
- 55,000 underground coal miners have received new training and will continue to receive quarterly training.

- Underground coal mines have implemented procedures to track miners underground.
- Existing communications systems have been hardened and redundant systems installed.
- More than thirty-five new mine rescue teams have or will be added around the country.

This progress is only the beginning of our continued commitment for reaching our desired goal to protect our nation's miners.

### **Mine Safety Technology and Training Commission**

In January 2006, NMA established the Mine Safety Technology and Training Commission, an independent body, to immediately undertake a study of new technologies, procedures and training techniques that can further enhance safety in the nation's underground coal mines. The commission drew upon the knowledge and experience of mine safety and health professionals from academia, government, industry and the United Mine Workers of America to develop a pro-active blueprint for achieving zero fatalities and zero serious injuries in U.S. underground coal mines. The product of the commission's deliberations is a peer-reviewed report released in December 2006.

The commission produced many recommendations that are both near-term and far-reaching in scope. Many of the recommendations endorse actions taken by Congress in passing the MINER Act. The commission's recommendations include the areas of communications technology, emergency preparedness, response and rescue procedures, training, and escape and protection strategies. The central theme of the commission's recommendations is a call for a new paradigm for ensuring mine safety – one that focuses on a systematic and comprehensive risk assessment-based approach toward prevention that serves as the foundation from which all safety efforts will flow. This new paradigm will require us to look at mining differently and to train miners differently.

The industry is currently implementing a number of the commission's near-term recommendations and is developing a blueprint for action on the more far-reaching items. For example, we are discussing with NIOSH the development of risk-based management tools and templates to assist the industry in its implementation of the central recommendation of the commission. The use of risk-analysis risk-management is familiar to many companies. Our goal is to create operational tools that will help every company identify and address significant hazards before they create situations that threaten life or property.

We share the commission's view that "a comprehensive, risk assessment-based approach toward prevention should significantly increase the odds of survival for miners in emergency situations, [and] also provide a guideline for pursuing zero accidents from all sources."

## MINE EMERGENCY COMMUNICATION PARTNERSHIP

The recent accident at Crandall Canyon spotlighted our continuing challenge to develop reliable two-way communication devices that could help locate and communicate with miners trapped underground. At a time when most Americans are well-connected with each other through cell phones, many wonder why miners cannot communicate from underground to the surface. Intuitively, we understand why: Sending a signal through rock deep underground is far more challenging than signaling through the air.

Apart from the most fundamental technical barriers to in-mine or through-the-earth signal propagation, a post-disaster mine environment presents survivability considerations. Explosions, fire and roof falls produce destructive forces that can damage or destroy system components and render the system inoperable. At present, there is simply no available single system that can withstand all potential scenarios while maintaining mine-wide communications.

Despite these daunting technological challenges, the industry is not sitting idly by until a reliable system reaches acceptable functionality under all circumstances. You may recall that last year this subcommittee was shown a piece of equipment that was touted as a "\$20-device" that each miner could carry and would enable him or her to receive a one-way message from the surface in the event of an emergency. Yet experts both inside and outside our industry cautioned that this device had limitations. That messaging device was in use in Utah. Fortunately, where the system survived the bump event a miner received the message to evacuate the mine. At this point no one knows if the others received the message, or if the system's capabilities were destroyed in the initial event.

Today we have brought a recently approved tracking system that was developed by Alliance Coal, a member of NMA. This is one of several systems that use radio frequency identification (RFID) tags and bi-directional readers to track miner's movement throughout the mine, pre-event. This is an improvement over earlier systems and is considered state-of-the-art. Yet, it, too, is susceptible to damage by destructive forces that will affect its functionality. The system currently requires a connective through-the-mine fiber optic cable that is vulnerable to damage and could potentially render the system useless.

Our commitment to improvement while searching for the best technology is evidenced by the mining industry's efforts in the Mine Emergency Communication Partnership. Following the Sago accident, the NMA joined

with the National Institute for Occupational Safety and Health, other state and federal agencies, equipment manufacturers, system integrators in a collaborative undertaking to facilitate the development, evaluation, and deployment of communication and tracking system technology. A number of different systems have been tested in our members' mines. Some have not proven to be mine-worthy, meaning they could not hold up to the rigors of use in an underground mine environment. Others worked in certain situations, but failed in different conditions. We have learned that mining conditions, for example, the depth of cover, mine entry height or the types of rocks above the coal seam, affect dependability and operability.

In sum, there is no silver bullet technology yet available. True "through-the-earth" wireless technology does not yet exist. Until we overcome the technical barriers that preclude transmission of signals through the earth, the systems will require some form of underground backbone and infrastructure, which are susceptible to damage. While the perfect solution may still be beyond reach, we will not be deterred in the quest to find and deploy it.

To conclude, the mining industry is eager to learn from our experience with implementing the MINER Act and with all who share our determination to safeguard our miners. Fatalities are tragic. But failing to learn from them—and failing to act on what we learn—would be inexcusable. We must not let that happen.

Thank you. I'm happy to answer any questions you may have.