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TWO YEARS AFTER THE MINER ACT: HOW SAFE IS MINING TODAY?

HEARING

BEFORE THE

SUBCOMMITTEE ON EMPLOYMENT AND WORKPLACE SAFETY

OF THE

COMMITTEE ON HEALTH, EDUCATION, LABOR, AND PENSIONS

UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

SECOND SESSION

ON

EXAMINING THE EFFICACY OF THE MINE IMPROVEMENT AND NEW EMERGENCY RESPONSE ACT (MINER) (PUBLIC LAW 109–236), FOCUSING ON A TWO-YEAR REVIEW OF MINE SAFETY

JUNE 19, 2008

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C O N T E N T S

STATEMENTS

THURSDAY, JUNE 19, 2008

ADDITIONAL MATERIAL

TWO YEARS AFTER THE MINER ACT: HOW SAFE IS MINING TODAY?

THURSDAY, JUNE 19, 2008

U.S. SENATE,
SUBCOMMITTEE ON EMPLOYMENT AND WORKPLACE SAFETY,
COMMITTEE ON HEALTH, EDUCATION, LABOR, AND PENSIONS,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:05 a.m. in room SD–430, Dirksen Senate Office Building, Hon. Patty Murray, chairman of the subcommittee, presiding.

Present: Senators Murray, Isakson, Allard, and Rockefeller.

OPENING STATEMENT OF SENATOR MURRAY

Senator MURRAY. Good morning. This subcommittee will come to order.

Before I begin my remarks, I want to thank all of our witnesses and guests who are here today for your testimony and I also want to just say that it doesn't feel like a committee hearing without Senator Kennedy here. He is just a huge, huge advocate of this issue and has worked very hard and well with us. I know all of you share with me that our thoughts and prayers are with him as he works on his recovery and we look forward to having him back with us with all of his energy and passion again soon.

More than 2 years ago, an underground explosion in West Virginia Sago Mine tragically killed 12 people. It was the first of a series of accidents that made 2006 the deadliest year for coal mining in more than a decade. Those horrific accidents brought to light the dangers facing coal miners and it exposed some of the worst shortcomings in our country's mine safety laws.

I'm very proud that Congress responded quickly by passing the most comprehensive mine safety reform in decades to help ensure that our miners can go to work and come home safely.

The MINER Act, which I was pleased to help draft, addresses glaring holes in the safety net protecting miners. It mandates written emergency response plans, underground communications, breathable air training, increased safety inspections by the Mine Safety and Health Administration, and many other provisions.

But changing the law is only the first step. It's MSHA's responsibility to implement the law and it's Congress's job to ensure that it is being enforced and that's the purpose of this subcommittee hearing today.

On the second anniversary of the MINER Act, we are here to see whether MSHA is doing its job. Tragically since the MINER Act

was passed, MSHA has already been tested more than once with the Crandall Canyon Mine collapse in Utah which killed 9 people last August and with the 15 deaths we have seen in coal mines this year, including one this week.

MSHA has made some progress. It is collecting record penalties from some of the most egregious safety violators and the MINER Act continues to encourage new developments in underground communications equipment. But I am concerned that when it comes to many other provisions, this administration has been ineffective and inconsistent.

For example, MSHA's failure to control communications with victims' family members after the Crandall Canyon accident meant that families received inaccurate and often contradictory information during the rescue efforts. MSHA has taken too long to help mine operators develop emergency response plans mandated by the MINER Act and as a result 2 years later, most mines still don't have some key provisions in place and experts and workers advocates have expressed concerns about MSHA's rule governing how abandoned areas in mines should be closed off. They fear that it allows too many substandard seals to remain in place, the very problem that led to the Sago disaster in 2006.

In other cases, I'm concerned that MSHA has simply failed to be as aggressive as it needs to be to protect our miners. As the Crandall Canyon Mine collapsed showed, there is an urgent need for underground communications and tracking systems so that rescuers can locate trapped miners after a disaster.

The MINER Act requires all coal mines to install wireless communication systems or to install a next best alternative by June 15, 2009. Well, that date is growing closer and closer and MSHA has been slow to provide guidance on how best to meet the requirements for that provision.

I fear it may be already too late to meet the deadline and I hope to hear from MSHA today that it has a plan to address those concerns.

As I said at the beginning of my remarks, the MINER Act gave the Administration the tools to make significant safety improvements, but incomplete emergency plans and nonexistent radio systems won't protect miners when a disaster strikes. We need to see the Administration make clear progress and on the second anniversary of the MINER Act, I have some serious concerns that it's not keeping up.

It is unacceptable to me if delays and lax enforcement of some of these new provisions are putting our coal miners at risk of injury, disability and death on the job. So I hope that this hearing will leave us with an accurate assessment of what work needs to be done and how we in Congress can help ensure the MINER Act provisions are being followed.

I look forward to the testimony of all of our witnesses today. This morning, we will hear from Mr. Richard Stickler, the Acting Assistant Secretary of Labor for Mine Safety and Health, Dr. Jeffery Kohler with the National Institute for Occupational Safety and Health, and on our second panel, Mr. Dennis O'Dell from the United Mine Workers of America and Mr. Bruce Watzman from the National Mining Association.

So again, I thank all of our witnesses for being here today, look forward to your testimony, and with that, I will turn it over to Senator Isakson who's been a great partner when working on this issue.

STATEMENT OF SENATOR ISAKSON

Senator ISAKSON. Well, thank you, Senator Murray. I'm delighted to work with you and I share with you the prayers and thoughts for Senator Kennedy and his treatment for his cancer and we'll look forward to having him back in the committee as soon as he's able.

Sago, Aracoma and Darby Mine accidents in 2006 began a new day in mine safety. Concerted efforts by Congress, the Administration, mine operators and miners has resulted in significant and rapid improvement in safety of mining, both at the surface and underground.

I was privileged to work with Senator Murray, Senator Kennedy, Senator Enzi, Senator Rockefeller, and Senator Byrd in the passage of the MINER Act, the Mine Improvement and New Emergency Response Act of 2006.

Much has improved since the events in West Virginia that drew the Nation's attention to coal mine safety. In 2007, the tally rate of deaths per 100,000 active miners for all miners was down 16 percent from 2006. The fatality rate for coal miners fell 29 percent.

Although already on the increase prior to Sago, Aracoma and Darby accidents, MSHA has dramatically increased its enforcement efforts in both coal, metal and nonmetal mines and mine accidents. In 2007, the agency issued over 140,000 citations and orders in all mines, up 13 percent from 2005.

When divided out per miner, fines now amount to almost $200 per miner per year. This is an increase of 172 percent since 2005. Fines alone don't ensure safety. The cooperation and the concerted effort of the mine operators and the companies as well as the miners themselves do and we have seen some dramatic improvement in those areas.

Tens of thousands of self-contained self-rescuers have been placed into service in underground mines. Miners are being trained and retrained on the donning and the use of these self-service units and a new wave of dockable SCSRs are on their way to miners nationwide.

Mines have installed lifelines in their escape ways so miners can find the way out of a mine, even in total darkness. Dozens of underground coal mines have implemented new state-of-the-art systems to track miners while underground and to provide post-accident communication. New mine rescue teams have been added across the Nation.

This progress does not mean we should rest on our laurels or should fall into the easy trap of complacency. Instead, it shows attention as created by the MINER Act worked and I look forward to continuing with Senator Murray to follow closely the work of MSHA and the work and the improvements within the industry to see to it that we go to a year where we have no loss of miners in any coal mine, metal or nonmetal mine, in the United States of America.

Thank you, Madam Chairman.

Senator MURRAY. Thank you very much, Senator Isakson.

Senator Allard.

STATEMENT OF SENATOR ALLARD

Senator ALLARD. Madam Chairman, I do not have a long statement. I'm anxious to hear what the witnesses have to say and I do have some questions I would like to ask.

We are all concerned about mining accidents and certainly in my State of Colorado, we have our fair share of mines. It has been 2 years since the MINER Act was enacted into law, and this law has produced many changes in the mining regulations and employee safety rules. I am very interested in hearing the witnesses' testimony on how miner safety has progressed and any possible changes that make it difficult to improve performance. I appreciate the expertise of the witnesses and would like to thank them for appearing here today in front of the HELP Subcommittee on Workplace Safety and being willing to answer some of our questions.

Senator MURRAY. Thank you very much. We will begin our testimony this morning with Richard Stickler.

STATEMENT OF RICHARD E. STICKLER, ACTING ASSISTANT SECRETARY OF LABOR FOR MINE SAFETY AND HEALTH, WASHINGTON, DC

Mr. STICKLER. Good morning, Chairwoman Murray, Senator Isakson and members of the subcommittee.

I appreciate the opportunity to share the many improvements that we're making at the Mine Safety and Health Administration and to report our progress in implementing the MINER Act.

Since arriving at MSHA, I have been focused on improving the way MSHA approaches the core mission of protecting our Nation's miners and effectively implementing the MINER Act, the first major change in the Federal Mine Safety and Health Act in nearly 30 years.

In the last 2 years, since the MINER Act was signed into law, MSHA has published six final rules in the Federal Register, issued emergency temporary standards, and proposed four additional rules, including two this week for refuge alternatives and belt air.

MSHA has implemented changes in policy clarifications for our employees and mine operators through more than 75 public information bulletins, program policy letters, and procedural instruction letters. Many of these changes are the result of the MINER Act, but we've also revised policies and procedures that are not covered by the MINER Act.

We have concluded three major accident investigations and subsequent internal reviews and taken action on all 153 recommendations derived from these reviews. We've also begun to implement reforms to address all the recommendations in the recent reports from the Department of Labor's Office of Inspector General and the Government Accountability Office.

We're nearing completion of our Accident Investigation Report regarding Crandall Canyon and await the independent internal review report.

Implementation of the MINER Act has been a top priority for MSHA and we have made significant progress. As a result, emergency response plans have been approved and being implemented at all underground coal mines, mine rescue training standards have been increased and mine emergency response plans have been improved.

Our headquarters emergency response procedures have been updated to include the role of family liaison and primary communicator. The amount of penalties assessed for violations have been increased. The strength, design and required maintenance of mine seals have been improved beyond the requirements of the MINER Act.

MSHA has addressed refuge alternatives and the Technical Study Panel recommendations on belt air by issuing proposed rules this week that exceed the MINER Act requirements. These are just some of the highlights of the MINER Act implementation.

I would also like to mention a few of the many improvements MSHA has made beyond the scope of the MINER Act. We've improved our hiring practice and addressed the staffing issues due to attrition and retirements. Since June 2006, we've hired more than 322 coal mine enforcement personnel, increasing our personnel to the highest level since 1994.

Since the Crandall Canyon tragedy, MSHA has taken aim at improving safety at deep cover mines. Last August, MSHA started to re-examine and retreat mining plans under deep cover. We've conducted ground control investigations at 17 mines identified as operating in bump-prone conditions. We have re-engineered our ground control approval process and provided specific guidance to district managers as to what type of ground control plans should be referred to Tech Support for additional analysis.

MSHA has implemented a comprehensive approach to enforcement by increasing our presence at the mines, improving the quality of each inspection, and aggressively holding scofflaw operators accountable.

In this effort, we've increased the number of inspections, implemented a new inspection tracking system, improved inspector training, and developed a computer screening process to better identify and deal with repeat violators.

Last October, I announced the implementation of a 100 percent inspection plan. This plan will mark the first time in the history of the agency that we will have completed 100 percent of our mandated inspections and I'm pleased to say that we're on target to meet those requirements.

Earlier this year, MSHA discovered a systematic problem with assessments of violations. While 99.6 percent of all violations have been properly assessed since 1995, less than ½ of 1 percent were not assessed over that period.

We've identified and fixed the two issues. The first was a technical issue with MSHA's computer system and the second was identified as a management oversight. We at MSHA continue to make significant progress toward improving mine safety and toward implementation of the MINER Act and we look forward to continuing this effort.

Thank you for inviting me here today.

[The prepared statement of Mr. Stickler follows:]

PREPARED STATEMENT OF RICHARD E. STICKLER

Chairwoman Murray, Senator Isakson, and other members of the subcommittee, thank you for the opportunity to share with you the many changes and enhancements we are making at the Mine Safety and Health Administration (MSHA) including nearing completion of our implementation of the Mine Improvement and New Emergency Response Act of 2006 (MINER Act or "the Act").

Since I arrived at MSHA, I have been focused on improving the way MSHA approaches its core mission of protecting the safety and health of our Nation's miners.

The MINER Act was the first major change to the Federal Mine Safety and Health Act in 30 years. In the last 2 years since the MINER Act was signed into law, MSHA has worked diligently to implement the act and to improve the overall safety and heath of our Nation's miners.

For example, MSHA has:

- Published six final rules in the *Federal Register*;
- Issued an Emergency Temporary Standard;
- Proposed four additional rules.

MSHA also has implemented changes and policy clarifications for MSHA employees and mine operators through more than 75 Program Information Bulletins (PIBs), Program Policy Letters (PPLs), or Procedure Instruction Letters (PILs). Many of these changes are a result of the MINER Act, but we have also revised policies and procedures that are not covered by the MINER Act.

We have concluded three major accident investigations and related internal reviews. MSHA has made improvements to our inspection and training procedures by taking action on all 153 recommendations derived from these internal reviews. We are planning a follow-up meeting in November 2008 for all managers and supervisors in our coal division to review progress and to update the training they received on these 153 items in July 2007.

We are also nearing completion of our accident investigation regarding Crandall Canyon and are awaiting the accident report, as well as the Independent Review team's report on MSHA's actions at Crandall Canyon.

We have improved our hiring practices to address staffing issues due to attrition and retirements. Since June 2006, we have hired 322 coal enforcement personnel, and the majority of the hires made in fiscal years 2006 and 2007 are on track to complete their training and receive their AR cards by the end of this fiscal year. While the net increase, due to attrition, is 163 additional inspectors, the overall number of coal enforcement personnel is at its highest level since 1994.

We have strengthened and updated our citation and penalty structure. While the amount of penalties is not a measure of our success as an agency, penalties are a critical enforcement tool in ensuring compliance with the law and regulations.

Nationwide, between fiscal years 2003 and 2007:

- The number of citations and orders issued to coal mine operators increased by 42 percent.
- The rate of citations and orders issued per coal mine inspection hour increased by 62 percent.
- Elevated enforcement at coal mines, including unwarrantable failures (high negligence) and imminent danger orders, increased by 98 percent.

The ultimate measure of MSHA's success is in how well we protect miners from harm. While we recognize more work needs to be done, the trends are encouraging. The coal all-injury rate, which is the reported injuries per 200,000 employee work hours, declined 24 percent between fiscal years 2003 and 2007.

Recently MSHA received a separate report from the Department of Labor's Office of Inspector General (OIG), as well as a report on conclusions made by the Senate Health, Education, Labor, and Pensions Committee, relating to the Crandall Canyon tragedy. We also received an unrelated report on the separate issue of Emergency Response Plans from the Government Accountability Office (GAO). Although it would be inappropriate to go into depth about the findings of the two reports on the Crandall Canyon accident before the official MSHA accident investigation team has made its report, I want to report to the subcommittee that MSHA has already begun to implement reforms to address all of the recommendations, including some reforms that were already in progress before receiving the reports.

For example, MSHA has been working closely with the Department of the Interior's Bureau of Land Management (BLM) since September 2007 and developed a Memorandum of Understanding (MOU) with BLM to facilitate the communication of information on geological conditions or mining practices that impact the health

and safety of miners. In response to the OIG and GAO reports, MSHA immediately began to create a more uniform and formal set of criteria for all Districts to use when approving roof control plans and emergency response plans.

IMPLEMENTATION OF THE MINER ACT

Implementation of the MINER Act has been a top priority for MSHA since the act was signed into law 2 years ago. We have made significant progress, which I outline below by section of the act.

Section 2.—Emergency Response

A major component of the MINER Act is the requirement for each underground coal mine operator to have an Emergency Response Plan (ERP). In March 2006, 3 months prior to the MINER Act being signed into law, MSHA issued an Emergency Temporary Standard (ETS) on emergency mine evacuation. We published subsequent guidance specifically addressing ERPs in October, and issued a final rule in December 2006. Highlights of the final rule include:

- *Self-Contained Self-Rescue (SCSR) Devices:* The rule requires coal mine operators to provide additional SCSRs for each miner in areas such as underground working places, on mantrips, in escape ways, and where out by crews work or travel. The rule also requires that SCSRs be readily accessible in the event of an emergency.
- *Multi-Gas Detectors:* The rule goes beyond the requirements of the MINER Act by requiring coal mine operators to provide multi-gas detectors to miners working alone and to each group of miners.
- *Lifelines:* The rule requires coal mine operators to install directional lifelines in all primary and alternate escape routes out of the mine. Lifelines help guide miners in poor visibility conditions toward evacuation routes and SCSR storage locations. In accordance with the MINER Act, lifelines must be fire-resistant by June 15, 2009.
- *Training:* The rule requires coal mine operators to conduct quarterly training for miners in how to don SCSRs and especially how to transfer from one SCSR to another at a cache location. SCSR training units for annual expectations training have now been developed. On March 30, 2007, MSHA published a notice in the *Federal Register* notifying mine operators that the units were available. Mine operators had to have a purchase order for these training units by April 30, 2007, and conduct training with them within 60 days of receipt of the units.
- *Accident Notification:* The rule requires all mine operators to "immediately contact" (i.e., at once without delay and within 15 minutes) MSHA after an accident.

I am pleased to announce that ERPs have been approved and are being implemented for all underground coal mines as specified in the act, except where manufacturers of SCSRs and refuge chambers are unable to keep up with demand. As of June 9, 2008, there are 559 fully approved ERPs, and one partially approved ERP. The partially approved ERP was received within the last 6 months, and MSHA continues to work with mine operators to bring about full compliance. MSHA reviews each of these ERPs every 6 months and, where necessary, requires underground coal mine operators to implement improvements.

In February 2007, MSHA issued guidance to mine operators about acceptable options for providing breathable air in underground coal mines. Options included:

- Drilling bore holes within 2,000 feet of the working sections of mines;
- Having 48 hours of breathable air located within 2,000 feet of working sections coupled with contingency plans for drilling bore holes if miners are not rescued within 48 hours;
- Having 96 hours of breathable air within 2,000 feet of working sections or other options that provide equivalent protection.

We are also working on a Refuge Alternatives rule, which is discussed later, under Section 13 of the MINER Act.

In addition to post-accident breathable air, the ERPs must address post accident communications. The MINER Act requires mine operators to submit plans to install two-way wireless communications and electronic tracking systems by June 2009. In the meantime all mines have installed redundant communications systems as required by the MINER Act. As of May 28, 2008, MSHA has observed testing or demonstration of 49 communications and/or tracking systems at various mine sites. We have met with representatives from 62 communications and tracking system companies. To date, we have had discussions with various vendors regarding 168 different proposals for the development of mine communications and tracking systems.

MSHA is currently focusing resources on the evaluation of approval applications for communications and tracking technology. Since the beginning of 2006, we have

issued 45 new or revised approvals for communications and tracking products. Last month, we issued a Program Policy Letter to establish approval guidelines for communications and tracking devices under the provisions of the MINER Act. We are currently investigating 48 approval applications for communications and tracking technology.

We are continuing to work with the Communications Partnership Working Group sponsored jointly by the National Mining Association and the Bituminous Coal Operators Association to arrange for demonstrations of additional systems. Should technology take longer to develop, the MINER Act allows for alternative means of compliance if the truly wireless technologies, meaning that no wired component of the system exists underground where it may be damaged by fire or explosion, are not fully developed by June 2009. MSHA is working with NIOSH and plans to provide guidance on performance-based criteria for acceptable technological alternatives by January 2009.

Section 4.—Mine Rescue Teams

On February 8, 2008, MSHA published a final rule that implements Section 4 of the MINER Act by addressing composition and certification of mine rescue teams and improving their availability and training. The final rule increases training, as well as improves overall mine rescue capability, mine emergency response time, and mine rescue team effectiveness. Components of the final rule include:

- Requires a person knowledgeable in mine emergency response to be present at each mine on each shift and receive annual emergency response training using an MSHA-prescribed course.
- Requires two certified mine rescue teams for each mine and includes criteria for certifying the qualifications of a mine rescue team.
- Requires mine rescue team members to be available at the mine within 1 hour from the mine rescue station.
- Requires team members to participate in training at each mine serviced by the team (a portion of which must be conducted underground), and be familiar with the operations and ventilation of the mine.
- Requires team members to participate annually in two local mine rescue contests.
- Provides for four types of mine rescue teams: mine-site, composite, contract and state-sponsored.
- Requires annual training in smoke, simulated smoke or an equivalent environment.
- Increases required training from 40 to 96 hours annually.

Section 5.—Prompt Incident Notification

MSHA addressed prompt notification in the Emergency Mine Evacuation rule published on December 8, 2006 and in the civil penalty regulations published on March 22, 2007. The new rule established a National Call Center with a toll free phone number for use in reporting mine accidents to MSHA at once without delay and within 15 minutes after an operator knows or should know that an accident occurred.

Section 7.—Requirement Concerning Family Liaison

On November 1, 2006, Secretary of Labor Elaine L. Chao signed Secretary's Order #17-2006 directing MSHA to develop the MSHA Family Liaison Program. MSHA issued PPL P06–V–11 on family liaison and primary communicator functions on December 22, 2006 implementing Section 7 of the MINER Act. To date, MSHA has trained 21 family liaisons with the assistance of the National Transportation Safety Board and the American Red Cross.

MSHA has completed an exhaustive review and updated our Headquarters' Mine Emergency Response Procedures. Some new procedures are intended to improve coordination between the Family Liaison and Primary Communicator in addressing the needs of a miner's family following a mine accident. For example, all Districts are required to maintain Family Liaisons who are specifically trained to assist families in the event of an emergency. The Family Liaisons establish a 24-hour rotation schedule to ensure a continuing presence. They also coordinate with the Primary Communicator and interact with local officials. The Liaisons remain accessible to family members by telephone, cellular phone, e-mail, and conventional mail. Liaisons also maintain a log of all significant events.

Additionally, each MSHA District is required to maintain Primary Communicators to establish contact with and brief representatives of miners, the mine operator, media and State agencies. Primary Communicators also brief the Department of Labor's Office of Public Affairs and likewise maintain a log of all significant events.

Another important improvement involved the efforts of network personnel from our Program Evaluation and Information Resources (PEIR) division who have enhanced MSHA's mobile voice and data communication capabilities with new satellite phones and enhanced coverage.

Sections 5 & 8.—Penalties

After passage of the MINER Act, MSHA immediately implemented increased penalties for late accident notification and "unwarrantable failure" violations which are characterized by a high degree of negligence. On October 26, 2006, MSHA issued Procedure Instruction Letter (PIL) NO. I06–III–4 to implement the "flagrant" violation provision of the MINER Act. On March 22, 2007, MSHA published a final rule to increase civil penalty amounts for all mine safety and health violations. This rule goes beyond the requirements of the MINER Act and demonstrates MSHA's commitment to strong enforcement. As of June 6, 2008, MSHA has already assessed 53 flagrant violations, seven of which were assessed fines at the $220,000 maximum. These are the largest proposed penalties in the agency's history. These actions have resulted in a doubling of civil penalties issued from $35 million in calendar year 2006, to $75 million in calendar year 2007.

As prescribed by the MINER Act, the final rule:

- Establishes a maximum penalty of $220,000 for "flagrant" violations, as proposed in the President's previous budgets.
- Sets minimum penalty amounts of $2,000 and $4,000 for "unwarrantable failure citations and orders."
- Imposes a minimum penalty of $5,000 (up to a maximum of $70,000) for failing to notify MSHA within 15 minutes of a death or an injury or entrapment with a reasonable potential to cause death.

Other major provisions of the final rule applicable to all mine operators and contractors include:

- Significantly increases civil penalties overall by an estimated *179 percent* using 2005 violation data—targeting the most serious safety and health violations with escalating penalties.
- Adds a new provision to increase penalties—notwithstanding the severity—for operators who *repeatedly* violate MSHA standards.
- Replaces the $60 single penalty with higher formula assessments for non-Significant and Substantial (non-S&S) violations.

Section 10.—Sealing of Abandoned Areas

On April 18, 2008, MSHA published a final rule replacing the May 22, 2007 ETS that increased protections for miners who work in underground coal mines with sealed off abandoned areas. Although Section 10 of the MINER Act gave MSHA until December 2007 to issue a new standard on mine seals, MSHA concluded that an emergency temporary standard was necessary in May 2007 to protect miners, based on MSHA's accident investigations of the Sago and Darby Mine explosions, in-mine seal evaluations, and reports on explosion testing and modeling. The final rule and ETS went beyond the MINER Act—which requires that the standard for mine seals be greater than the 20 pounds per square inch (psi) requirement established in 1992—to include requirements to strengthen the design, construction, maintenance and repair of seals, as well as requirements for sampling and controlling atmospheres behind seals.

The final rule has a number of protections that will improve miner safety, including:

- Air sampling behind seals that are built to withstand less than 120 psi and withdrawal of miners when the atmosphere behind a seal is explosive.
- Removal of potential ignition sources from sealed areas. If insulated cables cannot be removed safely, the seal must be constructed to withstand at least 120 psi.
- A three-tiered approach as in the ETS, which requires additional seal strength where sealed atmospheres are more dangerous.
- Operator certification and recordkeeping requirements for: (1) sampling; (2) construction and repair of seals; and (3) training.
- Increased training for those involved in seal sampling, construction and repair.
- Requirements for certification of seal designs.
- Enhanced recordkeeping to demonstrate compliance.

Seal manufacturers and mine operators have 6 months to submit revised seal applications and ventilation plans, respectively, to comply with the final rule.

Section 11.—Technical Study Panel

Section 11 of the MINER Act requires that MSHA respond to a report by the Technical Study Panel (Panel), within 180 days, containing a description of the actions, including regulatory changes, on the recommendations of the Panel. The Secretary established the Panel in accordance with the MINER Act. The Panel conducted an independent scientific engineering review, and issued its report on December 20, 2007, on the Utilization of Belt Air and the Composition and Fire Retardant Properties of Belt Material in Underground Coal Mining. On June 19, 2008, MSHA will publish in the *Federal Register* a proposed rule that implements the recommendations of the Panel.

Section 13.—Research Concerning Refuge Alternatives

Section 13 of the MINER Act requires that MSHA respond to a research report by the National Institute for Occupational Safety and Health (NIOSH), within 180 days, containing a description of the actions, including proposing regulatory changes, on refuge alternatives in underground coal mines. NIOSH published its "Research Report on Refuge Alternatives for Underground Coal Mines" in January 2008. MSHA had a follow-up meeting with NIOSH on March 14, 2008. On June 16, 2008, MSHA published in the *Federal Register* a proposed rule to require that underground coal mines provide refuge alternatives to protect miners when a life-threatening event occurs that makes escape impossible. MSHA's proposed rule is based on the Agency's data and experience, recommendations from the NIOSH report, research on available and developing technology, and the regulations of several States.

Under the proposed rule, a refuge alternative would provide a protected, secure space with an isolated atmosphere that creates a life-sustaining environment to protect miners and assist them with escape in the event of a mine emergency. The proposed rule includes requirements that the manufacturer or third party test a refuge alternative and its components, such as breathable air and air monitoring, prior to obtaining MSHA approval. The proposed rule allows the use of several types of refuge alternatives and requires that persons who examine refuge alternatives be trained.

Section 14.—Brookwood-Sago Mine Safety Grants

On July 25, 2007, MSHA published a *Federal Register* notice soliciting applications for Brookwood-Sago grants. In October 2007, MSHA awarded approximately half a million dollars in grants to seven organizations to develop new training modules and best practices materials to improve miner training. MSHA intends to once again issue these grants in the next fiscal year, with the solicitation for grant applications to be published this summer.

To date, MSHA has reviewed three of the grants and will continue to monitor the remaining four until they are completed. Those reviewed include:

- Vincennes University, where a program to improve communications in the command center during a mine emergency was developed and tested. We monitored a mine emergency exercise and received positive feedback from participants interviewed.
- The Virginia Department of Mines, Minerals and Energy who developed a responsible person training program to assist in the training of "responsible persons" as required in MSHA's Mine Rescue Teams final rule, published earlier this year (February 8, 2008). We have reviewed their training materials and have determined that it supports our responsible person training requirement.
- Penn State University's grant program focused in part, on improving escape in the event of a mine emergency. MSHA recently participated in and monitored a town hall meeting that brought together experts to share mine emergency escape best practices with the mining industry.

POST CRANDALL CANYON GROUND CONTROL ACTION

In addition to implementing provisions of the MINER Act, MSHA has worked steadily to improve the safety and health of our Nation's miners in other ways as well. Since the Crandall Canyon tragedy, MSHA has taken important actions aimed at improving safety at deep cover mines. These actions include the following:

Retreat Mining Plans. Last August, during the Crandall Canyon rescue effort we determined it was necessary to re-examine retreat mining plans under deep cover and mine plans in bump prone areas. We rescinded our approval of all retreat mining plans (other than long-wall plans) for mines with cover depths of 1,500 feet or more in District 9 which has some of the deepest cover in the country. These mines were required to resubmit their mine plans to MSHA for re-evaluation.

Ground Control Investigations. We also conducted ground control investigations at 17 coal mines with identified bump prone conditions. These investigations were conducted by our Technical Support personnel beginning in August 2007 and continuing through early February 2008. Recommendations stemming from these investigations addressed such important safety protections as: mine design to improve ground stability; a more thorough evaluation of geologic hazards; the use of personal protective equipment; the installation of guards on long-wall face equipment; and the implementation of administrative controls to keep personnel out of high-risk or bump prone areas during the mining cycle.

Targeted Staff. In February 2008, MSHA detailed a Technical Support engineer to the District 9 Denver office to serve as the acting roof control supervisor pending selection of a new supervisor. The District 9 roof control supervisory position was permanently filled, effective June, 8, 2008.

Best Practices. In February 2008, MSHA posted on its Web site, *www.MSHA.gov*, a list of Best Practices addressing "Ground Control for Deep Cover Coal Mines."

Ground Control Analytical Tools. To improve ground control analytical tools, MSHA has been working with researchers from NIOSH to determine how best to improve the Analysis of Retreat Mining Pillar Stability (ARMPS) computer program which was updated in December 2007. The ARMPS computer program is the most widely used program by ground control specialists to model and analyze pillar design during room and pillar retreat mining operations. MSHA recently issued a PIB concerning "Precautions for the use of the ARMPS computer program." These precautions will provide guidance on the proper use of the ARMPS program.

Roof Control Plan Enhancements. To further strengthen roof control plans submitted to MSHA, we have instituted a comprehensive, national checklist for all plan submissions and reviews. We are asking mine operators to justify and provide to us detailed information for non-typical roof control plans and a process has been established to involve Technical Support in the review of non-typical and potentially problematic roof control plans. Our inspection personnel will visit all retreat mining sections at least monthly to evaluate the retreat mining plans and will assure that the plans are effective and that the miners are familiar with their plans.

Additional Training. MSHA provided training for 60 of its employees in November and December 2007 on ARMPS and another commercially available computer modeling program for roof and pillar stability. The commercial software program was purchased and installed in both Coal Mine Safety and Health and Metal and NonMetal districts, as well as in MSHA headquarters, and the Triadelphia and Pittsburgh Offices of Technical Support. MSHA and NIOSH are coordinating additional training for the future.

Re-engineered Roof Control Plan Approval Process. MSHA has developed a revised roof control plan approval process that includes specific criteria and a detailed checklist to document the steps of the plan review and issued guidance to District Managers for the review of roof control plans specifying those plans that should also be reviewed by Pittsburgh Tech Support.

COMPREHENSIVE ENFORCEMENT

I believe that our recently implemented comprehensive approach to enforcement has greatly improved our effectiveness. This approach consists of increasing MSHA's presence at mine sites, improving the quality of each MSHA inspection, increasing the amount of penalties and aggressively going after scofflaw mine operators.

Through this comprehensive enforcement effort, MSHA has:

- Increased our number of enforcement personnel;
- Implemented a new inspection tracking system;
- Improved inspector training;
- Enhanced overall inspection quality; and
- Better utilized enforcement tools to aggressively deal with flagrant and repeat violators.

Since June 2006, we have hired 322 coal mine enforcement personnel. Once fully trained, I strongly believe the increased presence of these MSHA enforcement staff at the job sites will have a positive impact on mine safety and health.

To make sure MSHA has an increased presence at mining operations, and complies with the Mine Act's requirement for mandated inspections of both coal and metal/nonmetal mines, last October I announced the launch of MSHA's 100 Percent Inspection Plan. The successful implementation of this plan will mark the first time in the history of the Agency that we have completed all of our mandated regular safety and health inspections of both coal and metal and nonmetal mines. The Plan calls for the temporary reassignment of MSHA inspectors to areas where they are most needed, and it provides for increased overtime and travel needed to complete

inspections until all of our new enforcement personnel who were hired in 2006 and 2007 have completed their training and are fully certified. We have developed a monthly Key Indicator report to track progress in each field office and District toward reaching the 100 percent completion rate. Since we instituted this program, I am pleased to say that all mandated regular inspections for the first half of the year have been completed (in both coal and metal and nonmetal), and we are firmly on target to meet our requirements moving forward.

We have also implemented changes to improve overall quality and oversight of our inspections. We developed a new inspection handbook that clearly defines all 172 items that must be inspected as part of a complete, regular underground mine inspection. The handbook was developed in response to MSHA internal reviews and also addresses concerns raised in a report by the OIG last November. Additionally, the handbook establishes documentation requirements for each item to be inspected, which will assist in the management and oversight of the process.

MSHA also developed an Inspection Tracking System (ITS) to supplement the inspection handbook. The ITS is fully integrated with the handbook and provides a uniform way for inspectors to document each item they inspect. Coal field office supervisors will be required to document that an inspection is thorough before it is counted as complete.

MSHA has also taken steps to improve the quality of inspections by strengthening supervisory and managerial oversight. Steps include the following directives:

- Supervisors are to accompany inspectors four times per month to evaluate whether inspections are complete.
- Supervisors are to annually visit each producing mine to assess the level of enforcement.
- Assistant district managers must visit a mine at least monthly to ensure enforcement activity is consistent with conditions at the mine.
- District Managers are to visit a mine with a poor compliance record at least monthly. These mines have citation records above the national average (for their mine type and classification) for Significant and Substantial (S&S) violations and elevated enforcement.
- Peer reviews and supervisory reviews must include an inspection of belt conveyor entries.
- Eleven Key Indicator reports we developed for review of critical data are to be used by managers and supervisors to monitor inspections and enforcement. Reports are distributed monthly and include a completion rate report.
- Headquarters Accountability review process was revised to evaluate District and Field Office inspection and enforcement activities. Headquarters is required to conduct a minimum of four Coal and two Metal/Nonmetal Districts reviews per year. These reviews are rotated to ensure that each District is reviewed, at a minimum, every 3 years.
- Performance plans of all supervisors and managers were revised to hold them accountable for using MSHA Key Indicators to direct resources, monitor and improve enforcement performance and quality, and ensure that the completion rate of all "complete" inspections is 100 percent.

Another component of the comprehensive enforcement approach is increasing penalties to a level that truly gets an operator's attention. Monetary fines can not be thought of as "the cost of doing business." The ability to impose a meaningful penalty is an essential component of our enforcement plan. MSHA has taken several actions toward that end.

We have also implemented several changes to improve our civil penalty payment process to streamline debt collection and make the process more efficient. I believe that this increased penalty structure will provide a greater incentive for operators to ensure that safety and health laws are followed, which will result in safer working conditions for miners.

We continue to be particularly aggressive with those mine operators who repeatedly violate MSHA standards. The Mine Act authorizes MSHA to issue a withdrawal order for each S&S violation after the mine operator has been given a pattern of violations notice. MSHA has instituted this pattern of violations process under the Mine Act to address mines with an inspection history of recurrent S&S violations that show a mine operator's disregard for the health and safety of miners. MSHA developed a database and computer screening process to objectively identify those mines that may have a potential pattern of violations and has to date sent out three rounds of notices to mines that exhibit a potential pattern of violations. The notices identified the potential pattern and contained a set of criteria and timeframes the operator had to meet in order to not be issued a pattern of violations notice.

The first round of notices was sent in June 2007 to eight mining operations. Seven of the operators met or exceeded the necessary criteria for reducing violation rates. They successfully and dramatically reduced their S&S violation rates—on average, by 50 percent, but we strongly encourage these operators to continue to improve their compliance record. The eighth operator has been inactive since July 2007.

In December of last year, we notified 20 additional mine operators that they met the criteria for potential pattern of violations. These mine operators all instituted corrective action plans and MSHA closely monitored their progress in reducing serious violations. The results were dramatic; with 20 mines reducing S&S violation rates an average of 65 percent. Although MSHA regulations require an annual screening of mines to identify those exhibiting a potential pattern of violations, the agency has performed its third screening since last June. The third screening identified 14 coal mines with notifications to the mine operators delivered on June 12, 2008.

These and other efforts to enhance enforcement under the Mine Act resulted in a 100 percent increase in the percent of violations contested by mine operators in calendar year 2007. At current contest rates, we expect the number of violations contested to continue to significantly increase. We continue to work with the Department's Office of the Solicitor to ensure that all these contests are handled thoroughly and timely, and that high priority enforcement cases involving flagrant violations, pattern of violations, fatal accidents and scofflaw operators are fully supported.

ASSESSMENTS

Several months ago, MSHA discovered a systemic problem with the assessment of violations. While 99.6 percent of all citations have been properly assessed since 1995, less than ½ of 1 percent were not assessed over this period of time. We identified two issues that led to the small percentage of un-assessed citations. The first was a technical issue with the MSHA Standardized Information System (MSIS). The computer system was erroneously changing the type of assessment for some violations from a computer-generated fine to one requiring a manual penalty assessment. The second was identified as management oversight deficiencies that, once discovered, were immediately addressed.

District Managers have been directed to immediately mark "assessment ready" all un-assessed violations that are between 13 and 18 months past the issue date and to monitor system reports to ensure that all future citations and orders are marked "assessment ready" within 11 months of the date of issuance.

Revisions have been made to the Un-assessed Violation Report which is now transmitted automatically each month to District Managers, Administrators, Director of Assessments, Deputy Assistant Secretaries, and the Assistant Secretary as a Key Indicator report.

MANAGEMENT AND OVERSIGHT

We have also made important changes to hold ourselves to strict standards. MSHA's Accountability Program has been revised based on the internal review findings after the Sago, Aracoma, and Darby accidents and the findings of an August 2007 Audit by the OIG on the prior Accountability Program. Last June, I announced the creation of a new Office of Accountability (OA) that has been integrated into MSHA's overall Accountability Program approach and associated Handbook. The purpose of this office is to increase focused oversight and examination of existing enforcement programs within the agency. This new division conducts oversight reviews, including in-mine inspections, to ensure that management controls are in place and fully implemented to maintain consistent and effective enforcement policies and procedures, and to ensure the implementation of actions recommended as a result of MSHA audits and internal reviews. The Director of this office reports directly to the Office of the Assistant Secretary.

The Accountability Office has already audited MSHA oversight of five underground coal mines in five districts and three MNM mines in two districts. The mines are selected through an analysis of the enforcement data, trends of injuries and the rate of violations written per day per inspector.

The audits focused on current "in mine" roof control conditions and plan adequacy, MINER Act ERP adequacy and enforcement of ERPs. On site inspection of self-contained self-rescuers (SCSR) maintenance and storage, and miner interviews about hands-on expectations training were conducted. Audit subjects included documentation of complete and thorough inspections of both underground and surface mines, and assessment of the level of enforcement and MSHA management oversight.

OTHER RULEMAKING

In addition to the rulemaking required by the MINER Act and the other safety enhancements mentioned above, MSHA also issued a final rule on Asbestos Exposure Limits on February 29, 2008. MSHA is also working on a final rule addressing Mine Rescue Team Equipment and Fire Extinguishers in Underground Coal Mines. In addition, MSHA is working on a proposed rule on the Prohibition of and Testing for the Use of or Impairment from Alcohol and Drugs by Miners Working in Coal and Metal and Nonmetal Surface and Underground Mines. Finally, in an important non-rulemaking action, MSHA issued a notice of a practical sampling strategy concerning enforcement of the diesel particulate matter (DPM) final exposure limit at metal and nonmetal mines on May 20, 2008.

CONCLUSION

We have made significant changes and improvements to mine safety over the last 2 years. We look forward to continuing our efforts to bring about needed reforms at MSHA. Implementing provisions of the MINER Act and improving MSHA's effectiveness remain my top priorities.

Thank you for inviting me to testify today. I look forward to answering your questions and to working with this committee to continue to improve mine safety.

Senator MURRAY. Thank you very much.

Mr. Kohler.

STATEMENT OF JEFFERY KOHLER, PH.D., ASSOCIATE DIRECTOR FOR MINING AND CONSTRUCTION, NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH), PITTSBURGH, PA

Mr. KOHLER. Good morning, Madam Chair and other members of the subcommittee. My name is Jeffery Kohler, and I am the Director of the NIOSH Office of Mine Safety and Health Research.

I am pleased to be here today to report on NIOSH's progress under the MINER Act and the Emergency Supplemental Appropriations Acts of 2006 and 2007 which have provided funding to NIOSH to facilitate the development and diffusion of mine safety technology.

To fulfill the mandates of this legislation, we have established an ongoing contracts and grants program and have made significant progress in the development of critical safety technologies for underground coal mine refuge alternatives, oxygen supply, and communications.

NIOSH has completed research on testing the utility practicality, survivability and cost of refuge alternatives. This report, which has been submitted to Congress, concluded that refuge alternatives have the potential to save the lives of miners if they are part of a comprehensive escape and rescue plan and if appropriate training is provided.

NIOSH has also made significant progress in the area of oxygen supply. The next generation self-contained self-rescuer has been developed and tested and 125 units are scheduled for delivery to NIOSH's Certification Laboratory later this summer. The manufacturer is estimating commercial availability around the first quarter of 2009.

This new SCSR represents the first significant advancement of oxygen supply technology for mining in more than 30 years and it will not be the last.

Significant progress is also being demonstrated in post-accident communications. Although it is unlikely that any single system will meet the requirements for most mines, one or more technologies

can be combined within a mine to ensure adequate post-accident coverage and functionality.

Research results to date strongly indicate that the building blocks for achieving survivable post-accident communication systems will be available for implementation by June 2009. This building block approach, as presented in the NIOSH Communications Roadmap, will also serve as a platform on which future advancements in technology can be added.

Now I would like to highlight three examples of progress in post-accident communications. First, we have funded the development of an enhanced leaky feeder system which allows continued communications, even in the event that a system, a section of the system has been damaged. MSHA permissibility approvals have been granted and a mine-wide system is being installed in the Loveridge Mine in West Virginia, and I will be pleased to invite members and staff to attend an in-mine demonstration of this system which is planned for next month.

Second, we are developing a survivable mesh-based system and an evaluation of the prototype system at the Sentinel Mine is scheduled for the end of this month. The system incorporates a variety of design features to provide a high level of survivability in an underground coal mining environment. MSHA is currently working with the manufacturer in the approval process of this system.

Third, NIOSH is working with the U.S. Army to modify the Kutta system, a wireless communications system originally developed for the military that has enormous potential as a post-disaster communications system in mines. Once the modifications are complete, the system will allow underground miners to communicate with each other independent of the infrastructure as well as to the surface under post-accident conditions.

In the fiscal year 2008 Appropriations bill, NIOSH was directed to conduct a study on the recovery of coal pillars through retreat room and pillar mining practices under deep cover and to submit a report on the study findings to Congress within 2 years. We initiated that project in January and we are collaborating with MSHA, West Virginia University and the University of Utah in our research efforts.

Funding was also provided to restore projects focused on other critical mining safety and health problems, including respirable dust control, ground control, and explosion prevention. Methane and coal dust explosions are under investigation at our Lakeland Experimental Mine as we seek improved methods and technologies to prevent or mitigate these potentially catastrophic events. These projects are developing a range of engineering, training and technology interventions.

In conclusion, I'd like to say, the MINER Act and Supplemental funding are enabling us to make significant improvements in the areas of communication and tracking, oxygen supply and refuge alternatives.

Moreover, our Safety and Health Research Program is addressing critical areas identified by Congress and mining stakeholders. NIOSH appreciates the opportunity to present its work to you and thanks you for your continued support.

I am pleased to answer any questions that you may have.
[The prepared statement of Mr. Kohler follows:]

PREPARED STATEMENT OF JEFFERY KOHLER, PH.D.

INTRODUCTION

Good morning Madam Chair and other distinguished members of the subcommittee. My name is Jeffery Kohler and I am the Associate Director for Mine Safety and Health Research at the National Institute for Occupational Safety and Health (NIOSH), which is part of the Centers for Disease Control and Prevention (CDC), within the Department of Health and Human Services.

I am pleased to be here today to report on NIOSH's progress under the Mine Improvement and New Emergency Response Act of 2006 (MINER Act) (P.L. 109–236) and the related supplemental appropriations that Congress provided to facilitate the development and diffusion of critical safety technologies in underground coal mines. In previous hearings and briefings we have discussed the challenges of bringing improved communications, tracking, oxygen supply, and other technologies to bear on improved mine safety. On March 14, 2008, I met with Richard Stickler, Acting Assistant Secretary for Mine Safety and Health, and we agreed to develop guidance that can be provided to the mining community by January 2009 on performance-based criteria for acceptable communications technological alternatives. Today, I would like to focus on our progress and the new technologies that NIOSH has developed to make mines safer, and better equip miners to safely escape from a fire, explosion, or other catastrophic event.

NIOSH MANDATES UNDER THE MINER ACT

Office of Mine Safety and Health

NIOSH has completed or implemented all of its mandates under the MINER Act. Specifically, we have established the Office of Mine Safety and Health Research as required by section 6(A)(H). As authorized by the act, the Office is strengthening NIOSH's focus on evaluating safety and health technologies, while maintaining a balanced research program to address overall mine safety and health issues.

Research Contracts

We have established an on-going contracts and grants program to fund the development and adaptation of safety technologies for mining applications, as mandated in section 6 of the Act. Under this program we have evaluated 62 proposals, and of those, 13 were of sufficient merit to warrant funding under the guidelines of this program, and we are excited about their prospects. Two examples are:

- the development of a spray-on liner to significantly strengthen mine seals, a process that is being adapted from a current military application; and
- the development of a through-the-earth [1] two-way voice communications system, which is based on a technology developed by the military.

Interagency Working Group

We established an on-going Interagency Working Group consisting of a broad range of Federal agencies with an interest in technology, as directed by section 6 (a)(h)(3)(C) of the MINER Act. Although no technologies have been identified for direct transfer to mining, several benefits of this collaboration among Federal agencies are occurring. Notable examples included the following:

- NASA and the Naval Research Lab have provided valuable input into our work on refuge chambers;
- the U.S. Army Communications-Electronics Research, Development and Engineering Center (CERDEC) is working with us on adapting communications and tracking technologies; and
- we are working with the Department of Energy's geothermal research program at Sandia National Lab to examine the possible adaptation of rescue drilling technology.

Refuge Alternatives

We completed research and testing on refuge alternatives, and submitted a report to the Senate Committee on Health, Education, Labor, and Pensions and the House Committee on Education and Labor addressing the utility, practicality, survivability

[1] A "through-the-earth" communications system is one with a signal that propagates through the layers of the earth between an underground transceiver and a transceiver on the surface.

and cost of refuge alternatives. We also conducted testing on refuge chambers at our Lake Lynn Experimental Mine. This report to the two committees provides a scientific basis for the Mine Safety and Health Administration (MSHA) on the use of refuge alternatives in underground coal mines. The report concluded that refuge alternatives have the potential for saving the lives of mine workers if they are part of a comprehensive escape and rescue plan, and if appropriate training is provided. Moreover, the report stated that the benefits of refuge alternatives and the specification of specific alternatives are sufficiently known to merit their commercialization and deployment in underground coal mines. We are continuing to work with MSHA, labor, industry, and manufacturers to facilitate the implementation of refuge alternatives in the underground coal industry.

EMERGENCY SUPPLEMENTAL APPROPRIATIONS

The Emergency Supplemental Appropriations Act (ESA) for Defense, the Global War on Terror, and Hurricane Recovery, 2006 (P.L. 109–234) ($10 million) and the Emergency Supplemental Appropriations Act for U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act, 2007 (P.L. 110–28) ($13 million) provided a total of $23 million to NIOSH to facilitate the development and diffusion of mine safety technology, including necessary repairs and improvements to leased laboratories, among other purposes. To fulfill the mandates of the ESAs and the MINER Act, we have designed research across several related but different tracks, and administered contracts and awarded funds to outside partners with resources and expertise that complement ours. We have moved ahead with a sense of urgency while doing everything we can to assure high-quality research. Moreover, to ensure success, we have applied our scientific know-how and our detailed knowledge of the underground mine environment, and persistence in working through the technical questions that always arise in scientific studies. Now, less than 2 years into this 3-year effort, we are able to report significant progress, which will ensure that improved technologies will be available as intended by Congress. Notable accomplishments-to-date are summarized as follows.

Oxygen Supply

NIOSH developed the conceptual design for the "next generation" self-contained self rescuer (SCSR), which was developed and tested under NIOSH's research contracts program. The contractor is scheduled to deliver 125 units to NIOSH's certification laboratory late this summer. The manufacturer is estimating commercial availability in the fourth quarter of 2008 or the first quarter of 2009, with a first year production capacity of between 2,000 and 4,000 units. This new SCSR represents the first significant advance in oxygen supply technology in more than 30 years. Although this unit provides performance enhancements over current models, the significant advancement is that it is "dockable." As such, fresh oxygen canisters can be easily exchanged without the need to don a new mouth piece and nose clip. This feature eliminates the dangerous act of attempting to don a fresh SCSR under very stressful conditions in a potentially poisonous environment.

Post-Accident Communications Technology

Research results to date strongly indicate that the technological building blocks for achieving survivable post-accident communications systems for most mines will be available for implementation by June 2009, as required by the MINER Act. Although it is unlikely that any single system or technology will meet the requirements for most mines, a combination of technologies in any given mine should ensure adequate post-accident coverage and functionality. Moreover, this "building block" approach, as presented in the NIOSH communications roadmap, will serve as a platform on which future advancements in technology can be added.

NIOSH work to date indicates that the emergency communication plan for each mine will need to be tailored to that mine's requirements, and it is likely that the plan will employ some combination of enhanced leaky feeder, mesh, and/or medium frequency wireless systems. The post-accident coverage and functionality provided by these systems could be further enhanced as technology permits with the addition of through-the-earth two-way voice systems, interoperability of systems for increased redundancy, and improved methods for protecting the communications infrastructure from damage. These enhancements are not currently available, but could become available over the next few years. However, significant progress is already being demonstrated in the area of post-accident communications, and much of this progress was facilitated by the funds provided through the supplemental appropriations. Three significant examples are provided below.

Leaky Feeder System

Under contract to NIOSH, an enhanced leaky feeder system has been developed, which allows continued communications even in the event that a section of the system is damaged or destroyed. This system is compliant with MSHA permissibility requirements, and final approval is pending. A mine-wide demonstration system is being installed in the Loveridge Mine in West Virginia. The system includes bi-directional redundancy in the main haulage areas and parallel leaky feeder systems in the working sections to ensure a very high level of survivability in the event of mine explosions. Backup battery power systems that can keep the system operational from 8 to 96 hours after a power failure are included in the design as well.

We have also evaluated methods to expand coverage throughout the mine, and to physically harden the system against explosive forces. Testing to date has shown that burying leaky feeder cable may be an effective way of preventing leaky feeder cable from being damaged. Such extreme measures of protection may be desired in potentially vulnerable locations such as those adjacent to sealed areas of the mine.

Mesh System

Under another contract we are developing a survivable mesh-based system,[2] and we are scheduled to evaluate a prototype system at the Sentinel mine at the end of this month. The system incorporates a variety of design features to provide a high level of survivability in an underground coal mining environment, and the initial system design has been submitted to MSHA for approval.

The survivability of a mesh system is highly dependent on the range of the mesh nodes and the ability of the system to reconfigure itself under the circumstances that might be required in a mine disaster. The NIOSH mesh development is intended to maximize the survivability of the system by ensuring that:

- the nodes have maximum range for a given amount of transmit power, thus minimizing the number of nodes, power supplies, and batteries required;
- the system can automatically support alternate communications paths;
- the handsets can support direct communications between them (known as "peer to peer" communications);
- the handsets can act as repeaters for communications to mesh nodes; and
- the system uses low-bit-rate voice communications for future interoperability with medium frequency or through-the-earth systems.

We are working with MSHA and other stakeholders to examine potential safety issues associated with battery backup supplies that will be required with post-accident communication systems.

Medium Frequency System

NIOSH is working with the U.S. Army CERDEC to modify the Kutta medium frequency communications system for use in underground coal mines. Medium frequency systems have an enormous potential as emergency communications systems in a post-disaster scenario. We have demonstrated that medium frequency radios have a range in underground coal mines of over 2 miles through "parasitic propagation." This is a characteristic of the radio energy that allows the energy to couple on to metallic structures in the mine, and be received anywhere along the path of the structure.

There are several advantages of the medium frequency systems. First, active radio elements (radio transmitters or amplifiers) can be spaced a mile or more apart, which means far fewer active elements than are required with leaky feeder or mesh systems thereby reducing potentially vulnerable infrastructure. Second, the parasitic radio propagation paths can be highly survivable, and do not require power. Power lines for instance may be damaged, but could still support medium frequency communications. Additionally, recent NIOSH tests have shown that a buried wire can provide an excellent propagation path with no observable degradation of the radio signal. Lastly, the medium frequency system is being designed to be interoperable with existing MSHA-approved UHF/VHF handsets that are used with leaky feeder systems; this will provide substantial flexibility in designing practical and cost-effective systems. Interoperability with future systems such as mesh systems and through-the-earth systems will be considered as these products become available in the market place.

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[2] A mesh-based system uses a network of wireless modems (called nodes) that are placed throughout a mine. The signal "hops" from node to node, permitting two-way communication to be sent and received. In the event of a mine accident, if one or more nodes fail, the network can reconfigure itself and create a new path for communication signals using nodes that are still functional.

Initial pre-production models of the analog point-to-point medium frequency products will be received this month, and the delivery of the digital multi-hop products are expected in August. The system design has been submitted to MSHA for approval.

Technical Study Panel

We participated in the Technical Study Panel on the Utilization of Belt Air and the Composition and Fire Retardant Properties of Belt Materials in Underground Coal Mining, as directed by Section 11(A) of the Act. This Panel was administered by MSHA, and NIOSH provided technical support. The Study Panel's report recommended additional research in the areas of development of guidelines for improved escapeway design in various ventilation situations, ways to reduce air leakage through ventilation controls and use of booster fans in underground coal mining operations. We have initiated a project to address these knowledge gaps identified by the Panel, and expect to have results over the next few years.

FISCAL YEAR 2008 APPROPRIATIONS ACT ACTIVITIES

NIOSH has been directed to conduct a study on the recovery of coal pillars through retreat room and pillar mining practices in underground coal mines at depths greater than 1,500 feet, and to submit a report on the study findings to Congress within 2 years. We initiated this project in January, and are making progress. Two scoping meetings have been held with researchers from West Virginia University and the University of Utah. MSHA Tech Support is collaborating with us, and we have had technical meetings with them. Last month, NIOSH researchers made underground mine visits to collect information for use on this project.

Funding provided as part of the fiscal year 2008 appropriation is also being used to restore projects focused on other critical mining safety and health problems, including respirable dust control, ground control, and explosion prevention. Methane and coal dust explosions are under investigation at our Lake Lynn Experimental Mine, as we seek improved methods and technologies to prevent or mitigate these potentially catastrophic events. Many of these projects are developing a range of interventions including engineering, training, and technology.

CONCLUSION

In closing, NIOSH continues to work diligently to protect the safety and health of mineworkers. The MINER Act and supplemental funding for mining research are enabling us to make significant improvements in the areas of communication and tracking, oxygen supply, and refuge alternatives. Moreover, our safety and health research program is addressing the critical areas identified by our customers and stakeholders, and through our research, development, demonstration, and diffusion activities, we are enabling a shift to a prospective harm reduction culture in mining. I appreciate the opportunity to present our work to you and thank you for your continued support. I am pleased to answer any questions you may have.

Senator MURRAY. Thank you very much, Mr. Kohler.

Mr. Stickler, the mine safety standards that we passed here in Congress are only going to make miners safer if MSHA vigorously implements them and I recognize, as you stated today, that MSHA has made some progress in implementing the MINER Act, but there have been serious questions raised about the competence of MSHA to really effectively carry out its responsibilities.

We learned in February, for example, that thousands of violations were never assessed a penalty and that failure has given some of our mine operators with serious safety problems essentially a free pass, even in fatality cases.

The Inspector General recently revealed that MSHA has not been conducting all the required safety inspections in underground coal mines. A recent GAO report found problems with the implementation of the MINER Act. The guidance that is provided to mine operators in emergency response plans, they said, the requirements were too vague, the approval of the plans was delayed, and different districts were applying different standards. That was the GAO.

And significantly, the HELP Committee's investigation of the Crandall Canyon disaster brought to light some really serious weaknesses in MSHA's ability to protect miners from even the most dangerous and ill-conceived plans.

So this morning, you've come before us, you've talked a lot about the new regulations that MSHA has issued to the MINER Act, but given MSHA's performance and some of these reports and indications, I'm concerned about how these new regulations will be implemented and how they will be enforced.

Can you give us as a committee some assurance that we're going to have more aggressive performance from the MSHA?

Mr. STICKLER. Senator, we've made significant improvement in all those areas you mentioned. We have implemented the recommendations and those that we have not yet implemented, we have an action plan and target dates, milestones to bring about that implementation.

For example, as I mentioned earlier, we've completely re-engineered the ground control approval review and approval process. We sent out directives to our district managers giving guidance on which ground control plans will be required to be sent to Tech Support for additional review.

We've developed national checklists that covers every specific item that should be included in the ground control plan. The reviewers will be required to check those items off and sign the checklist. That will progress through the approval process and each person that reviews will be required to sign off and date the checklist.

The checklist includes all of the specific items that are included in the Federal regulations as well as best practices for having the very best ground control plans. There are separate checklists for different parts of the ground control plan, whether it be a retreat mining plan or a deep cut plan and so forth and so on.

In the area of inspections, as I mentioned, last October we implemented a plan that would guarantee that we make 100 percent of our required inspections.

Senator MURRAY. Are you following that plan?

Mr. STICKLER. Since that time, we have worked approximately 30,000 man hours per quarter. We have completed all of the required inspections to date and we're on track to complete the year with 100 percent of our inspections which will be the first time in the history of the agency that 100 percent of the inspections have been completed.

Senator MURRAY. Well, OK. In November 2007, you announced the establishment of what you call the Office of Accountability to provide some better focus and oversight. Has that helped your performance?

I'm particularly interested, in fact, in the impact it had on correcting the problems the GAO found in its April report with the emergency response plans.

Mr. STICKLER. Yes, we've filled the position as Director of the Office of Accountability in November and added two additional staff to that office. Those individuals have been conducting audits across the country. They generally spend 1 week out in the field doing au-

dits and a week back in the office writing their report and doing data mining to identify where they should conduct their audits.

Senator MURRAY. Are those reports that go on a shelf or what do you do with them?

Mr. STICKLER. Those reports are issued to all the responsible levels of management, from myself down through the Deputy Assistant Secretary, the Administrator for Coal Mine Health and Safety or for Metal/Non-Metal, and the district managers. They're available for anyone to review.

There's an action plan developed to address the deficiencies that the Office of Accountability identifies. We maintain a spreadsheet on our computer system where the people responsible for making those corrective actions go into the computer system and log in the action that they've taken, the date that they've completed it. That's maintained on a computer server in our national office and many of the managers review that on a regular basis to stay up to date and make sure that corrective actions are being implemented.

We also plan to do follow-up mini audits where we found deficiencies. The Office of Accountability will go back and make mini audits to check specifically on those things that the districts have said they have improved.

Senator MURRAY. So they're taken with seriousness?

Mr. STICKLER. Yes, they absolutely are.

Senator MURRAY. OK. I am out of time for the moment, and I will turn to Senator Isakson.

Senator ISAKSON. Mr. Stickler, I want to, first of all, echo one of the things from your testimony about the coordination and accountability and work you're doing with your inspectors.

I personally had issue with Georgia and worked with you recently and have seen a great attention to consistency within the inspectors, communication between the inspectors and replacements as you have those that are lost.

I want to commend you on what you're doing on that and those personnel.

In the Office of Inspector General's report following the Crandall Canyon incident, the Office of Inspector General judged your agency to be, and I put this in quotes, "negligent." Do you have a response to that?

Mr. STICKLER. Well, we don't believe that the deficiencies that were included and spelled out in the Office of Inspector General's report rise to the level of negligence.

Many of the criticisms that the report had for MSHA related to items that had not been established in the past as practices or procedures. For example, we were criticized for not checking with the Bureau of Land Management and there's never been a policy or procedure to do that.

We were criticized for not checking with seismologists on the seismic activity and again there was no policy or procedure to do that in the past.

So some of the things that the Inspector General recommended—if those standards had been established and our inspectors and our staff had not been following the standards, then I think it would be appropriate to say that we were negligent, but whenever you

hold people to a standard that hasn't been communicated to them—it has not been a practice in the past.

The procedures that MSHA has followed for approving, reviewing and approving ground control plans has evolved over the last 30 years, and as we've seen the need to upgrade and refine those plans, that's been done.

Now certainly, after the Crandall Canyon tragedy, we recognized that we should improve our review and the documentation of that review and we've taken action to bring that about.

Senator ISAKSON. Thank you. Mr. Kohler, in all my 30 years in public office, I don't know anything that's had a more profound effect on me than the day I went to the Sago Mine with Senator Kennedy, Senator Enzi, and Senator Rockefeller and visited with the families of the miners that were lost. So I've taken a particular interest in that particular incident and the things that tragically happened there.

In your testimony and talking about the SCSRs, it seems like that addresses one of the major shortcomings in terms of these self-rescuers and it's a great improvement. As I remember from Sago, the oxygen self-rescuers they had at the time were limited to like an hour or two.

Can you tell me about this new development and the dockable system as to what time would be available now?

Mr. KOHLER. Sure. You know, there are two major improvements, I think, that show up in this new generation.

Most important is the dockable and what that really means is that you can cache spare canisters and you can pop the canister into the unit without having to undo the mouthpiece or the nose clip and that's a very dangerous operation if you switch SCSRs to take one mouthpiece out, open up a canister, put another one in. So this eliminates that and that effectively means that you can store these things and you can have them available.

Second, there are certain performance enhancements. The bottled oxygen rather than the chemical-bed generation which will probably provide increased functionality for the person using it.

I think in total, the dockable SCSR is really a tremendous advancement over the existing SCSR.

Senator ISAKSON. And it's now been approved and ready for production, is that not correct?

Mr. KOHLER. It has not been officially certified. The 125 units will be delivered later this summer to the Certification Lab where they will have to pass NIOSH's official certification procedure.

The prototype units were delivered and they passed the test, so we would expect these to do so as well, but until that happens they're not certified for use.

Senator ISAKSON. Second major problem at the Sago Mine disaster was the inability to communicate post-accident, and you recite three technologies that you're working on and refer to a demonstration at the Loveridge Mine next month?

Mr. KOHLER. Yes.

Senator ISAKSON. Let us know when that demonstration is. I don't know whether Senator Murray would like to, but if we could make it work, I would like to see.

Is it the leaky feeder system? Is that what you're going to demonstrate?

Mr. KOHLER. Yes, and also our hope is to have one or more other technologies there to show as well.

Loveridge is actually the test bed for the full leaky feeder system, but we hope to demonstrate perhaps a portion of the Kutta system or the medium frequency system there as well.

Senator ISAKSON. Well, if that test proves successful and implementation takes place, then what you've done on the self-rescuers and communication as a reaction to the MINER Act and the Sago Mine will move us light years ahead from where we were in terms of mine safety for miners. I commend you.

Mr. KOHLER. Thank you.

Senator MURRAY. Senator Rockefeller has joined us and we appreciate all the work you've done on this issue. Welcome.

STATEMENT OF SENATOR ROCKEFELLER

Senator ROCKEFELLER. Well, I'm obviously very grateful, Madam Chairman, to you and to Senator Isakson and Senator Kennedy and former Chairman Enzi, who've allowed me to be here, and even more importantly in the case of Senator Isakson sitting here this morning, who came to Sago and probably could walk all over me for the U.S. Senate. He was so popular with the coal miners, and even though Georgia doesn't have any coal, there was something about his approach and Michael Enzi's approach, which he does have a lot of coal, which they locked in on the West Virginia Sago situation. A very, very sad situation, something I'll never forget, and he knows that very well.

One of the things that was discussed in the plan, was the emergency response plan, which was wireless communications and I'm not sure where that stands, but I have this feeling that it's not going to be ready for 2009, and I have two questions regarding that.

One is that the mining folks will probably say, "well, they don't want to use it because something will come along"—if you come up with something, if you have, that something will come along in a couple years which will be better and therefore they'll have to switch to that and it will be very expensive, all of which I consider to be irrelevant.

I mean, then-Chairman Enzi said this is going to be a continuing series of obligations in mine safety and I agree with him on that.

So I want to know what the situation is on wireless communications so miners can be tracked underground, and also have you or NIOSH or anybody else gone to the private sector, which we talked about at the last hearing I was at somewhat extensively; that is, to use either military or other technology that might be available or might be in the offing. That strikes me as just an incredibly important thing to do and I don't know if it's being done or not.

Mr. STICKLER. Well, I can address what we've done to date. As you know, the MINER Act requires that mine operators install a redundant communication system that is at least as effective as the telephone and I'm happy to report that all mine operators have installed those systems and where they did not, we issued violations to require the redundant systems to be installed.

Senator ROCKEFELLER. Are they wireless?

Mr. STICKLER. No, sir. The MINER Act specifies those would be as effective as a telephone.

Now as far as the wireless—

Senator ROCKEFELLER. I need to understand that better because telephones are, even in office buildings such as this, placed at various places and not necessarily available or visually available if there's a lot of smoke around. I mean, the wireless was meant to relieve that because it would just be between the miner and somebody on top. So what is the telephone?

Mr. STICKLER. Well, that's—sir, that's what the MINER Act specified.

Senator ROCKEFELLER. Is that——

Mr. STICKLER. And that's to be in place by June 2009. The MINER Act requires that by June 2009, mine operators will be required to have a plan to install two-way wireless communication.

Senator ROCKEFELLER. OK. So we're on the——

Mr. STICKLER. Congress was wise to recognize that that technology may not be available by June 2009 and included in the MINER Act a fallback provision that if the wireless communication is not available, then mine operators will be required to install the next best thing.

Senator ROCKEFELLER. OK. I understand.

I understand you and I want to be—have you answered my question. Agreeing then that the telephone would last until 2009, it's not very far off—is NIOSH—are you or is anybody reaching outside to try and get this wireless technology? What's the state of the wireless?

Mr. KOHLER. We have a very robust program.

Senator ROCKEFELLER. Any time somebody has a robust program, I automatically grow negative. So use a different word and explain it to me.

Mr. KOHLER. OK. Fair enough. We have a program reaching out to all branches of the military, NASA, the private sector, and through that program, we have identified a number of candidate technologies and two or three of those are being developed to the prototype stage.

For example, the medium frequency system, the so-called Kutta system, that may be demonstrated at the Loveridge Mine the same time the leaky feeder is demonstrated, that is a military system, a system that was developed for the military, and we're adapting it to the mining environment.

Likewise taking off the shelf technologies that are already available and enhancing them, improving their functionality so that they can withstand an explosion or improving the chances that those systems used in combination with other systems could also survive and be used in a post-accident mode. That has really been our approach, which is to try and build on platforms that already exist rather than completely throw everything out that's been learned in civilian and military applications and start over.

Senator ROCKEFELLER. OK. My time is up. I'll continue in the next round.

Thank you, Madam Chairman.

Senator MURRAY. Thank you very much, Senator Rockefeller.

Senator Allard.

Senator ALLARD. Thank you, Madam Chairman. I have a number of questions, but I thought, first, I would start out in Colorado. It has been over 10 years that we had a mine safety inspection office in Colorado that was to cover the Western part of the United States and that was closed.

Would it be of benefit to re-open a Western office of some type? I think they thought at the time that they transferred those Western mine experts to a West Virginia facility but they did not transfer. I think that was their own personal decision not to move.

So how are we as far as meeting the rules and regulations as they apply to Western mines?

Mr. STICKLER. In regard to the Denver office, we have a district office located in Denver, CO, that's responsible for all coal mining activity west of the Mississippi River, and I think you were probably referring to the Tech Support Office that MSHA had——

Senator ALLARD. Yes.

Mr. STICKLER [continuing]. In Denver and that was closed, I believe, in 1997. There were close to 40 technical experts that worked there out of that office and you're right, the majority of those individuals did not elect to transfer to the facility in Pittsburgh or West Virginia. Many of them left MSHA, went into other industries, went into the mining industry. Some of them transferred to our Enforcement Office there in Denver.

But there is a shortage of technical expertise in the area of ground control, in rock mechanics. We have recently been advertising to fill jobs in our Pittsburgh Tech Support Group. We're unable to find individuals that are qualified. I've given approval to advertise out in specifically the Denver, CO area, hoping that we could attract someone from industry or from the community in that area that would perhaps not want to transfer to Pittsburgh but would come to work for us there.

So we are working to increase our technical expertise by expanding the number of ground control engineers. As we require more of these plans, as I mentioned earlier, we put out a directive to our district managers identifying ground control plans in areas where we've identified or they have bump-prone conditions or they're doing retreat mining in cover exceeding a thousand feet. That guidance will result in more plans now being sent to our technical experts in Pittsburgh and we're going to need to increase the number of people we have there to handle those plans.

Senator ALLARD. OK. I also was reviewing on the Internet the expectmore.gov, which is a GAO evaluation of your performance and results. I did make a note on when they asked the question, is the program generally inadequate. They classify you as adequate which is fine, but is the program designed free of major flaws that would limit the program's effectiveness and efficiency? The answer to that was no. They explained the fact that your requirement having to inspect above surface mines twice a year and below surface mines four times a year has prevented you from having the flexibility you need so that when you have a troubled mine that you can either have more frequent inspections, like was mentioned earlier, I think, by one of the members here on the panel, that you weren't able to respond to that.

You want to comment on that?

Mr. STICKLER. Well, as I mentioned earlier, the plan that our Administrator for Coal Mine Health and Safety developed to ensure that all of the mines are inspected 100 percent of the time requires a significant amount of overtime and I thank Senator Byrd and Congress for providing additional funds. It was approximately $10 million provided in the 2008 budget to cover the overtime and the travel expenses to move inspectors around so that we can complete the inspections 100 percent of the time.

Also, we have hired 322 new coal mine enforcement personnel. As they move through the training program, it takes approximately 18 months for them to complete their training, but since we've started that program, we've graduated 63 new inspectors that are out in the field conducting inspections.

This summer, we have five classes that will be graduating. That will be approximately another 70 inspectors that will be going into the field and certainly as we bring these new inspectors through their training, it's going to take some of the pressure off. We can reduce the overtime. By the end of this year, I expect we can eliminate the overtime and additional travel expense, and certainly it will give us resources to focus on addressing some other areas.

Senator ALLARD. You also, on the analysis, felt that you couldn't do a cost-benefit analysis because of a court decision that was made, although the GAO felt that the court decision didn't necessarily prohibit you from doing a cost analysis. You want to explain your position on that?

Mr. STICKLER. I'm at a loss at what you mean.

Senator ALLARD. Well, there was a court decision where on one of the questions they asked you about cost-benefit analyses. The court decision in the explanation from your agency was that it prohibited you from doing a cost-benefit analysis.

Mr. STICKLER. Is this a GAO report that you're referring to?

Senator ALLARD. It is.

Mr. STICKLER. That must have been before I joined the agency because——

Senator ALLARD. OK.

Mr. STICKLER [continuing]. There's been no activity in that area with the GAO since I've joined MSHA, and I'm unfamiliar with it.

Senator ALLARD. Are you comfortable with your cost-benefit analysis?

Mr. STICKLER. It's a lot of work. I'd say that.

Senator ALLARD. I understand that, but are you getting the job done on cost-benefit analysis?

Mr. STICKLER. At the end of the day, we do, but like I said, it takes a lot of resources and it's a difficult process.

Senator ALLARD. Yes. I did pick that up in there. OK. What I'd like to do is submit a question to you on that and we will get a little more detail for you so you can answer the question.

Thank you.

Senator MURRAY. Thank you very much, Senator Allard, and we look forward to the written response on that.

I want to go back to this wireless communications because the MINER Act requires wireless post-accident communications and tracking by June 2009. You've alluded to that several times.

We're hearing mixed messages about the approval of a wireless communication system and what that means because what we've seen so far relies on a network of hardware inside the mine.

Let me start with you, Mr. Stickler. How does MSHA define wireless?

Mr. STICKLER. We define wireless as a system that would survive any type of event underground, whether it be an inundation of water or methane gas explosion or mountain bump like you had at Crandall Canyon.

Now in my view, communication systems will not be available to meet that definition and the MINER Act provides a fallback approach which will require mine operators to install communication systems that best meet the intent——

Senator MURRAY. Right.

Mr. STICKLER [continuing]. If that definition, and as Dr. Kohler has mentioned, there's been development with several systems that I am quite sure will provide that type of communication and at that——

Senator MURRAY. OK. I want to——

Mr. STICKLER [continuing]. Time, MSHA will require operators to install those systems.

Senator MURRAY. So you're waiting to see what Mr. Kohler has?

Mr. STICKLER. No, we're not waiting. We're working together. I've met with Dr. Kohler and we formed a team of engineers from MSHA and NIOSH to work together cooperatively to establish a performance criteria to identify the best technology to meet the two-way wireless communication requirement.

Senator MURRAY. Let me ask——

Mr. STICKLER. We'd like to have that done by January and send that out to the industry.

Senator MURRAY. OK. Dr. Kohler, how do you define wireless?

Mr. KOHLER. Well, from the start, we took a more technical definition and in the global telecommunications industry, they recognize that all systems have some infrastructure and wireless is taken to mean that the user is not connected by wire to the infrastructure.

So for example, when you use your cellular telephone, that's a wireless device in that you're not hardwired into the network, but yet your signal goes to a tower or another unit which is then hard wired and there's a network.

So most of these systems in most cases require some hardwired infrastructure.

Senator MURRAY. And this leaky feeder system that you're talking about——

Mr. KOHLER. Is a perfect example of that. It has a hardwired component, an infrastructure in the mine, but the miner is not tethered to that system. The miner has a wireless radio and the miner can communicate with that system.

The medium frequency system, for example, requires some sort of conduction path. It could be water pipe, it could be a buried wire, it could be structure, but it also requires a path.

Our approach has been really very goal-oriented; that is, we want to have post-accident communication which is likely to work in most mines for most disasters, not for every single one that you

could imagine but to do whatever we can for the most people by June 2009.

Senator MURRAY. OK. And you're testing this next month?

Mr. KOHLER. We've already tested these systems and we're now installing a full-scale system.

Senator MURRAY. OK. And Mr. Stickler, if they begin to install this, are you going to require it by June 2009 to move to that kind of system?

Mr. STICKLER. The MINER Act requires that by June 2009, mine operators have to have included in their emergency response plan a description of the system that they intend to install and we will enforce that provision of the MINER Act.

Senator MURRAY. OK. Let me go to a different topic, Mr. Stickler, because at Crandall Canyon, MSHA, as you will well remember, was criticized for allowing the mine owner, Bob Murray, to provide families and the public with inaccurate information which was not good and I think we all remember that well.

Do you think that MSHA has fully complied with its charge to be the primary communicator now?

Mr. STICKLER. I believe we have.

Senator MURRAY. Well, can you tell us what changes MSHA has made since the Crandall Canyon disaster to improve the communications and define that for us?

Mr. STICKLER. Well, toward the end of 2006, we established guidance on family liaisons and the primary communicator and we have trained 21 of MSHA's employees to serve as family liaisons and they're scattered across the country and if we have a situation like Crandall Canyon, we bring people in that can serve as family liaisons.

Senator MURRAY. Does that define who will be talking to the families, who will be talking to the media?

Mr. STICKLER. The family liaisons, they will be with the families 24 hours a day, 7 days a week, throughout the entire process. They also maintain communication with the families during the investigation process to keep the families up to date during our—

Senator MURRAY. Well, let me ask it in a different way. If there were to be a mine disaster this afternoon, do we have in place where every mine knows who's going to be talking to the families and who's going to be talking to the media and the rest of the country? Is that clear?

Mr. STICKLER. We have in place the MSHA personnel that will serve those roles.

Senator MURRAY. Senator Isakson.

Senator ISAKSON. Just one question, Dr. Kohler. Referring to what Senator Rockefeller and Senator Murray talked about on the wireless, it seems to me like in my definition, the multifrequency system is a wireless system, right?

Mr. KOHLER. Yes.

Senator ISAKSON. I mean, you have—it's wireless in the sense there's no wire attached to the radio?

Mr. KOHLER. Right.

Senator ISAKSON. This parasitic propagation term that you used, I'm not familiar with that, but I think it means that it has to be

able to send that signal and attach it every now and then to a wire or to some metallic instrument in the mine, is that correct?

Mr. KOHLER. That's correct, and it's really, we believe, for most of the mining operations, this combination of technologies which will ensure a pretty high degree of reliability in post-accident communication.

If one portion of the system fails, there will be this second system or second path that the signals can use to get out of the mine and in many cases, we see a combined role for mesh systems, leaky feeder systems, and medium frequency.

We're also supporting the development of *through the earth* two-way systems and doing testing of those but they're probably a little bit beyond June, but we see this as June 2009 to get a dramatic increase in post-accident functionality and then we have a platform that we can keep building on to to get to the point where we all want to be with this wireless communication.

Senator ISAKSON. Well, on the medium frequency system, in the testimony, you say that the analog pre-production product's going to be available this month and the digital in August.

Mr. KOHLER. Yes. And that's for testing, for taking into the mines, seeing how well it works, shaking it down.

Senator ISAKSON. And MSHA's—it's been submitted to MSHA for their approval already and they're going to do the testing, right?

Mr. KOHLER. They do permissibility testing, whereas when we do our testing in this context, we're interested in how well does it actually work. Is it a practical communication device? Can we count on it and so on?

Senator ISAKSON. Mr. Stickler, is there an estimated timeframe it would take to do that testing?

Mr. STICKLER. Which system are you specifically——

Senator ISAKSON. Medium frequency system.

Mr. STICKLER. I don't have the date on when that will be completed.

Senator ISAKSON. Thank you very much.

Senator MURRAY. Senator Rockefeller.

Senator ROCKEFELLER. Still on wireless. You've indicated that—I mean, we all agree that cell phones don't work. OK. You mentioned cell phones.

But then you said we're working on a ground to miner system which would be wireless which would not necessarily, as I took your words, mean that there would have to be a big installation of equipment underneath which might burn up or whatever.

But my understanding of wireless is that its main hitch is that it depends upon the geological formation, also how deep the miners are. Now, was that incorporated in your answer that you may be very—it's on the cusp, may be a little bit after June 2009, because that's a very significant statement if that's what you meant.

Mr. KOHLER. I meant the statement as I said it, but I need to further define the *through the earth*.

Through the earth is a direct straight line up and so *through the earth* communication would have application perhaps at certain pre-determined emergency meeting spots in the mine. For example, at a refuge chamber, it might be very desirable to have such a technology.

But that technology would most likely not be practical to carry with you or to wear. So we would still depend upon other technologies but we would add *through the earth* in as one more layer, one more means of ensuring that there would be certain places where communication would be more highly assured and the problems are exactly what you said, the different layers of the earth, the amount of energy required.

Senator ROCKEFELLER. With this complex system that Senator Isakson's referring to, which I don't understand, and the more direct system which may not be possible, when do you think such a wireless system that will work for miners in various geological and depth situations will come into existence?

Mr. KOHLER. I think that a generalized wireless communication system for miners for most mines, deeper mines, larger mines, is years and years away because there are just fundamental laws of physics problems that are getting in the way of a solution.

Senator ROCKEFELLER. Then you don't want to be saying some time after June 2009.

Mr. KOHLER. Well, for a *through the earth* system that I could put just——

Senator ROCKEFELLER. Then say that. Then say that.

Mr. KOHLER. That I could put a refuge——

Senator ROCKEFELLER. There are miners here that will have one reaction, as you describe it. It's another reaction and it's good, but it doesn't satisfy the whole thing.

Final question, Madam Chairman, is on sealing and that's already been covered.

The MINER Act required MSHA to finalize standards relating to the sealing of abandoned areas, hugely important matter obviously in Sago, too. Now, the status, as I understand it, is MSHA has published a final rule on April 18, 2008, setting a three-tiered approach for the amount of pressure that mine seals must be able to withstand. The rule does not clearly address how or if existing seals will be updated to meet the new standards.

In other words, what I'm saying, that statement says nothing to me at all, and I want to know that you've done something here, that if I don't understand the standards, that you understand the standards, and that they're going to be clearly printed.

Mr. STICKLER. Well, in addition to the three-tiered approach for the construction of seals, we've also required that the atmosphere in the sealed area must be monitored in all cases where the seal is less than a 120 psi. So by monitoring that atmosphere, we can determine and know if there's a dangerous condition.

If a dangerous condition explosive atmosphere exists, then MSHA's rule requires that the operator withdraw the miners from the mine. So there's protection there. We recognize that some of the seals that were built according to the 1992 standard at 20 psi, some of these seals are not accessible. We can't get in to the areas to strengthen them, but if an operator wants to build a 120 psi seal in its place, then MSHA's rule does not require the atmosphere to be monitored because we feel that that's an adequate strength seal.

But we still have the seals that are less than a 120 psi. We require the atmosphere to be monitored and either be made inert or the people have to be withdrawn from the mine.

Senator ROCKEFELLER. OK. Thank you.

Senator MURRAY. Just as a quick follow-up to that question. So the new standard applies only to new seals put in place, not into the existing—will it not require the existing seals in mines to be changed or improved?

Mr. STICKLER. Well, it requires the existing sealed areas to be monitored on a regular basis to take measurements for oxygen and methane gas so that the determination can be made whether or not there's a dangerous condition in the sealed areas.

Senator MURRAY. So if it can't get a new seal, it's going to be monitored? It's not just going to be——

Mr. STICKLER. If it's less than a 120 pounds per square inch, it must be monitored.

Senator MURRAY. OK. One last question for you. Earlier this week, MSHA published a new proposed rule as required in the MINER Act which would require underground coal mines provide refuge alternatives to protect miners when a life-threatening event makes escape impossible.

The proposed rule doesn't indicate how long after the rule is finalized that these requirements could go into effect. Can you tell us what the timetable is for implementing that new rule?

Mr. STICKLER. On the refuge alternatives, my understanding is that the proposed rule does have language that specifies that those refuge alternatives that have been approved by State agencies, State mine safety agencies that have been accepted by MSHA in the emergency response plans that we have approved, that the structures will be accepted for 10 years or until it's replaced, and the components, the chemicals for scrubbing the carbon dioxide and things of that nature, would be accepted for a period of 5 years or until those components are replaced, whichever is the shortest amount of time.

Senator MURRAY. OK. Senator Isakson, Senator Rockefeller, do you have any additional questions for this panel? All right.

Well, thank you, both of you. We do have some additional questions that will be submitted from the committee. We would appreciate your response on those as well.

Senator ROCKEFELLER. Madam Chairman, actually, I have——

Senator MURRAY. Yes?

Senator ROCKEFELLER. I apologize. There's a marvelous phrase called "culture of safety" and it's marvelous because it's really what it's all about. It involves you and it involves all of us. It involves coal miners. It involves operators.

It's also an extraordinarily difficult thing to do, whether you're dealing with the Department of Defense or the Department of Agriculture or the intelligence community. Changing into a culture of safety is such an easy phrase and virtually impossible to do.

It may be possible at some mines and not at others. It may be impossible at all mines. Everybody wants safety. The billboards are plastered everywhere, all over the place.

What are you doing about that?

Mr. STICKLER. Well, MSHA is using the tools that Congress has provided the agency to improve safety. A big part of what we do is enforcing that there's compliance with the mine safety laws through the Enforcement Program. Approximately 70 percent of

our budget is dedicated toward enforcement of the mine safety laws.

Second——

Senator ROCKEFELLER. No, no. I'm not talking about that at all. I assume you're doing that, hope you're doing that.

I'm talking about a culture of safety, which is within the brain and intuition of the mine operator, the miner and all of us. I'm not talking about enforcing safety standards. I'm talking about that particular change of attitude which, in fact, I think in the long-term in both big mines and small mines is what is the best answer of all.

Mr. STICKLER. Well, I think there's several ways to bring about a change in attitude and certainly enforcement in my view with some operators is probably the most effective way to bring about a change in attitude.

Senator ROCKEFELLER. Well, your fines are helping to do that.

Mr. STICKLER. Education and training is another key part of our responsibility. We operate the academy in Beckley, WV. We devote about 11 percent of our budget toward education and training. We produce hundreds of thousands of instructional documents, DVDs, videos, hard paper documents. So education and training is another key ingredient.

Senator ROCKEFELLER. Mr. Stickler, you were doing that before, too. Have the videos, the booklets changed? You understand what I'm trying to get at. It's not very complicated.

Mr. STICKLER. Evidently, I don't understand your question.

Senator ROCKEFELLER. Well, then I will wait and try it on somebody else.

Mr. KOHLER. We have some ongoing work in NIOSH, some research projects looking specifically at safety culture and we've been going into some underground coal mines and we're trying to identify what the specific actions and characteristics are that management takes and others take which lead to this change in people's behavior and in doing that, in talking with the miners, talking with the operators, we are, in fact, identifying certain steps that can be taken, and we hope over the next 2 or 3 years, to make this really a major focus of how to change safety culture in the mines.

Senator ROCKEFELLER. Yes. And understanding that this will take a long, long time, I really hope I never hear somebody say I don't understand what you mean, like you just did, Mr. Stickler, to a question that large and that profound.

Thank you, Madam Chairman.

Senator MURRAY. Thank you very much, Senator Rockefeller.

I hope that both of our witnesses will stay to hear the next panel in case we have any additional questions for you.

With that, we'll bring up our second panel and hear from Dennis O'Dell and Bruce Watzman.

We will move to our second panel here. I'm having a competition between these two guys here, so I'll interrupt that and go to our panel and we will begin with Dennis O'Dell. So they're going to go behind my back here and do it.

Dennis, we'll begin with you.

STATEMENT OF DENNIS O'DELL, ADMINISTRATOR OF OCCUPATIONAL HEALTH AND SAFETY, UNITED MINE WORKERS OF AMERICA (UMWA), FAIRFAX, VA

Mr. O'DELL. Thank you, Madam Chairman, Senator Isakson, Senator Rockefeller.

I'd like to thank you on behalf of all the members of the United Mine Workers of America for holding another important meeting on workplace safety for miners.

The Union is pleased to share its perspective regarding what has and has not occurred concerning coal mine safety since the passage of the MINER Act some 2 years ago. We very much appreciate your interest in protecting the Nation's miners and their families. We are also pleased that you understand the need for continued oversight of the Federal agencies charged with protecting the health and safety of all miners.

I would also like to go on record today thanking Senator Kennedy for the recent report issued by the Health, Education, Labor, and Pensions Committee regarding the Crandall Canyon Mine disaster, as well as offer our thoughts and prayers to him and his family for his recently discovered illness. We know the Senator is a fighter and will be back soon in full stride.

This committee's report uncovered a very disturbing story with much insight and facts, the story of the extent to which some operators will violate the laws and ignore the health and safety of our miners while using its influence to maximize their profits.

The report indicated that the operator at Crandall Canyon overlooked the needs of miners and coerced the Federal Mine Safety and Health Administrator into abdicating its responsibility to protect those workers, thus causing the tragedy that led to the loss of those miners.

The senseless act only reinforces what miners have said for years and that is, that every coal mine health and safety law in this country is written in coal miner's blood. Despite the existing laws governing miners' health and safety, miners continue to die at an alarming rate. Already this year, we have had 15 miners killed. This is far too many.

It's imperative that further improvements are made in our laws and regulations so that no more miners risk their life simply because they work at a mining operation.

I come out of the coal fields, having been an underground coal miner for nearly 19 years. From there, I was appointed as an international health and safety representative in the field, and in 2005, was appointed as the administrator for Health and Safety for the United Mine Workers. That gives me to date 30+ years experience in the coal mining industry.

I only say this to you so that you will know that I've lived the majority of my life as a coal miner. One of the hardest things I think I've ever had to learn from working as a coal miner on a day-to-day basis to where I am now as an administrator for Health and Safety for the United Mine Workers is that safety regulations are not passed simply because it makes sense and they save lives but that there's a cost factor involved, whether it be the cost of someone's life or it has to be economically feasible for the operator. I just wonder how much is a life worth? What does it really cost?

This was a disappointment for me to learn and it's still hard for me to understand.

The other thing that's tough to understand is that the passage of laws aren't the same for small operators as they are for large operators. That's something that we need to get fixed. Let me, if I can, give you an example of what I'm trying to lay out.

On February 7, 2008, MSHA issued its criteria for procedures for proposed assessment of civil penalties in the final rule. The rule became effective March 10, 2008. The intent of it was to have MSHA revise its penalty assessment program in such a way that it would force all mine operators to comply with the MINER Act and regulations.

But what the agency did, contrary to this directive, they've offered a plan that separates the assessment program into several different schemes. The agency's proposal will permit small operators to avoid appropriate fines for violating the law while holding large mine operators to a much higher standard and penalty.

The bottom line is based on the size and ability to pay, small operators could be exempt from certain fines that large operators are not exempt, creating not only an unfair advantage but weakening the protection for those miners at these smaller operations.

It's our belief that miners deserve the same protection whether they work at a mine that employs 5 miners or 500. This needs to be corrected.

Now let me talk about the conferencing of citations, if I may. The Union previously expressed concerns about the ability of mine operators to abuse the conference system. Our concerns were validated by MSHA's reporting in that press conference on June 16, just a few days ago, that there are around 200 operators that have contested 100 percent of their citations.

Internal company documents obtained during the Health Committee investigation of the Crandall Canyon disaster prove this to be a deliberate strategy of that mine operator and it's apparent from the press conference from MSHA that other operators employ this tactic as well.

We believe that MSHA's taken some important first steps in addressing this issue when they issued a procedural instruction letter to address the conferencing system but so far it has not slowed the operators down in jamming up the system.

Let me touch on a few things that we think has been positive. An outgrowth of the MINER Act, the Technical Study Panel on the Utilization of Belt Air and Composition and Fire Retardant Properties of Belt Materials in Underground Coal Mining, after completing their analysis, issued 20 consensus recommendations to the Secretary for consideration.

The Union is generally pleased with the work of the panel and would credit it with compiling extensive documentation and testimony on the subject and using that information to recommend important improvements in mine health and safety.

We believe that MSHA should follow suit and adopt the recommendations into the final rule. So far, we see some hints of watering those recommendations down. We need to accept those recommendations.

Another area is the hiring of inspectors which you heard Mr. Stickler talk about prior to me.

They've said that with the increased number of inspectors, they are able to get all the mine inspections completed in the time period mandated by the MINER Act which is four times a year or four quarters on underground mines and two on the surface.

Yesterday, I spoke with some miners in Pennsylvania and one of the things that they were complaining about is the way MSHA's accomplishing this. What they're doing is they're sending a large number of inspectors into a coal mine at the last minute of the last days of that quarter to finish that inspection.

So if the inspection period ends on Friday, you may have on Thursday and Friday six or seven Federal mine inspectors there, some from, say, Pennsylvania, for example, inspectors from Ohio, West Virginia, Kentucky, maybe from the anthracite, and they're doing a run-through to try to get that inspection done so that they can say they meet the mandate to finish the inspections by the end of the quarter.

I honestly don't believe this is what Congress intended. I think the operators are equally upset with this because they have to provide manpower to travel with these inspectors. This is something that needs to be addressed and it's something that needs to be fixed.

The other thing that miners are complaining about is that these inspections are only—the majority of these inspections are only done on day shift. We need to get these inspectors out there on the midnight shifts, on the afternoon shifts, when all the other activities are taking place as well.

On a positive note, the MINER Act has had a positive effect on the pattern of violations when MSHA chooses to use it. Using the standard as a routine tool to induce compliance will have a beneficial impact on the health and safety of miners.

We still have much work to do on the sealing of abandoned and worked-out areas, as you touched on with the panel previous to us. We need to look into that. Although some steps have been taken to improve it, we need to do better.

Having dedicated the better part of my career to improving miners' health and safety, I have investigated far too many tragedies, visited many injured miners and consoled many grieving family members. We can appreciate the improvements that have been made in the last 2 years, but so much more is needed to be done. Our job is not yet completed.

It's time for bolder action and bigger steps. MSHA must be convinced or directed to implement all the provisions of the MINER Act as Congress has mandated and the Senate should pass and encourage the passage of the S-MINER Act that was passed by the House.

In closing, on behalf of all coal miners, I would like to thank you again for what you've done. Many in this industry had hoped by now that your interest would have died off. There are folks within MSHA pulling their hair out because you're pressing them to do a better job and to be accountable. Others in MSHA are glad to get your support so that they can finally do their job. NIOSH is feeling pressure and an increased workload to find the best solution with

the limited budget and a quick timeline, but those within NIOSH that truly have the miners' best interests at hand will rise to the occasion.

To be very honest, there are many operators in this industry that were hoping you would have just gone away by now and had no further hearings so that the chance of the passage of the MINER Act 2 would die and the mandates of the MINER Act that you've already passed could be watered down.

As a representative of the miners, I thank you for keeping your continued interest alive. As a coal miner, I thank you as well so that maybe more of us won't have to die.

Thank you.

[The prepared statement of Mr. O'Dell follows:]

PREPARED STATEMENT OF DENNIS O'DELL

COAL MINE HEALTH AND SAFETY IN THE UNITED STATES

Madam Chairman and members of this Subcommittee on Employment and Workplace Safety, I would like to thank you on behalf of all the members of the United Mine Workers of America (UMWA or Union) for holding this very important hearing. We are eager to share the UMWA's perspective regarding what has—and has not—occurred concerning coal mine health and safety since the MINER act passed some 2 years ago. We appreciate your interest in protecting the Nation's miners and their families. We are also pleased that you appreciate the need for continued oversight of the Federal agencies charged with the responsibility to protect the health and safety of all miners.

It is said that "Every coal mine health and safety law in this country is written in coal miners' blood." Despite the existing laws governing miners' health and safety, miners continue to die at alarming rates. Already this year, we have lost *14* coal miners. This is far too many. We need to further improve our laws and regulations so that no miner will be killed just because he goes to work at a coal operation.

It took the Jim Walters Resources disaster of September 2001, and the Sago, Aracoma and Darby disasters of 2006 to achieve the post-accident improvements contained in the Mine Improvement and New Emergency Response Act of 2006 (MINER Act). We hope that Congress will appreciate that lessons learned from the Crandall Canyon disaster demonstrate that it is imperative to enact further legislation to protect miners, such as the pending S–MINER Act.

We must learn from tragedies and near misses alike. We should take corrective action. However, as two recent investigative reports demonstrate, MSHA is not doing a good enough job protecting miners. The U.S. Senate Committee on Health, Education, Labor, and Pensions (HELP) Report and the Department of Labor's (DOL) Office of Inspector General's (OIG) Report regarding MSHA's actions and inactions at the Crandall Canyon mine last August both show internal problems at the Agency. I commend Senator Kennedy and the entire HELP Committee and the DOL's OIG on their Reports and would like to make both Reports a part of this record. From these reports it is evident that MSHA is incapable of policing itself.

When Congress passed the MINER Act, it constituted the first Federal mining law enacted in almost 30 years. While it offers miners a better chance of surviving and escaping a fire, explosion, innundation or mine entrapment, in order for it to be most useful to miners it must be effectively codified in regulations by MSHA. As investigators outside of MSHA have discovered, MSHA continues to make dire mistakes, at the expense of miners' safety.

CRANDALL CANYON MINE DISASTER

Report Released by the Health, Education, Labor, and Pensions Committee Edward M. Kennedy, Chairman

First, let me thank Chairman Kennedy on the record for the recent Report issued by the Health, Education, Labor, and Pensions Committee regarding the Crandall Canyon mine disaster. That Report is insightful and factual.

It shows the extent to which some operators violate and ignore health and safety laws. The Report indicates that the operator at Crandall Canyon overlooked the needs of miners and coerced the Federal Mine Safety and Health Administration

into abdicating its responsibility to protect those workers. Indeed, it demonstrates that this operator systematically used its influence when it could to maximize profit.

As the Report illustrates, that operator made multiple attacks on a system designed in many cases to be slow and methodical. The disaster was partly attributable to the operator's deliberate intimidation of MSHA inspectors and supervisors, but also to a misguided desire on the part of some agents of MSHA to appease the operator by reducing enforcement in return for favors. The Company strategically challenged most citations, thereby overwhelming an already overtaxed program. Further, Bob Murray's words and tactics, and those of his surrogates, were well-known and documented by the Agency and by the industry: his established way of doing business is to intimidate, threaten, peddle his influence when he can.

Regrettably, the disaster at Crandall Canyon was clearly preventable. We now know that Bob Murray had prior knowledge of problems that were being experienced at the mine—even though he later denied that to the press and families. Let me say on behalf of the UMWA that we concur with the Report that, ". . . miners were exposed to unnecessary and extreme risks. The mine operator and MSHA must be held accountable for their failures of diligence, care and oversight."

Report of U.S. Department of Labor, Office of Inspector General—Office of Audit

Just 25 days after Chairman Kennedy's committee issued its report, the Office of Inspector General (OIG) of the U.S. Department of Labor issued its own report on findings regarding MSHA's involvement in approving the roof control plan, and then assuring the operator's compliance with the approved plan leading up to the Crandall Canyon disaster. The OIG investigation also considered some of the post-accident rescue and non-rescue activities. The OIG report found that:

> "MSHA was negligent in carrying out its responsibilities to protect the safety of miners. Specifically, MSHA could not show that it made the right decision in approving the Crandall Canyon mine roof control plan or that the process was free from undue influence by the mine operator. MSHA did not have a rigorous, transparent review and approval process for roof control plans consisting of explicit criteria and plan evaluation factors, appropriate documentation, and active oversight and supervision by Headquarters and District 9 management. Further, MSHA did not ensure that subsequent inspections assessed compliance with, and the effectiveness of, approved plans in continuing to protect miners. MSHA and mine operator officials worked together to develop rescue plans related to the August 2007 tragedy with MSHA exercising final approval authority over all activities. MSHA, however, lacked guidance on appropriate non-rescue activities."

The OIG found the Agency was complacent in enforcing the Mine Act. Moreover, it identified several instances where MSHA personnel ignored its established protocol and modified a Federal regulation to allow the plan to be approved, and then remain in place even after learning about material facts that should have caused it to reconsider. An MSHA supervisor, after meeting with company officials, was found to have ignored the assessment by an employee under his direction that the roof control plan proposed at Crandall Canyon was not safe and should be rejected.

The OIG Report not only reinforces the findings of the HELP Committee, but it also validates what the UMWA has been saying for quite some time: In recent years, the Mine Safety and Health Administration has ceased to be the enforcer of the Nation's mining laws and the protector of miners. Instead it is more concerned with increasing operators' production and growing their bottom lines. This was never what Congress intended when it enacted our mining laws, whether in 1969, 1977 or in 2006. The Agency needs to return to its fundamental purpose: that is, to protect the health and safety of miners.

Like the HELP Committee Report, the OIG Report underscores the need to create an independent body to investigate mining accidents and disasters. The UMWA has been calling for an independent investigative body for decades. For the record: MSHA has clearly demonstrated time and time again its inability to police itself. The UMWA is once again recommending the establishment of an independent body to conduct post-accident investigations.

ASSESSMENT OF CIVIL PENALTIES

On February 7, 2008, MSHA issued its *Criteria and Procedures for Proposed Assessment of Civil Penalties; Final Rule*, 30 CFR Part 100. The rule became effective March 10, 2008.

The intent of Congress was to have MSHA revise its penalty assessment program in such a way that it would force *all* mine operators to comply with the Mine Act and regulations. The Agency, contrary to this directive, has offered a plan that sepa-

rates the assessment program into several different and inequitably applied schemes. The Agency's proposal will permit small mine operators to avoid appropriate fines for violating the law, while holding large mine operators to much higher standards and penalties. The Agency also proposes tolerating a more relaxed set of criteria at metal/non-metal operations. This approach does not enhance the health and safety protections for the Nation's miners and will not force large segments of the industry, that obviously need additional inducements, to take necessary action to comply with the law.

Rather than adopt an approach that forces across-the-board compliance, the Agency—while incrementally increasing the initial civil penalty—mitigates the overall effect of this increase by applying an outdated and failed litmus test to determine what operators are actually assessed. However, the criteria will in practice reduce the penalties to some of the most dangerous operations. These mitigating circumstances include:

(1) The appropriateness of the penalty for the size of the business of the operator charged;
(2) The operator's history of previous violations;
(3) Whether the operator was negligent;
(4) The gravity of the violation;
(5) The demonstrated good faith of the operator charged in attempting to achieve rapid compliance after a notification of a violation; and
(6) The effect of the penalty on the operator's ability to continue in business.

If a small mine operator is unable to financially comply with mandatory health and safety standards, then they should not be in business. Coal miners are exposed to enough inherent dangers without also tolerating an operator's noncompliance due to a financially precarious operating budget. We would hope that the Agency is not saying that miners employed at small mines should be afforded fewer health and safety protections than those afforded to miners at larger mines. If so, this essentially gives smaller operations the license to kill and maim.

Some of these standards should have been eliminated when MSHA drafted its new regulation. The Union believes the Agency's 30 years of experience in gathering information on mine operator violations and assessing penalties is sufficient to apply the mandate of Congress in a far more targeted manner.

MSHA should be able to determine what operations require special attention. The Agency is aware that small mine operators generally do not offer their miners the same level of protection as do larger operations. While MSHA has identified some of these areas of special concern, such as by initiating the tri-State initiative and the small-mine department, it should also use this knowledge to more effectively protect miners employed at small mines. Giving small mine operators a break in the penalty scheme is not the answer.

The Agency must consider if the potential for a penalty is sufficient to force an employer to correct an existing problem prior to the arrival of an inspector. In particular, at small operations—that do not usually receive frequent inspections—management simply will *not* be induced to take a proactive approach to health and safety based on this rule. In real terms, will this cause the small operator to replace a worn tire when it becomes hazardous *without* intervention by the Agency? Or will it permit them to continue to operate the hazardous equipment because the ultimate fine will be $100 and a new tire costs $20,000? The penalty must fit the violation and in some instances that requires *greater* enforcement sanctions by MSHA.

The Union believes the *baseline* penalty for all citations of a similar nature should be identical without regard to any mitigating factors, especially mine size. After all, a miner is a miner. The Agency should therefore consider *increasing* the size of the penalty based on the immediate conditions of the violation. The appropriate criteria should include:

(a) The operator's previous violation history (over the past 24 months);
(b) The degree of operator negligence;
(c) The gravity of the violation; and
(d) The number of persons who were or would have been affected/injured by the condition had it been permitted to continue to exist.

There should be no circumstances or factors that are permitted to mitigate the amount of the assessment. This must include giving no consideration to the size of the penalty in reference to the size of the operator, any demonstration of good faith to correct a cited condition or the affect on the operator's ability to continue in business. Non-compliance at small mines is not a new problem. It has existed for well over 30 years. Miners are being injured and dying at these operations in disproportionate numbers, and MSHA needs to act accordingly.

Miners at *all* operations, no matter what the size, deserve the same protection under the law. There can be no special circumstances that would permit any violation to be viewed as less severe based on unrelated and outdated criteria. The Union would recommend that Congress direct the Agency to correct these flaws in the current regulation.

PATTERN OF VIOLATIONS

The decision by MSHA to exercise its authority under 30 CFR Part 104, Pattern of Violations, represents an important step in achieving greater compliance. This regulation identifies mine operators who have, "established a pattern of significant and substantial (S&S) violations at the mine." Using this standard as a routine tool to induce compliance will have a beneficial impact on health and safety.

Whereas MSHA previously failed to use this power, it has begun to take advantage of this compliance tool to progressively increase pressure on operators and force them to address health and safety problems at their operations. The operators thus have significant control over the severity of their own regulatory penalty. Operators who move to correct hazardous conditions are removed from the pattern system. Operators who seek to continue the status quo or resist the Agency's attempt to force compliance will suffer increasing regulatory intervention by MSHA. Ultimately, operators who refuse to voluntarily follow the law will be issued orders to withdraw all miners from the affected area until the Agency is satisfied that the condition has been corrected. This type of enforcement, while rare, is necessary and appropriate in some cases.

The Union is pleased to see that MSHA has finally decided to use this available tool to increase pressure on mine operators who habitually violate the law.

FLAGRANT VIOLATIONS

Section 8(b) of the MINER Act states that, "Violations under this section that are deemed flagrant may be assessed a civil penalty of not more than $220,000." The act defines flagrant to mean, ". . . reckless or repeated failure to make reasonable efforts to eliminate a known violation of a mandatory health or safety standard that substantially or approximately caused, or reasonably could have been expected to cause death or serious bodily injury . . . "

The UMWA is pleased to see that MSHA has been exercising this new authority to apply enforcement leverage to uncooperative operators. We encourage MSHA to continue to use the "flagrant" power and to do so in a consistent and even-handed manner to effectively protect the health and safety of all miners.

We only wonder how it was that Crandall Canyon has escaped this enforcement tool!

CONFERENCING OF CITATIONS

The Union previously expressed concerns about the ability of mine operators to abuse the conference system. Our concerns were validated insofar as many operators were overwhelming the process by requesting a conference for almost every citation issued by the Agency. Internal company documents obtained during the HELP Committee investigation of the Crandall Canyon disaster proved this to be a deliberate strategy of that mine operator. It is apparent that other operators employ this tactic, too.

This "plan of action" by operators created several problems within the Agency. The sheer volume of citations conferencing officers were approving for hearings limited the Agency's ability to prepare and defend the citations. In most cases, the mine inspector who issued the citation was unable to attend the conference to explain the reason for the citation, leaving the conferencing officer with no first-hand knowledge of the conditions cited. As a result, most of the citations that went before the officer were reduced or abated. In reality, by overloading the system, the mine operator could reduce or eliminate its liability and therefore the amount of the civil penalty. This problem has existed for many years and should have been addressed previously.

We believe that MSHA has taken an important first step—albeit belatedly—in addressing this issue. On February 4, 2008, Kevin Stricklin, Administrator for Coal Mine Safety and Health, and Felix Quintana, Administrator for Metal and Nonmetal Safety and Health, issued Procedural Instruction Letter (PIL) No. 108–III–1 to adjust the conferencing system. The PIL generally limits conferences to unwarrantable failure and high negligence violations, albeit with a window for other challenges when appropriate. This should prevent the operator abuse that previously plagued the system.

CLOSURE ORDERS

MSHA needs to understand that greater compliance pressure must be placed on some operators in the industry. History has shown that as long as production continues, some mine operators do not feel compelled to comply with health and safety laws or correct outstanding violations. The Union has long urged MSHA to require the cessation of all production work and the withdrawal of miners, except those needed to correct the hazardous condition(s). This approach will force rogue operators to comply with the law and encourage a culture more focused on health and safety.

The Union believes that the Agency has had this authority under section 104 of the act; we recently learned that MSHA plans to exercise this authority when needed to coerce compliance. While we feel this is long overdue, we nevertheless appreciate this new direction.

BELT AIR

An outgrowth of the MINER Act, the Technical Study Panel on the Utilization of Belt Air and the Composition and Fire Retardant Properties of Belt Materials in Underground Coal Mining (Panel or TSP) began its work in January 2007. In the following 18 months, the TSP held various meetings around the country and toured several mining operations to gather relevant information. On December 18, 2007, after completing their analysis, the Panel issued 20 consensus recommendations to the Secretary for consideration.

The Union is generally pleased with the work of the Panel and would credit it with compiling extensive documentation and testimony on the subject and using that information to recommend important improvements in mine health and safety.

The Union still believes that use of belt air is generally unsafe for numerous reasons, many of which the Panel identified and noted as being unsafe. Though the Panel failed to recommend the banning of belt air, it determined that for certain operations, based on geology, depth of coal seam and methane gas liberation, the use of belt air can be justified *so long as* other protections are provided. Indeed, the Panel suggested that protections beyond those currently required by MSHA's belt air rule be added whenever belt air is approved.

The Panel indicated that the 2004 belt air rule that MSHA promulgated—over strong UMWA objection—is not sufficiently protective of miners. It also expressly noted that most current mining operations do not require the use of belt air and, absent a demonstrated enhancement of safety, should not be permitted to use it.

The Union believes that MSHA should begin the process of promulgating a new belt air rule. This rulemaking process should be expedited and follow the recommendations of the TSP. Also because of pressure from mine operators on MSHA District personnel, the Agency must take steps to see that the Headquarters staff oversees all requests for the use of belt air.

BELT FLAMMABILITY

The question of belt flammability has been a concern of the UMWA and other health and safety organizations for at least a few decades. Attempts to promulgate a rule with regard to flame-resistant belts began in the early 1980s, but such a rule was never completed. Then in 2002, the Assistant Secretary for Mine Safety and Health, David Lauriski, a former coal mining executive, removed the "belt flammability rule" and 16 other then-pending regulations from further consideration. Failing to develop a protective rule on belt flammability was costly when a belt fire at Massey Energy's Aracoma Alma No. 1 Mine claimed the lives of two miners on January 19, 2006.

The TSP that considered belt air also analyzed belt flammability and urged MSHA to immediately re-propose and implement the rule that was previously proposed but withdrawn in 2002—Requirements for Approval of Flame-Resistant Conveyor Belts.

There was also consensus among the members of the Panel that all mines, regardless of whether they use belt air or not, should be required to install belts that meet the new flame-resistant requirements. The Panel also recommended that operators install additional fire detection hardware and software to current atmospheric monitoring systems (AMS) in order to use belt air. The Panel further recommended the use of smoke detectors in conjunction with CO sensors and suggested that MSHA consider other gas detection devices, too. Further, all AMS records in any mines using belt air should be reviewed by MSHA inspectors during regular inspections to determine the number and nature of all false alarms.

The Union is convinced that a belt flammability rule is long overdue. The Union urges MSHA to begin the process of promulgating a new belt flammability rule. This rulemaking process should be expedited and follow the recommendations of the TSP.

SEALING OF ABANDONED/WORKED-OUT AREAS

In May 2007, MSHA issued the Final Rule: Sealing of Abandoned Areas, 30 CFR Part 75 §335, §336, §337, §338 and §371. The Union is generally pleased with most of the requirements in that rule and thanks MSHA personnel and support staff for their hard work on behalf of the Nation's miners. The Union believes that some of its recommendations that MSHA failed to include in the rule are still necessary and should be pursued by the Agency.

In particular, we believe that all seals, no matter what the static or dynamic pressure rating, should be equipped with devices to monitor the atmosphere it is designed to separate from the active workings. This monitoring should be done through a combination of surface boreholes and seal sampling tubes (at least two sampling tubes should be placed in the highest seal in each bank of seals constructed). This approach would permit mine operators, miners and the regulatory agencies to be aware of the atmospheric conditions in the sealed area. We believe that this monitoring scheme would be more protective of miners.

The UMWA also believes that MSHA should re-consider whether to restrict some materials from being used to construct seals. The use of some materials, such as Omega Blocks and wood, have no place in seal construction at underground mining operations. They do not offer the necessary protections outlined in the Mine Act and should be prohibited for such applications. The ineffectiveness of Omega Block seals was witnessed firsthand at Sago.

COMMUNICATION/TRACKING DEVICES

The UMWA is pleased that MSHA, with the assistance of the National Institute for Occupational Safety and Health (NIOSH), is in the process of evaluating and testing several communications systems for in-mine use. Likewise we are pleased that MSHA has agreed to expedite the approval process for all such devices. Based on the current status of these devices, we agree with the Agencies' dedication of significant resources toward developing a two-way wireless communication system. We also agree with their assessment that development of the system is the most technically challenging, and that once it is completed a tracking system can easily "piggy-back" onto the existing communication system.

There has been some progress with respect to wireless technology for underground mining application. However, despite recent announcements that a wireless tracking system has been approved by MSHA's Approval and Certification Center (A&CC), it must be pointed out that the approved system is not entirely wireless. The Mine Tracer Miner Location Monitoring System made by Venture Design Services, Inc. uses infrared RIF readers placed at specific locations in mine entries to track miners who are wearing a transponder as they pass the reader. It is capable of transmitting this information wirelessly for several thousand feet, *provided* the readers are installed in a line-of-sight configuration. However, the information is transmitted to a distribution box that requires a hard wire connection from the underground to the surface.

While these advances are important, we need to continue to pursue truly wireless technology if we are to achieve the mandates of the MINER Act and offer miners the best chance of rescue in an emergency situation. To reach this goal, it is critical that Congress allocate sufficient dedicated funds to both MSHA and NIOSH to complete this important task.

MINE INSPECTORS/MINE INSPECTIONS

Approximately 273 individuals were hired into inspector positions, and the first hires have nearly completed their initial training.

This does not solve MSHA's long-term problem. Like the entire mining community, much of the current inspectorate will reach retirement age in the next 5 years. The General Accounting Office recently estimated that approximately 41 percent of those eligible (154 inspectors) will leave the Agency by 2012. Thus, it is imperative for MSHA to regularly and continuously hire inspector trainees.

An additional benefit of planning for substantial retirements will result in the return of MSHA's ventilation, roof control, electrical and other specialists to their primary assignments—carefully reviewing and addressing mining plans submitted by the operators—rather than serving as fill-in inspectors.

REGULATIONS

In addition to the issues already raised during my testimony, the UMWA also believes that MSHA must adopt an aggressive regulatory agenda to address these other important issues to enhance health and safety protections for miners:

1. Improve atmospheric monitoring systems (note the Technical Study Panel addressed this issue);
2. Develop a nationwide emergency communication system;
3. Reduce miners' occupational exposure to coal mine respirable dust;
4. Update air quality chemical substance and respiratory protection standards;
5. Promulgate a rule on confined spaces;
6. Promulgate a rule on surge and storage piles;
7. Reduce respirable crystalline silica exposures;
8. Provide for verification of surface coal mine dust standards; and
9. Promulgate a rule on requiring continuous monitoring of coal mine respirable dust in underground coal mines.

INDEPENDENT INVESTIGATIVE BODY

The UMWA has been advocating the creation of an independent investigative body, much like the National Transportation Safety Board or Chemical Safety Board, to investigate post-accident mine tragedies. Recent events in the Nation's coal fields have only reinforced the need for such a board.

For many years, we have realized that mine operators cannot be trusted to police themselves. In 1969, 1977, and again in 2006, Congress reached this inescapable conclusion. While MSHA was created to protect miners, in recent years we have witnessed the Agency cower to industry pressure. Too often it concerns itself about the potential cost of issuing new or improved regulations and enforcing existing laws, rather than focusing on protecting miners. The two Crandall Canyon reports cited earlier in my testimony demonstrate problems internal to the Agency.

MSHA must be required to return to its core mission and offer comprehensive and strict enforcement of the Nation's mining laws. Further, the Agency does not possess the ability to conduct thorough and independent investigations into its *own* conduct and the role it plays in mine disasters and near misses. It can no more conduct an impartial investigation into its own contribution to a mining disaster than could the operator of the affected mine.

Therefore, it is extremely important for the long-term survival of the Agency and ultimately the health and safety of miners across the country that a truly independent body be assigned a key role in investigating MSHA's and the operators' role in such horrific events. Failure to do so will inevitably lead to more death and sorrow in the Nation's coal fields.

PROGRAM FUNDING

Based on the mandates of Congress, it is imperative that increased and sustained funding be available if we are to offer miners the greatest protection possible. The Union would, therefore, also urge Congress to adequately fund other agencies and programs that advance the health and safety of the Nation's miners. These include:

- Pittsburgh Research Center;
- Lake Lynn Experimental Mine and Facility;
- Appalachian Laboratory for Occupational Health and Safety, Morgantown, WV;
- MSHA's Approval and Certification Center;
- Personal Dust Monitors (PDM); and
- Colorado School of Mines.

SUPPLEMENTAL MINER ACT (S–MINER)

In 2006, having witnessed back-to-back tragedies at Sago, Aracoma and Darby, Congress determined that something was very wrong with coal mine health and safety. The passage of the MINER Act of 2006 helped re-direct MSHA to its core mission, at least concerning the post-accident events. However, as already provided in this testimony, and the HELP and OIG Reports very well articulate, we have much more to do before many of the identified problems are corrected and the many needs *not* addressed by the MINER Act are acted upon legislatively. The S–MINER Act, which your colleagues in the House passed last year, provides an excellent means for fixing remaining shortfalls in miners' health and safety.

At the time of the signing of the MINER Act, we hailed it as an important *first step* in addressing the hazards and dangerous conditions miners face daily. We still believe that once fully implemented as Congress intended, it will be very beneficial to miners who find themselves attempting to survive or escape a mine disaster. But

that was not enough. Now is the time to move forward with additional legislation to help prevent such disasters from occurring in the first place.

The time has come to move forward with the S–MINER Act. This legislation that was passed out of the U.S. House of Representatives on January 16, 2008 is the first measure since the passage of the 1977 Mine Act aimed at *preventing* accidents and disasters. There can be no doubt that such a law is long overdue.

While we have discussed some of the health and safety enhancements still needed and which are contained in the S–MINER Act, it is important to review that proposed legislation as an integrated whole. If enacted, the S–MINER Act would offer greater protection to miners by:

- Requiring a communication system, at least as effective as a leaky feeder system, be installed in all mines within 120 days of enactment of the legislation; also mine operators would need to upgrade to better systems as the technology becomes available.
- Requiring mobile emergency shelters within 500 feet of the working face in all working sections within 60 days.
- Seals.—All seals designed to withstand less than 240 psi would be monitored:
  1. Through at least one seal in each bank of seals.
  2. Through surface boreholes.
  3. Within 1 year, monitoring would be done by a continuous device.
  4. Applicable to metal/non-metal mines.
- Ventilation Controls.—Within 1 year all stoppings in sections other than pillar sections would:
  1. Be constructed of solid blocks, laid wet, sealed with bonding agent on at least the intake side.
  2. Pillar sections may use hollow blocks and bonding agent.
- Flame-Resistant Belts.—By December 31, 2012 all belts would have to meet the flame-resistant requirements recommended by NIOSH. Shall apply to metal/non-metal mines.
- Belt Air.—By June 20, 2008 MSHA would have to revise its regulations and approve the use of belt-air only by the 101(c) petition process. Petitions would have to demonstrate significant safety constraints requiring their use and the operator would have to agree to MSHA's requirements for such usage. Mines currently using belt air could continue for currently developed areas.
- Communications.—Pre-Shift Review of Conditions
  1. Upon exiting the mine, the foreman, examiner or other agent of the operator would have to meet with their cross-shift and verbally communicate the conditions in the mine.
  2. The incoming foreman, examiners or other agents would have to communicate this information with all members of the crew.
- Atmospheric Monitoring.—All areas where miners work or travel would have a continuous atmospheric monitoring system installed.
- All miners working alone for any part of a shift would be equipped with a device to measure levels of methane, oxygen and carbon-monoxide.
- The National Academy of Science would undertake a study of lightning and offer recommendations to the Secretary to better protect miners, with the study to be completed within 1 year.
- Barrier Reduction and Pillar Recovery.—Special internal plan review process for operations engaging in such work at depths greater than 1,500 feet or at a mine with a history of bumps.
  - Operator would have to have an approved plan.
  - Operator would have to notify MSHA one week before beginning such mining.
  - MSHA would respond to notice in writing.
    - to ensure all miners engaged in such work are trained.
    - to witness such work to ensure it is done safely.
    - could stop such mining at any time for safety reasons.
  - National Academy of Science.—Would study the issue and make recommendations if necessary.
- SCSR Random Testing Program
  - NIOSH would conduct annual random sampling of SCSRs in the field and determine the number to be sampled annually.
  - Operators would be responsible to purchase replacement units.
- MSHA Approval Center Priorities
  1. Next generation SCSR.

2. Wireless communications.

• NIOSH Research Priorities for Next 5 years

1. Next generation SCSR.
2. Battery technology for communication and Personal Dust Monitor.
3. Advancing mine rescue team technology.
4. Improved ventilation controls.
5. Development of a mine-wide monitoring system.

• MSHA's Inspection Force

1. Creation of Master Inspector Position (increased responsibility and pay).
2. Lifting the employment limits to train new inspectors before current ones retire; bar to be lifted for 5 years.
3. If new inspectors cannot be hired in adequate numbers, retired inspectors could be employed on a contract basis.

• Creation of the Office of Ombudsman Within Office of Inspector General.

1. Appointed by the President.
2. Approved by the Senate.
3. Handles confidential complaints of miners, family members and others.
4. Toll free phone number and internet site for contact.
5. Tracks injuries, illness and violations.
6. Monitors Secretary of Labor's efforts on behalf of miners.

• Pattern of Violations

1. Clarifies how to determine a pattern of violation.
2. Sets criteria for removal from pattern of violation status.
3. Fines for pattern from $50,000 to $250,000.
4. Withdrawal of miners from the entire mine when deemed necessary. No other work shall be performed during this time except to correct outstanding violations.

• Failure to Pay Penalty in a Timely Manner

1. If no notice of contest is filed in 30 days, the citation is considered final and not subject to appeal.
2. MSHA may cease production at the operation for failure to pay fines.

• Factors for Assessing Penalties

1. Assessment will be based on the size of the operator, not the size of the mine.
2. The ability for the operator to stay in business will no longer be factored in.

• 105(c) discrimination penalties will be $10,000 to $100,000 for each occurrence.
• 107(a) imminent danger citation requires immediate withdrawal of all miners until the condition is corrected.
• Establishment of a new Emergency Call Center manned 24/7 by people with mining knowledge.
• Creation of a Mine Map Repository at the DOL and a Web site for public access.

CONCLUSION

Having dedicated the better part of my career to improving miners' health and safety, I have investigated many tragedies, visited many injured miners, and consoled many grieving family members. We can appreciate the improvements that have been made in the last 2 years, but so much more is needed.

Our job is not yet completed. The tendency to move down the path of least resistance, even at the expense of miners' lives, still surfaces at times. The mine operator mentality by MSHA's top officials can still be witnessed in the drafting of regulations. MSHA still allows mine operators to ventilate working sections with belt air, and non-flammable belts are still not required. Today there are no fully-reliable systems that would enable miners to communicate with the surface or vice versa in the event of an emergency. Many operators would not be able to locate their trapped miners. This is unacceptable.

It is time for bolder action and bigger steps. MSHA must be convinced or directed to implement *all* the provisions of the MINER Act, as Congress mandated. And the Senate should pass the S–MINER Act. These are the keys to protecting the Nation's miners. As members of this committee and of Congress are in the best position to insist that MSHA utilize all the tools you have given the Agency.

Madam Chairman and members of the committee, we thank you for your help and interest in improving miners' health and safety.

Senator MURRAY. Thank you very much. We're not going anywhere.

Mr. Watzman.

STATEMENT OF BRUCE WATZMAN, VICE PRESIDENT, SAFETY AND HEALTH, NATIONAL MINING ASSOCIATION, WASHINGTON, DC

Mr. WATZMAN. Thank you, Senator Murray, Senator Isakson, Senator Rockefeller.

We appreciate the opportunity to appear before you again to discuss efforts to improve mine safety and the progress made since passage of the MINER Act.

Since passage of the act, the industry's moved aggressively to identify technology that satisfies the law's requirements as quickly as possible. We continue to make substantial investments in new safety equipment and practices to meet the expectations of the act.

We began a process shortly after the passage of the act to survey our members who produce approximately 65 percent of the underground coal to document the success that they're making in meeting the mandates of the act and there's a chart appended to my written statement for your review, but let me touch upon a couple of them.

Since passage of the act, 150,000 new SCSRs have been brought into the mines and 45,000 more will be brought into the mines as they're produced. Fifty-five million dollars has already been spent on communication and tracking technology and that number will grow as MSHA issues guidance on what is an acceptable system.

Nine hundred and seven hardened rescue chambers are ordered, of which two hundred have been delivered to the mines and that occurred in advance of the proposed rule that MSHA issued earlier this week. Forty-five new mine rescue teams have been established and more are on the way.

These numbers simply are one quantifiable measurement of our commitment to the MINER Act. All told, we estimate that the underground coal mining industry has committed more than $500 million to comply with the MINER Act requirements and this is only the beginning.

Beyond the actions that we've taken to comply with Federal and State rules, we have and continue to undertake several voluntary initiatives. We produced a Guide to Management of Mine Sites Emergency Preparedness Activities and we disseminated that throughout the industry.

Recently, we completed a protocol for crisis communication with family members and the media which we'd like to submit for the record. Similarly, this has been disseminated throughout the industry and is available on the NMA Web site, and we continue to work with NIOSH to develop risk-based management tools and templates to instill, as you said, Senator Rockefeller, a culture of prevention at all mining operations.

These activities will be a focal point of Mine Expo International which NMA will sponsor later this year. This quadrennial gathering of mining experts from around the world will showcase new safety technologies and the technical sessions and accompanying workshops will highlight new techniques and applications to expedite implementation of safety technology and the transfer of that technology underground.

Madam Chairman, we've accomplished much in the short timeframe but more work needs to be done. As you highlighted earlier,

this year we've experienced 15 coal mine fatalities, each of which are tragic and unique. We've looked at these and have been unable to identify any trends or commonalities across them and will continue to examine what we can do as a mining community to end this.

We appreciate your continued interest and the interest of the members of this subcommittee to miner safety and health and especially your support for funding to develop the technology and tools that will prevent future mine accidents.

Thank you, and I'd be happy to answer any questions.

[The prepared statement of Mr. Watzman follows:]

PREPARED STATEMENT OF BRUCE WATZMAN*

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

NMA and its member companies appreciate the opportunity to again discuss with the subcommittee the industry's progress in implementing the Mine Improvement and New Emergency Response (MINER) Act of 2006, the challenges that remain and voluntary steps we are initiating to exceed the expectations of the MINE Act.

Our objective remains, as it has been all along, to ensure that every miner returns home safely to their loved ones every day. It is this single purpose that has guided the actions of NMA as we strive to find and deploy the new technologies and techniques that will improve the protection of underground coal miners.

MINER ACT

NMA supported the MINER Act and we continue to believe that its core requirements are sound. The requirements 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. As the act's legislative history succinctly states: "The goals of optimizing safety and survivability must be unchanging, but the manner for doing so must be practical and sensible." S. Rep. No. 109–365 p. 3.

We believe that this passage not only aptly captures the intent of the law, but also serves as a useful reminder to the industry and regulators that there is often more than one way to achieve our singular purpose to improve workplace safety.

The industry continues to make substantial investments in safety equipment and practices to meet the expectations of the MINER Act. Survey data of NMA members, representing about 65 percent of all underground coal production, indicate actual and planned investments in the following areas for 2007–2008:

- $70 million to purchase 150,000 additional self-contained self-rescuers (SCSRs) and training units.
- $55 million in communication and tracking systems.
- $53 million for facilities to maintain trapped miners (752 in total).
- $70 million to enhance the integrity of seals.
- $19 million to establish and equip 45 new mine rescue teams.
- $60 million for safety equipment, training, and manpower beyond the mandates of the MINER Act.

These numbers simply reflect one quantifiable measurement of our commitment to the MINER Act. All told we estimate that all of underground coal mining has committed more than $500 million to comply with the MINER Act requirements. This is only the beginning, just as the MINER Act itself is not the end, but rather one means for reaching our desired goal to protect our Nation's miners.

VOLUNTARY ACTIONS

Beyond the actions we've taken to comply with Federal and State rules we have and continue to undertake several voluntary initiatives to enhance miner safety.

*The National Mining Association's (NMA) Media and Community Crisis Communication Planning Template included with this statement may be found at the following Web site: *www.nma.org/pdf/crisis__communications__template.doc.*

In 2006 NMA established the Mine Safety Technology and Training Commission (MSTTC) to undertake a study of new technologies, procedures and training techniques that can further enhance safety in the Nation's underground coal mines.

The commission's report contains unanimously adopted 75 recommendations that address 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 focuses on a systematic and comprehensive risk assessment-based approach toward prevention.

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 working with the National Institute for Occupational Safety and Health (NIOSH) to develop risk-based management tools and templates to assist us in implementing the central recommendation of the commission. The use of risk-analysis/risk-management, while not a common practice throughout the underground coal mining industry, is familiar to many of the larger 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. The effort builds upon a series of pilot projects undertaken last year to introduce and examine the use of risk assessment at 10 underground mines.

Risk assessment and management are well-established practices that are employed in many industrial settings. Our goal is to formalize this process for use throughout mining so that we can identify, eliminate and manage conditions or practices that have the greatest potential to cause injury. In so doing we hope to develop a system that recognizes the MSTTC objective to foster an approach that is "founded on the establishment of a value-based culture of prevention that focuses all employees on the prevention of all accidents and injuries."

Working with representatives of the Mine Safety and Health Administration (MSHA) and NIOSH, we initiated a review of existing mine rescue procedures to determine if existing practices and protocols remain operative given the structural changes that have occurred across the industry. This resulted in the development of a generic mine rescue handbook that can serve as a guide for those forming mine rescue teams and developing mine rescue protocols, as well as a review tool for those with established procedures in place. This document has been distributed throughout the mining industry to be used as a pre-event planning template that will expedite the delivery of mine rescue services in an efficient manner, should they be required.

Working with the industry's communication specialists and outside experts we have developed a protocol for communications with the media during a mining crisis. The protocol recognizes the important role of the media in keeping communities informed about the facts surrounding a mining accident or fatality and the obligation of mine operators to contribute to that understanding. The protocol provides a framework for effective communications and cooperation with MSHA, as envisioned by the MINER Act and is being widely disseminated throughout the industry.

These activities will be a focal point at MINExpo® International2008, which NMA will sponsor later this year. This quadrennial gathering of mining experts from around the world will showcase new safety technologies and the technical sessions and accompanying workshops will highlight new techniques and applications to expedite technology transfer.

CREATING A CULTURE OF PREVENTION

We have so far commented on technical improvements and these are clearly important. But perhaps the most important element in improving safety is the relentless focus on a "culture of prevention." For successful companies a culture of prevention exists at every level of the organization. In those companies with outstanding safety performance, accident prevention is emphasized at every meeting, at every shift at the mines and is an integral part of the business model. This is a common theme among the winners of the annual Sentinels of Safety award.

In its 2006 report, *Improving Mine Safety Technology and Training: Establishing U.S. Global Leadership*, the MSTT stated that:

> Compliance is an important aspect of prevention, but it is more important to realize that it is only a starting point in a more comprehensive process of risk management.
>
> A critical action to ensure success of the process for any company is the creation of a "culture of prevention" that focuses all employees on the prevention of all accidents and injuries. . . . In essence the process moves the organization from a culture of reaction to a culture of prevention. Rather than responding

to an accident or injury that has occurred, the company proactively addresses perceived potential problem areas before they occur.

To achieve these goals we will be working with recognized experts to develop a safety management system that encourages integration of safety and accident prevention into the entire suite of business management systems. Again, building upon pilot work cooperatively conducted with NIOSH, we will use MINExpo® to showcase the results of this work and to provide the tools for all companies to embrace this as part of their normal operating practice.

Our objective is prevention of accidents, injuries and illnesses and reinforcing a culture of prevention. Decisions will be based upon sound science, recognizing technologic limits, where they exist. By developing risk-based safety priorities we will identify and focus resources on conditions that most directly place miners in potential peril. Our goal is to foster industry-wide partnerships among coal companies and equipment and service supply providers for the research, development and commercialization of new practices and technology that will raise the performance bar industry-wide.

CONCLUSION

Madam Chairman we have accomplished much, but more work remains. With your help and the vital support you provide to the mining research program at NIOSH we will achieve our shared goal—to ensure that every miner returns home safely to their loved ones every day.

On behalf of the members of the National Mining Association, thank you for the opportunity to give our perspective on this vital public policy matter.

I would be happy to answer any questions.

NMA—Mine Safety Improvements: Progress Facts Since Feb. 2006

	Progress
Self-contained self-rescuers	More than 150,000 new SCSRs placed into service; 45,000 additional units to be added.
SCSR training	All underground coal miners have and will continue to receive quarterly training; More than 20,000 training units have been delivered and more than 50,000 additional units are expected annually.
Emergency evacuation training	All underground coal miners have received training on evacuation procedures.
Evacuation aids	Underground coal mines have installed lifelines; Additional SCSR caches have been placed at fixed distances in escape ways; Emergency tethers provided to link miners together.
Locating trapped miners	Underground coal mines have implemented systems to track miners while they are in the mine; New systems are being tested and approved for in-mine installation; Pre-accident tracking appears doable; more R&D needed on post-accident tracking systems.
Post-accident communication	Underground coal mines have installed redundant communication systems in separate entries; Continuing research with NIOSH and manufacturers on the development and approval of wire-less systems.
Sealing of abandoned areas	Operators required to install seals more than double the strength of those previously installed. Operators have evaluated existing seals and corrected any defects found. Seals are being examined visually on a weekly basis.
Breathable air	All mines have approved plans to provide post-accident breathable air to miners awaiting rescue. 907 refuge facilities ordered and being delivered.
Rescue teams	45 new underground coal mine rescue teams have been added or are planned.

Senator MURRAY. Thank you very much to both of you.

Let me start with Mr. O'Dell. I'm just curious what you're hearing from your members as far as MSHA's compliance and implementation of the MINER Act. Do they say the mines are safer than they were 2 years ago? Are they seeing changes on the ground that they're conscious and aware of?

Mr. O'DELL. They are. They have seen improvements as far as some of the protections. I guess part of the frustration is that other parts of the MINER Act that were supposed to be implemented by this time haven't yet kicked in.

It's going to be a learning process for all of us. We're a tough bunch of people that are kind of stubborn to change sometimes and so although we appreciate much of what has been done, we also have to adjust and be able to learn how to utilize those tools to benefit.

Senator MURRAY. Let me go to one of the topics we talked about before which was the seals and Secretary Stickler talked about the MSHA's final rule on seals, and I understand from your written testimony that you have some concerns about that rule.

You mentioned the use of certain materials, such as wood and omega blocks, being troublesome. Can you talk a little bit about that, maybe what your recommendations are for improving that rule?

Mr. O'DELL. Yes. A few weeks ago, we found out that there was a seal that had been installed and it wasn't installed properly and we sit back and we think, you know, after all the concentration that's been placed on how important it is to place new seals into the coal mine, we had a seal that was put into place that wasn't mixed properly and——

Senator MURRAY. This is the new one?

Mr. O'DELL. Brand-new one. There was some internal combustion that took place within the seal itself. It got very hot. Thank God an examiner came by and felt the heat and identified it before anything happened.

We need to do a better job on monitoring these seals. We've got a lot of old seals out there that we have to make sure that we continue to monitor those and what's going on behind those areas. I think we're putting a good tool into place. We just can't be so careless as to how we approach it.

Senator MURRAY. Mr. Watzman, we talked about the wireless technologies quite a bit in the previous panel and this June 2009 deadline.

What are your members telling you about this requirement and what they're saying?

Mr. WATZMAN. Well, our members aren't clear what the requirement is and that's what's causing heartburn today, if you will. There is not clear guidance. We've heard what Mr. Stickler said regarding what they envision as wireless technology.

We don't believe by 2009 that, as Dr. Kohler said, that we will get to true wireless *through the earth* technology that will allow you or enable you to communicate throughout the mine from a single point on the surface. It may be workable when you have a refuge chamber or a hardened area underground where you can go point to point, but our members are still awaiting the clear guidance and direction for them so that they can begin to make the purchasing decisions so that they can be in compliance by June 2009 or shortly thereafter.

Senator MURRAY. OK. You heard Mr. O'Dell's testimony a few minutes ago. We heard earlier Secretary Stickler this week report

that more than 200 mine operators are automatically appealing 100 percent of their citations in an effort to bog down the system.

I wanted to ask you if you know if this is an organized effort by mine operators.

Mr. WATZMAN. Clearly, I don't know if it's an organized effort, and I would be very surprised if it is. We predicted, Senator, in large part that this is what would happen and it happens because of two changes that MSHA made.

Historically, and Mr. O'Dell talked about the conference process, the conference process was after citations were written. It was an opportunity for MSHA, the inspector, and the mine operator to sit down in a nonjudicial manner to talk through the citations, talk about the facts of the citations and the details, to see if the citation is valid, whether it should be vacated, whether it should be downgraded, if you will.

The agency issued a policy last year that dramatically restricted the ability of operators to meet with the agency in that informal setting. So what they've had to do is they've had to take those citations that were worked out through the conference process and formally contest the validity of those before the Federal Mine Safety and Health Review Commission. So that's one element.

The second element is that MSHA changed the rules governing civil penalties. They increased the significance of repeat violations. So violations of a *de minimis* nature that may have been paid by the operator in the past and are now counted toward their history. So they've had to make a determination as to whether or not they should merely pay the fine or whether they should contest the validity of that for fear that it will be counted in their history. That history is a point system in the way MSHA issues citations, and as your points go up, the value or the amount of the penalty increases.

So they've increased the history. So it's the two elements that we believe has led to some of this. I'm unfamiliar with the particulars on why a company chooses one course of action or another course of action, but this is what we had predicted would occur as a result of these two actions by the agency.

Senator MURRAY. Mr. O'Dell, do you want to comment on that at all?

Mr. O'DELL. Let me tell you, I think it's funny. I used to travel with inspectors and coal operators and so after we would do our travel, do our inspection, we'd go outside and we'd talk about the citations. We would talk about it, not only during the time the inspection takes place but after we got outside, it had a pre-conference and we'd sit and we'd talk about why we thought it should or shouldn't be a good citation.

I always thought that should be the end of the discussion. You know, the operator has an opportunity to contest it with the inspector, the inspector that was there, with the operator representative who was there, and with the miners' rep who was there. I mean that's the three people that observed what happened. That's the place where it should take place.

This thing's got too far out of hand. I think the conferencing system is broke because you get too many other people involved that don't know what's going on. The inspector's not even allowed to at-

tend the conference, to defend the actions that he took while he was inspecting the coal mine, and I think some operators, I'm not saying all—by the way, Bruce, thanks for calling me, Mr. O'Dell. It's usually some other term of endearment you address me by.

But I think that there are other ways to do that and not the way we're doing it now. The system is completely screwed up. It needs to be fixed badly, and I do think they take advantage of it, the operators.

Senator MURRAY. OK. Thank you for those comments.

Senator Isakson.

Senator ISAKSON. Thank you, Madam Chairman, and I apologize to both our witnesses. I'm going to have to go to the Floor after my questions and so I'm not walking out on you because I want to leave, I've got to get over on the Housing bill.

OK. Something's got to give. Now I read Page 5, Mr. O'Dell, and Mitigating Circumstance Number 2, which I think if I read it right, you were referring to the operator's history of previous violations as being something MSHA's using to mitigate a fine that it might apply and then Mr. Watzman just got through saying that they're using history of *de minimis* violations to impact the fine that is levied.

So one of—which one's going on?

Mr. WATZMAN. I'm right, he's wrong.

Senator ISAKSON. What is going on?

Mr. O'DELL. We actually think that the history is more short term. They're looking at it short term. We think they should go back further and look at a longer history than what they do observe.

Bruce says that he thinks it's been cut from what it was before. So I think it's important that you look at that history, but I think they need to look at the longer-term history. You can tell a lot about an operator by going back and seeing what they've done over the last 3–5 years.

Senator ISAKSON. Well, I want to follow up on what Senator Murray said. I am concerned with—I mean, the number of appeals have gone through the roof. In fact, in many cases, it's 100 percent of all fines levied and that does ball up the system, and Mr. O'Dell, you imply in Item 6 on Page 5 that "the effect of the penalty on the operator's ability to continue in business is actually a mitigating circumstance that MSHA considers," is that correct?

Mr. O'DELL. Yes, sir.

Senator ISAKSON. Where is that—where do you find—is that an opinion or is that an actual mitigating circumstance?

Mr. O'DELL. That's an opinion from us.

Senator ISAKSON. OK. Well, on that question, Mr. Watzman, as a representative of the Mine Association, do you know of any circumstance where the ability of a mine operator to pay actually affected MSHA as to whether or not they levied a fine or not?

Mr. WATZMAN. No, I'm not aware of any situation where that's applied.

Senator ISAKSON. Well, my last comment before I have to go. Senator Rockefeller made a very insightful statement in the form of a question to Mr. Stickler and I want to say to both of you that having run a business and then also having been an employee of

a business, the culture of safety is a responsibility of both the owner and operator as well as the organization of the labor that worked there.

The best owner in the world in a safety detail is no good if the people that are employed are not practicing the disciplines that are required of them to be safe and vice versa. If the employees are working hard to be safe but the company's looking the other way, you're not going to have safety.

So Senator Rockefeller made a very insightful statement that a culture of safety in the worker and in the mine operator is going to do more to save lives and eliminate problems than any volume of laws that we could pass but the laws are designed to encourage a culture of safety, either by fines getting the attention of the operator or redundant practices of the rebreathing systems and things like that of the workers, making sure they know how to operate in the event of that tragic moment.

So I want to commend the Senator for bringing that term up because it is the best thing we could possibly do and hopefully the MINER Act is contributing to motivate both the worker and the operator to a culture of safety and a culture of prevention, as you referred to, Mr. Watzman.

Thank you very much to both of you.

Mr. O'DELL. Senator Isakson——

Senator ISAKSON. Yes, sir?

Mr. O'DELL [continuing]. The question you asked about that No. 6, the effect of the penalty on the operator's ability to continue in business, I just pulled that page up and looked at it again.

I actually think that if you go to the guidelines on how MSHA conducts the business on this, that that's part of the criteria that they take into effect. I'll have to go back. I'll do some more research on that, but I believe it's actually in the criteria that they take.

Senator ISAKSON. Would you please send me that, if it is or if it isn't, and let me know? I would appreciate it very much.

Mr. O'DELL. Yes, sir.

Senator ISAKSON. Thank you, Madam Chairman.

Senator MURRAY. Thank you, Senator Isakson.

Senator Rockefeller.

Senator ROCKEFELLER. Thank you, Madam Chairman. I'm just fascinated by this. We're going to challenge everything and they do challenge everything and that's the opposite of what leads to the culture of safety. That's where you decide you're going to contest everything because you're put on this earth by God to be enemies on anything which affects the bottom line and, by golly, you're going to follow that out.

Now I just remember 20–25 years ago in West Virginia, 30 years ago, you remember this, there wasn't a day that I picked up the newspaper, local newspaper in which there wasn't a temporary restraining order by a court brought by a company or by a union or whatever in which they were saying, "we're going to strike" or "we're just going to fight this to the death." I don't know who it was, I've always speculated it was some Bobby Brown clone or somebody, somebody who'd grown up—the way the coal companies are run now by sort of Wall Street types—and it used to be that the Bob Quinns, the people who'd come up as miners and fire

bosses and safety people, through the mining system, they then ran the companies and so there was a much different way of looking at mining.

But all of a sudden, you just didn't see any more TROs for about 15 or 20 years and it was never explained, but I know what happened and that is, that representatives of both sides said this is not a really intelligent way to approach the production of coal and keeping peace and each progressing our own purposes and so they decided that they were going to take every problem that came up that led to all these temporary restraining orders and just work them out at the face of the mine.

So the operators and the coal miners and the representatives met at the face of the mine, underground, not readily accessible to the press, who would have no way of finding their way down there, and they worked the problems out because there they were face to face, surrounded by coal mining machinery, then much less sophisticated, and they worked them out and there were no more TROs. I'm hearing that and then I'm listening to you two, and particularly you, sir. You've got to challenge everything while at the same time you don't know of any mines that have been put out of business by this, and I'm just saying where is that process now? Where's that kind of instinct?

That's the culture of safety and it seems to me—you know, I'm a total carpet-bagger on this committee. I don't even belong here, but I'm not on it, but I'll tell you what, I'm going to volunteer Patty Murray and myself to come down there and negotiate those things if you all can't do it on this particular subject. I haven't actually checked with the Chairman, so I can't speak for her, but, I mean, it's enraging to hear this, fighting everything, and we've got a crisis, people dying.

I'll just put that on the record. I'm not asking for an answer. That might be later but not now.

Second, I was fascinated by what you said, Mr. O'Dell, about—because there have been increases in MSHA and NIOSH's budget, thanks to Patty Murray and Senator Byrd, in recent years. You said this very, very interesting thing about people who are dying to be able to do their jobs but can't because they're buried somewhere or they're precluded by rules and regulations or by written things that can't be worked out and all of the very worst dreams come true, bad dreams come true of what is called bureaucracy or—and again it's not unique to you, it's all over government, it's everywhere.

The CIA fired a whole bunch of people very recently for a very good reason, but, boy, did that take a long time for something which they had done wrong and so institutions have to be able to allow the people who want to do the work to do the work and I was just very interested that you said that and I wondered, although I'm now 11 seconds over time, if you could elaborate a bit on that.

The best people who want to do their jobs, who joined for the right reason, that's what public service is all about, you want to help people, you don't do it for the pay, that's for sure. So you want to do the right thing, but you're precluded by doing the right thing by sets of rules and regulations, the attitude of an administration or whatever it might be, but you want to break out and have a

chance. Do people just kind of give up on that after a while? I mean, do they lose their morale and their sense of elan, push, aggressiveness, when they see that it's not working, the good ones?

Mr. O'DELL. If I may? Yes, they do. Let me give you a perfect example.

Mine inspectors that travel underground every day inspect coal mines, I have the utmost respect for them. You know, a lot of them are my good friends, but there are times because of the way the system is when we talked about the conferencing of the citations, these inspectors go underground, they try to write good citations which they do, and they try to do the job to enforce—the only thing the coal miners ask them to do is to enforce the law and they go and they do that.

But at the end of the day, their work, they get their legs cut out from underneath of them because of this conferencing process that this whole thing goes through. This coal mine inspector writes a citation that may be vacated. It may be the fine reduced or whatever, but it's different than what he saw when he was there and then this coal mine inspector has to go before his supervisor and that supervisor's going to judge what he does. He's going to evaluate what kind of—and if he has X number of citations that have been vacated or reduced, his supervisor's going to think he's not doing his job and he'll get a poor evaluation and that beats that inspector down and so then that inspector who come out like a cowboy with guns on both hips just kind of doesn't want to rock the boat, he wants to keep everybody happy.

That happens. That's the reality. That really happens. People don't want to hear it. NIOSH—people don't want to talk about what's going on with NIOSH. They have a good group of people in coal, but they have a budget that on the front page, the budget looks very good, but there's this administrative cost that CDC takes out and people are going to pass out when I say this but it's a thing that nobody likes to talk about. They take this large amount of money out which reduces the amount of money that they're allowed to use for what its full purpose was to begin with and so they know that what they thought they had to be able to operate with, they have less and they're under a timeline and it's just, you know, some of that takes place.

It's tough. We still have good people in NIOSH. We still have good people in MSHA, I believe that. We have a lot of good coal miners. We have a lot of good operators out there today, too, as well, and Senator, I remember what went on in West Virginia and what you're talking about. I was a student of yours at Wesleyan. Right after that, I went to Fairmont State, finished up, and went to work in the coal mines. I worked midnight shift while I went to school and that's what we did. We talked at the face. How can we work this out? How can we take care of business? What does it take for us to do what we got to do?

We realized—we got smarter that it wasn't smart business for us to be in one barricade and the operator be in another barricade and shoot at each other. We realized for us to be successful and to be able to go forward, we were going to have to work together and we do that, Bruce and I, we joke about it with each other, Dave Young

from BCLA, we all—there's a group of us that sit down and we try to work these issues out.

So we are actually doing that. We're trying to make it a better place for everybody. I don't know if it made sense, what I said.

Senator ROCKEFELLER. It does. Thank you. Thank you, Madam Chairman, and I apologize again for going over.

Senator MURRAY. Absolutely not a problem. You can carpetbag any time on this topic.

I don't have any other questions. Senator Rockefeller, do you?

Well, I want to thank all of our witnesses today. We will leave the hearing record open for 10 days for any additional questions and responses, and with that, this hearing of the subcommittee is adjourned.

[Additional material follows.]

ADDITIONAL MATERIAL

PREPARED STATEMENT OF JAMES L. WEEKS, SCD, CIH, CONSULTANT TO THE UNITED MINE WORKERS OF AMERICA, MEMBER OF THE TECHNICAL STUDY PANEL ON BELT AIR

Senator Murray and other members of the committee, thank you for holding this hearing and for the opportunity to discuss the work of the Technical Study Panel on Belt Air and other important issues concerning miners' health and safety. I want to discuss some recommendations that were made by the Technical Study Panel and bring to your attention some recent developments concerning black lung.

TECHNICAL STUDY PANEL—HIGHLIGHTS

First, the technical study panel recommendations. Altogether, we made 20 recommendations covering a variety of topics but I wish to focus on two of them: *first*, that MSHA revise and re-propose a rule requiring mine operators to use flame resistant conveyor belts and, *second*, that mines that use belt air be held to a higher standard.

Adopt the BELT Test

It is important to give some historical background to this recommendation. The Mine Act prohibits the use of belt air as an interim standard. The reason is that conveyor belts are a relatively common source of fires—15 percent to 20 percent of all fires are belt fires. If the belt entry is used to provide fresh air to the face and if there is a fire in the belt entry, the smoke will go directly to the face area, threatening workers, and the belt entry itself will become unavailable as an escape route. In addition, the concentration of respirable dust in the belt entry is higher than it is in other entries used for intake air and this poses some problems controlling respirable dust.

Following numerous petitions from mine operators MSHA promulgated its rule permitting belt air to be used for face ventilation. In order to compensate for the risk of smoke from a belt fire going to the face, it required operators to install an Atmospheric Monitoring Systems to provide early warning of a fire. The AMS is a valuable tool but its principal weakness is that it only detects fires; it does not prevent them. And it was not because feasible and effective means of fire prevention were not available.

From 1970 to 1999, there were about a hundred belt fires. *Every one* of them occurred with conveyor belt material that had been "approved" by MSHA as flame resistant. The test protocol, the so-called 2-G test that MSHA used had been in place since about 1955. One thing we expect from testing materials for flammability is that those materials not burn. By this measure, the 2–G test is a failure. Its shortcomings had been recognized since about 1967. Consequently, the Bureau of Mines and later NIOSH, often with MSHA's participation, developed a new test protocol, the so-called Belt Evaluation Laboratory Test (BELT) that was more rigorous, more in line with international standards, and more closely replicated in-mine conditions.

MSHA initiated a rulemaking to adopt this test in 1992, determined it was feasible in 1999, but withdrew its proposal in 2002. MSHA gave as its rationale for removing the proposed rule that the frequency of belt fires had decreased. The *number* of belt fires had decreased but so has the number of mines and, it follows, the number of belts. The number of *belt fires per thousand mines* has not decreased at all.

The Study Panel recommends that MSHA renew this rulemaking (Recommendation #1). This is the third time a committee has made this recommendation. MSHA's internal Belt Entry Ventilation Review committee and the Belt Air Advisory Committee both made the same recommendation. This would improve the belt air rule by preventing fires in addition to detecting them. And if applied to all belts, it would help prevent belt fires regardless of whether the operator was using belt air.

Adopt the Drum Friction Test

Related to this recommendation, the Study Panel also recommended (Recommendation #2)—in a somewhat mangled way that only committee compromises can do—that MSHA include a drum friction test in its testing and approval of belts. Friction is a common source of belt ignition but it is not part of the BELT test protocol. The drum friction test is designed to test whether a belt will ignite when subjected to friction. Other coal mining countries in the developed economies use a drum friction test.

Hold Mines That Use Belt Air to a Higher Standard

We also recommended (Recommendations #6 and #7) that mines that use belt air should be "held to a higher standard." The Report says, ". . . belt air is sound *in some situations*," (p. 66) implying there are other situations when it is *not* sound. The report goes on to mention two specific conditions under which a valid argument could be used. We visited mines where these conditions existed. Very deep mines, for example, have significant roof control problems and using belt air allows them to reduce the number of entries and thereby improve roof control. Some other mines have significant problems with gas and for them, using belt air allows them to get more air into the mine to dilute and remove gas. There is a tradeoff between one safety problem and another. If an operator cannot balance the hazard created by using belt air by bringing another hazard under control, it is not a good practice. This is how it is in the report:

> "In mines outside these two categories [deep mines and gassy mines], it is not always obvious that belt air should be used. The reason for this conclusion is very simple. The use of belt air in the working section allows combustion products produced by fires or explosions in the belt entry to reach the working section. If using belt air in the working section does not reduce or eliminate other conditions deemed to be more hazardous, there is no justification for using [it] belt air in the working section. The Technical Study Panel therefore suggests that the process for granting permission to use belt air in the working section become part of the ventilation plan review. In addition the Panel recommends that the MSHA District Manager be charged with the responsibility of carefully scrutinizing each plan for using belt air in the working section and denying those that do not have evidence of a safer mining environment than not using belt air at the face. In addition, the Panel recommends that the District Manager be charged with delivering a decision on the ventilation plan within 6 months." (p. 66–67)
>
> The Panel did not give a blanket endorsement for using belt air.

THE PREVALENCE OF BLACK LUNG IS INCREASING

Now I would like to turn to a second topic, black lung. For the past 30 years, the prevalence of black lung has gone down. However, the most recent data from NIOSH shows that the prevalence of black lung, from 2000 to 2005, has doubled compared to the period from 1990–1995. This is a very disturbing trend.

Why is it happening? It is not because we do not have feasible and effective controls. The obvious reason is that miners are breathing too much dust. But this merely begs the question: How? There are several theories—none validated. Perhaps the 2 mg/m^3 standard is inadequate. Perhaps there is lack of compliance. The two explanations that make the most sense to me are that miners are working longer shifts and they are being exposed to more quartz dust.

In 1980, miners worked about 1,700 hours per year. Hours steadily increased over the next two decades so that by 2000 they were working close to 2,200 hours per year. If they work longer shifts, they inhale more dust. Longer shifts also reduce the time between shifts that is needed for lungs to remove dust. Meanwhile, MSHA is enforcing, by regulation, (30 CFR 70.201(b)) only 8 hours per shift. They should, in my opinion, measure dust concentration for an entire shift and make a proportional reduction in the exposure limit in order to make it equivalent to 2 mg/m^3 for 8 hours.

Miners may also be exposed to more quartz dust. Quartz is the most common form of silica and, milligram for milligram, is much more toxic than is coal dust. It is present in most rock strata that surrounds coal seams. Exposure occurs to roof bolters, when thinner seams are mined, and in other ways. With thin seams, miners cut more roof and more bottom—where the quartz is. More could be done—without rulemaking—to control miners' exposure to quartz.

But whatever the exact cause, I find this increase in black lung unacceptable and I think we need a concerted effort to find the causes and turn this trend around.

[Whereupon, at 11:47 a.m., the hearing was adjourned.]

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