S. HRG. 109–433

THE STATE OF MINE SAFETY AND HEALTH

HEARING

OF THE

COMMITTEE ON HEALTH, EDUCATION, LABOR, AND PENSIONS UNITED STATES SENATE

ONE HUNDRED NINTH CONGRESS

SECOND SESSION

ON

EXAMINING THE STATE OF MINE SAFETY AND HEALTH

MARCH 2, 2006

Printed for the use of the Committee on Health, Education, Labor, and Pensions

Available via the World Wide Web: http://www.access.gpo.gov/congress/senate

U.S. GOVERNMENT PRINTING OFFICE

26–465 PDF WASHINGTON : 2006

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
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C O N T E N T S

STATEMENTS

THURSDAY, MARCH 2, 2006

	Page
Enzi, Hon. Michael B., Chairman, Committee on Health, Education, Labor, and Pensions, opening statement	1
Isakson, Hon. Johnny, a U.S. Senator from the State of Georgia, opening statement	4
Rockefeller, Hon. John D., IV, a U.S. Senator from the State of West Virginia, opening statement	5
Clinton, Hon. Hillary Rodham, a U.S. Senator from the State of New York, opening statement	6
Dye, David, acting assistant director, Mine Safety and Health Administration; Ray McKinney, Administrator, Coal Mine Safety and Health, MSHA; Dr. John Howard, Director, National Institute of Occupational Safety and Health; and Dr. Jeffery Kohler, associate director for Mining and Construction, NIOSH	7
Prepared statements of:	
Mr. Dye	8
Dr. Howard	15
Kennedy, Hon. Edward M., a U.S. Senator from the State of Massachusetts, opening statement	19
Byrd, Hon. Robert C., a U.S. Senator from the State of West Virginia, opening statement	24
Peelish, Mike, senior vice president, Safety & Human Resources, Foundation Coal Corporation; Michael E. Neason, American Society of Safety Engineers, safety director at Hanson Aggregates; Tom Novak, Ph.D., P.E., C.T. Holland Professor, head of Department of Mining and Minerals Engineering, Virginia Tech; and Cecil Roberts, president, United Mine Workers of America	38
Prepared statements of:	
Mr. Neason	41
Mr. Roberts	47
Mr. Peelish	56

ADDITIONAL MATERIAL

Statements, articles, publications, letters, etc.:	
Article from the *New York Times* entitled "U.S. Is Reducing Safety Penalties for Mine Flaws,"	30
Response to questions of Senator Enzi by:	
Mr. Dye	76
Mr. Roberts	101
Mr. Novak	102
Mr. Neason	107
Mr. Peelish	110
Dr. Howard	114
Response to questions of Senator Kennedy by:	
Mr. Dye	80
Mr. Novak	104
Mr. Neason	109
Mr. Peelish	112
Dr. Howard	115

Page

Statements, articles, publications, letters, etc.—Continued
Response to questions of Senator Hatch by:
Mr. Dye 96
Dr. Howard 119
Response to questions of Senator Byrd by:
Mr. Dye 98
Mr. Roberts 102
Dr. Howard 119

THE STATE OF MINE SAFETY AND HEALTH

THURSDAY, MARCH 2, 2006

U.S. SENATE,
COMMITTEE ON HEALTH, EDUCATION, LABOR, AND PENSIONS,
Washington, DC.

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

Present: Senators Enzi, Isakson, Kennedy, Bingaman, Reed, and Clinton.

Also present: Senators Byrd and Rockefeller.

OPENING STATEMENT OF SENATOR ENZI

The CHAIRMAN. I call to order this HELP Committee Oversight hearing on mine safety.

Good morning and welcome to all of today's participants, and also we have so many people that are here to view this hearing that we have some overflow in the other room here. For what it is worth, it is being web-cam transmitted as well. That won't help anybody here that is a little bit crowded, but we know that there is a lot of interest in this and have been working on it very diligently with Senators Rockefeller and Byrd, and I understand that we do have family members of mine workers from West Virginia and from Alabama with us here today. They have, of course, been touched by the mining tragedies, and we welcome them to our hearing. In addition, I understand that we have mine workers from West Virginia and Pennsylvania and a number of the neighboring States. Included in them are some mine rescue teams that participated in the recent mine tragedies, and we welcome all of you to the hearing today.

The recent tragic accidents at the Sago and Alma Mines in West Virginia have served to focus public attention on the issue on mine safety and give some legislation legs. Unfortunately, with so many issues on the national agenda, the public's focus tends to fade with time. However, the focus on this issue for those of us here today will not be allowed to fade.

Mining and coal mining in particular is vital to our national and local economies and our national energy security. No aspect of mining is more important than protecting the health and safety of those whose hard work fuels the industry.

Coming from Wyoming, which leads the Nation in the production of coal and where mining is a way of life, I am acutely aware of these issues. As the chairman of this committee, I am also uniquely aware of the responsibilities we bear in ensuring and advancing

the cause of workplace safety. I can assure all of you that the focus of this committee will be on these vital issues and that it will not fade.

We are ever so glad that Senator Rockefeller has joined us. He led a group of us down to West Virginia to meet with the families of the Sago miners who lost their lives in the tragic accident there, and with his leadership, we got some briefings before we went down from a number of mine safety and United Mine Workers people. It was extremely helpful in understanding what we saw and heard when we were down there.

It was an intensively personal and emotional experience. Each of us who traveled to West Virginia in our own way promised those families that the loss of their loved ones would not be the end, but would be the beginning of the work that has to be done to address mine safety. I also want to sincerely express appreciation to Senator Isakson for all of the work that he has done since our trip. He, of course, was on the trip. He is the subcommittee chairman and has dedicated a lot of time and had hearings that will bear on this and has pursued it relentlessly, and I appreciate his efforts.

Our commitment to improving mine safety has to be built on a realistic assessment of the current State of mine safety. Both the injury and fatality rates in mining in general and coal mining in particular have shown a steady downward trend. Last year, the total number of mine fatalities and the injury rate in the industry were the lowest on record. We also need to note that while the staff levels of MSHA have trended downward in recent years, that the number of mines in operation and the number of miners employed has witnessed a parallel trend. The amount of time MSHA personnel actually spend onsite inspecting mines has remained steady. Indeed, as contrasted with a decade ago, this critical onsite time has increased significantly.

Overall, we have made strides in promoting mine safety; however, we can and must do better. Every miner deserves to return home safely at the end of the day. Even one unavoidable accident is too many, and we must act to reduce the safety risk for miners everywhere. In doing so, we must seek solutions that will work in the real world. The employees that work the mines and the operators that own them, the regulators that enforce the rules, and all of us that benefit from the collective labors have every right to expect that our actions will be grounded in fact and responsible judgment.

The dialogue regarding mine safety that has developed in recent weeks has brought much to light and suggested both the pathway and promise of appropriate action. For example, the dialogue assisted in no small part by the recent roundtable held by the Employment and Workplace Safety Subcommittee chaired by Senator Isakson. Ranking Member Murray played a great role in it as well. This has taught all of us a great deal about the reality, promise, and current limitations of technology as tools for enhancing safety of miners. Beyond learning more about the technical specifications of individual pieces of equipment, we have learned valuable information about the appropriate approach to mine safety regulation.

We must harness the power of technology to improve mine safety; however, the mining environment is not always conducive to the

ready application of certain technologies. More importantly, that environment varies considerably from mine to mine. Thus, for example, some forms of communication technology that work well on the surface work hardly at all below ground. While others work in some mining settings, they don't work in others. We have also seen that a one-size-fits-all approach to workplace safety too often creates the unintended consequence of stifling innovation and delaying the implementation of better technology.

Just as the perfect should never be the enemy of the good, the mandated should never be the enemy of innovation. All of this has made it clear that there are inherent limitations in attempting to proscribe general mandates for all mines and that a more individualized and risk-based approach to regulation may yield far better results. This means using available technologies to locate miners and send them communications that actually work in that particular mine. It also means building upon the current technological base and implementing these new technologies to continuously improve mine safety.

There are challenges to the implementation of new and emerging mine safety technology that we can address by legislative action. We need to coordinate governmental research efforts that may have application in the mining environment. We need to enhance dedicated mine safety research efforts through a combination of increased funding and structural reorganization of the Agency tasked with that research. We need to speed the approval and certification process for new technologies by harnessing private sector resources, and we must overcome the problems associated with an extremely limited potential market by devising creative ways to stimulate private sector research and development in mine safety technology.

Miners deserve the best safety equipment and technology. We should take all steps necessary to enhance its development and speed its implementation. It has become clear that the mining industry, like industries everywhere, is experiencing an aging of its workforce. In an industry in which experience is so critical in workplace safety, this demographic has far-reaching consequences. We face the loss to retirement not only of the miners, but of MSHA inspection personnel and mine rescue team members, all of whom are drawn from the ranks of miners. We must act to ensure that not only an adequate supply of well-trained mining personnel, but rescue and regulatory personnel are there as well.

While our goal is to avoid accidents in the first place, we realize that despite everyone's best efforts, there will be accidents in the future. Therefore, we must draw upon the experience of these recent tragedies to find better ways to respond to mining accidents so that no other family is left without a father, a brother, or a son.

The best way we can honor the memory of those who have been lost is by protecting the safety of those that remain. We do this best by developing laws and regulations that enhance practical and innovative solutions, rather than simply enacting rigid rules, by developing and ensuring new technology, encouraging rather than discouraging its use, and by seeking practical approaches to mine safety that yield real-world results.

The process that leads to these ends is not a simple one. We have already completed many of the steps along the way, and with to-

day's hearing, we will complete another. As we continue down this road, our commitment to the miners who lost their lives in West Virginia this year, to the families they left behind, and to the miners everywhere continues as well.

As chairman of the committee, I will work with my committee members as well as other interested Senators and stakeholders to move legislation that will move mine safety into the 21st century.

I will now turn to Senator Isakson, the subcommittee chairman, for any comments that he might want to make and then to Senator Rockefeller for his leadership.

OPENING STATEMENT OF SENATOR ISAKSON

Senator ISAKSON. Well, thank you, Mr. Chairman. I will associate myself with all the well-thought-out remarks that you just made, and I want to thank Senator Rockefeller for his guidance and leadership when we went to West Virginia to allow us to see firsthand the immediate effects of that terrible tragedy.

On that trip with Senator Rockefeller, Senator Enzi, and Senator Kennedy, as the press knows, we visited for over 2 hours privately with the families and loved ones of the miners that were killed. As I left that meeting, I was handed by the daughter of Junior Hamner his last picture that was taken the day after Christmas 2005 before he died a week later in that mine tragedy. I promised her I would keep it as a constant reminder to us of our challenge which is ahead, and that is to help break through technologically and make what is hoped for a reality and make it a reality as quick as possible.

We learned with regard to the Sago tragedy that had two things existed, lives could have been saved, that is two-way communications that are reliable and foolproof and, secondary, specific locators were reliable and foolproof. We had human intelligence, being the second team that was in the mine when the explosion took place. They knew where the good air was, and the miners that were trapped could have gotten to it, but the inability to communicate made it impossible and the inability to locate made it impossible.

We learned in the hearing that we sponsored 2 weeks ago where we had experts from around the world that there are breakthroughs. We learned that there is digital paging technology that goes one way, but not both ways. We learned there is location technology that can locate you generally, but not specifically. What we have learned in this country since John Kennedy declared that we go to the moon by the end of the decade and we did it is that with the right capital investment and the right focus and the right attitude, we can accomplish technologically wonderful things. It is my hope that in this committee, and to the extent our subcommittee has that responsibility, these hearings and the work we do can be a catalyst for the development of those things that do not exist to make mines safer, to make miners safer, and to make sure that Junior Hamner and those that have died in the past did not die in vane, but, in fact, from their sacrifice we learned what we could do better.

So I thank you, Mr. Chairman, for the time. I look forward to working with you and Senator Rockefeller and others on this as we work toward solutions on the mine safety problem.

The CHAIRMAN. Thank you and thank you for all your efforts and leadership on this.

I will now turn to Senator Rockefeller who has been working with us to draft some legislation, and I appreciate that.

Senator Rockefeller.

OPENING STATEMENT OF SENATOR ROCKEFELLER

Senator ROCKEFELLER. Thank you, Chairman Enzi, and I will be brief because I am not a member of the committee. I am only here by virtue of your courtesy.

I want to say very clearly that, as the family members here know, I was with you and Senator Isakson in the two-plus hour family meeting that we had. Then we talked with miners and we talked with MSHA and we talked with lots of different folks through the day. I was sitting close to Chairman Enzi and across from where I could see Senator Isakson very well, and it was very clear to me they were both stunned and moved.

Mike Enzi comes from a coal-mining State. I am sorry to say that it produces more coal than West Virginia, not as good, of course, but more coal. He does have a couple of underground mines, but he said to me, "I want to come back to West Virginia and go down an underground mine because I want to understand exactly what it is that we are talking about here."

Senator Isakson was also clearly moved and actually made the last statement, which was a powerful, emotional statement of commitment. You judge people by what they do. I know that, but you also judge them by what they say and what they feel. What they felt to me was very strong and very compelling and I think will guide all of us as we work our way through this legislation.

Coal mining is just such a history of the West Virginia psyche. There is so much that has gone wrong. There is a lot that has gone right. We focus on the wrong because it is more important to focus on what doesn't go right than what does go right because you always have to be in the mode of improving things.

I don't believe, Mr. Chairman, that there has been a hearing on mine safety since 2001. So this is the first one, I believe, since 2001. I may be wrong. If I am, don't tell me, please, right now.

It is just indemic of what happens when there has been a little bit of fall-off in major tragedies. That doesn't mean they aren't major tragedies because an individual miner or two miners or three miners are killed in a accident. Those are just as major and we can't let up on any of those, but I am just very happy about the fact that in the Finance Committee we have already passed some legislation.

This is more complex legislation and needs to be thought about carefully, and I am just very grateful to you, Mr. Chairman, to let me sit with both of you and Senator Clinton as we discuss what we have to do. Thank you, sir.

The CHAIRMAN. Thank you.

We are going beyond tradition here, but, Senator Clinton, do you have any opening comments you would like to make?

OPENING STATEMENT OF SENATOR CLINTON

Senator CLINTON. Just to thank you, Mr. Chairman and also Senator Isakson and Senator Murray, for the very informative roundtable that you held and, of course, Senator Rockefeller who has been such a great champion for West Virginia and West Virginians for so many years.

We are here because this is an absolute necessity. We lost in the 12-month period between February of last year and February 17th of this year 43 coal miners, and we know from the roundtable that was held, and as Chairman Enzi described in his opening statement, there had been advances in technology. There are new ways of looking at mine safety that we can learn from and maybe borrow from other countries that have been facing these issues themselves.

This is going to be a very important effort, and I know we have with us today coal miners from Alabama as well as West Virginia, from Kentucky and Pennsylvania, and I think Ohio, Illinois, and Virginia, and we have some of the rescue team members from the Sago and Alma Mines. Most importantly, we have some of the family members of those who died. We have widows, brothers and sisters, children, and others who lost their loved ones, and I think everyone on this committee shares the commitment that has been expressed that we will do whatever we can to try to prevent these tragedies in the future.

There is no perfection on this Earth, we know that, but we can do better and we will do better in memory of the many, many coal miners who have given their lives over the decades so that our country can turn on lights and get energy, make the economy run, and I think it is an obligation and commitment that we all share.

So, Mr. Chairman, I thank you for your usual seriousness of purpose in addressing this important issue.

The CHAIRMAN. Thank you.

Today we have with us our panel of representatives. They are from MSHA, the Federal Mine Safety and Health Administration. MSHA is charged with the enforcement of our Federal mine safety and health laws.

Joining us today from MSHA are David Dye, the Acting Assistant Secretary for Mine Safety and Health, and Ray McKinney, the Administrator for Coal Mine Safety and Health. My understanding is that Mr. Dye will deliver MSHA's initial statement, but that both he and Mr. McKinney will be available to answer the members' questions.

Also with us today are representatives from NIOSH, the National Institute of Occupational Safety and Health. NIOSH is the main Federal Agency responsible for conducting research and making recommendations in the area of occupational safety and health. With us today from NIOSH are Dr. John Howard, the Director of NIOSH, and Dr. Jeffrey Kohler, the Assistant Director of NIOSH for Mining and Construction. Again, it is my understanding that Dr. Howard will present prepared remarks on behalf of NIOSH and that both he and Dr. Kohler will be prepared to answer members' questions.

Thank you all for being here this morning. I look forward to your testimony. We will begin with the initial statements from the wit-

nesses, and after both agencies have provided their respective statements, we will proceed with any questions the members may have for any of the witnesses.

Mr. Dye, we will begin with your statement.

STATEMENTS OF DAVID DYE, ACTING ASSISTANT DIRECTOR, MINE SAFETY AND HEALTH ADMINISTRATION; RAY McKINNEY, ADMINISTRATOR, COAL MINE SAFETY AND HEALTH, MSHA; DR. JOHN HOWARD, DIRECTOR, NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH; AND DR. JEFFERY KOHLER, ASSOCIATE DIRECTOR FOR MINING AND CONSTRUCTION, NIOSH

Mr. DYE. Thank you, Mr. Chairman.

I am pleased to be here to appear before you today to discuss the work of the Mine Safety and Health Administration. While much attention has been focused on mine safety following the recent accidents in West Virginia, I assume MSHA does everything in its power to help the mining industry provide the safest, more healthful work environment possible for miners in this county.

In recent years, miner fatalities and injuries have fallen to all-time lows. With the turn of the century, mining fatalities numbered in the thousands. In 1978, the first year under the new Mine Act, 242 miners died in mining accidents. Last year, there were 57 mining fatalities. In the last 5 years, the mining industry experienced a 33 percent decrease in fatal accidents and a 24 percent decline in the total injury rate. This is an impressive record, but there is obviously room for improvement. One mining fatality is too many, as you said, Mr. Chairman.

The accidents this year in West Virginia along with other recent fatalities are vivid reminders that we must continue to seek new and improved accident prevention measures. When accidents occur, we need to give miners the best possible chance to survive. We at MSHA continue to vigorously enforce the law. Last year, MSHA cited the most safety violations in more than 10 years. We fined violators close to $25 million last year. We do not take our enforcement responsibility lightly.

Our primary goal is to prevent accidents, but accidents do occur, we respond. We are completing the accident investigations at Sago Mine and Alma Mine No. 1. These accident investigations and others we conduct this year will teach us in the mining community how to prevent future occurrences. This is what we do.

I would like to take a moment, Mr. Chairman, as you did, to commend the mine rescue teams that responded to the accidents at the Sago Mine and Alma Mine No. 1. These teams, all the mine rescue teams, need to be recognized for their exceptional bravery, dedication, and professionalism. We have the best trained, best equipped, and most dedicated mine rescue teams in the world, and we need to maintain or even improve this capability.

We need to give miners the best opportunity to survive fires and explosions. MSHA will soon be issuing an emergency temporary standard to address the requirements for all underground supplies of oxygen-generating breathing devices, training, lifelines, and accident notification requirements. We are working with new technology. Some of the new technology that MSHA has recently been

investigating before Sago includes proximity protection devices to protect miners working near remote control equipment, personal continuous dust monitors that give real-time readouts on respirable dust levels, video cameras for surface equipment to eliminate blind spots and permissible for exploring gassy underground mines. That is just a partial list of the kinds of things that we have been working on.

In January, MSHA published a request for information on underground mine rescue equipment technology. Today, we have received more than 70 proposals from manufacturers and distributors of emergency communication and tracking systems, and proposals continue to come in almost daily. MSHA has already selected several promising communication systems to evaluate.

At this stage, the technology looks promising, but it must be further evaluated and tested before rushing into a decision to mandate its use in underground coal mines. To that end, in a cooperative effort with the West Virginia Board of Coal Mine Health and Safety, MSHA will conduct further field evaluations of these systems.

I am also pleased to announce today that MSHA and our sister Agency NIOSH are co-sponsoring an international workshop on mine escape planning and emergency shelters, and that will include refuge chambers, on April 18, 2006 at the National Academy of Sciences here in Washington, DC. Among other things, representatives from NIOSH and MSHA will be discussing issues involving escape planning with an emphasis on evacuation as the first priority.

We are also examining our civil penalty structure. For one thing, the Administration has proposed legislation to increase the maximum civil penalty for flagrant violations of mine, safety, and health standards, and I have personally directed a re-examination of the penalty amounts contained in the existing penalty schedule. In addition to that, MSHA recently filed two lawsuits in U.S. District Court for the Eastern District of Kentucky seeking injunctions against mine operators who have chronically failed to pay civil penalties assessed for violations of the Mine Act. The complaints ask that these operators be enjoined for failing to pay penalties for future violations of the Mine Act and to be required to post a bond with the court to guarantee future compliance with the law.

Mr. Chairman, the men and women of MSHA are dedicated to saving lives. The men and women of MSHA consider every mining injury preventable. The men and women of MSHA grieve the loved ones of every miner who loses his life in the mines. The men and women of MSHA have one goal, Mr. Chairman, and that is sending every miner in this country home to family and friends safe and healthy at the end of every shift, every day.

Thank you.

The CHAIRMAN. Thank you very much.

[The prepared statement of Mr. Dye follows:]

PREPARED STATEMENT OF DAVID G. DYE

Mr. Chairman, I am pleased to appear before you today to discuss the ongoing work of the Mine Safety and Health Administration (MSHA). MSHA works diligently to promote mine safety and health. We want nothing more than to send every miner home safely at the end of every shift, every day.

We have been moving closer to that goal every year. In recent years, the mining industry has experienced historic lows in injury and fatality rates. In 1978, the first year MSHA operated under the new Mine Act, 242 miners died in mining accidents. Last year, there were 57 mining fatalities, 22 at coal mines and 35 at metal and nonmetal mines. From 2000 to 2005, the mining industry experienced a 33 percent decrease in fatal accidents nationwide—with coal mines seeing a 42 percent decline. The coal mine lost-time injury rate declined one-third over the last 5 years. These are important and compelling statistics one must consider in placing current mine safety and health conditions in a proper perspective.

MSHA inspectors vigorously enforce the law—with the support of the entire Agency, top to bottom. Last year, MSHA issued the highest number of citations and orders since 1994. In recent years, MSHA increased its use of "withdrawal orders" to gain compliance with the standards. This is a powerful enforcement tool as withdrawal orders require miners to be removed from the area affected by the violation, often resulting in disruptions to production. The number of withdrawal orders increased 20 percent over the last 5 years when compared to the previous 5 years. MSHA issued more "withdrawal orders" in both 2004 and 2005 than in any year since 1994. It is important to note that any MSHA violation must be abated within a specified time frame before the penalty is assessed. In the case of withdrawal orders, the hazard must be abated before miners are allowed to work in the area or activity affected by the hazard.

The statistics show our strong enforcement record very clearly. From fiscal year 2000 to fiscal year 2005:

- Total Citations and Orders issued by MSHA at all mines increased by 5 percent (119,183 to 125,161).
- Total Citations and Orders issued at coal mines increased by 19 percent (56,870 to 67,756).

Total "Significant and Substantial" Citations and Orders issued at coal mines increased by 13 percent (23,586 to 26,717).

MSHA enforcement personnel have significantly increased the issuance of withdrawal orders to coal mine operators who exhibit an unwarrantable failure to comply with the regulations. Unwarrantable failure orders are one of the most severe enforcement actions inspectors can take and in each of the last 2 years MSHA inspectors issued more such orders than in any year in the last 10 years.

While enforcement activity and the number of miners went up from 2000 to 2005, the number of coal mines fell. There were 2,124 coal mines in 2000 and 1,982 in 2005 (through the third quarter) and 108,098 coal miners in 2000 and 112,449 in 2005 (through the third quarter). Clearly, MSHA inspectors continue to vigorously enforce the law—with the support of the entire Agency, top to bottom.

I want to make something clear. MSHA's inspectors diligently and vigorously enforce the law. However, the Mine Act does not give MSHA the authority to preemptively close entire mines because of the number or frequency of violations. Nor does the Mine Act include the authority to close or seize a mine because of unpaid fines or penalties.

While we are proud of our enforcement and compliance record, we know there is more to do. We are currently engaged in a thorough investigation of the recent tragic accidents at Sago and Alma Mines. We are determined to learn from these accidents.

First, I want to publicly recognize the mine rescue teams who responded to the accidents at Sago Mine and Alma #1 Mine. These teams demonstrated exceptional bravery and professionalism, and they should be commended for their efforts, as well as for their dedication to their fellow miners.

I would like to give you an update on the Sago Mine and Alma Mine #1 accident investigations. We have finished mapping the underground areas of the Sago mine and have completed nearly all of the witness interviews. Thus far, MSHA and representatives from the State of West Virginia have interviewed 46 individuals. We have completed an evaluation of the geology of the roof in the abandoned area of the mine where the explosion occurred. In conjunction with the National Institute for Occupational Safety and Health (NIOSH), we are developing a protocol to test the materials used in the Sago mine to seal the area where the explosion occurred. At this time we have no information that would suggest that the explosion is related to any conditions that MSHA enforcement personnel observed and cited at the mine before the explosion.

We have completed the investigation of the underground areas of the Alma #1 mine with the exception of the immediate vicinity where the fire occurred. There are significant roof falls in this area that will have to be removed before the underground portion of the investigation can be completed. At this time we have inter-

viewed 14 individuals and the remaining interviews should be completed within the next several weeks.

As standard operating procedure, MSHA conducts an internal review after every major accident. We will look carefully to see if MSHA followed its own policies and procedures with respect to Agency activities prior to and during the accident. This report will be shared with this committee and made public. MSHA has always viewed its internal review process as an opportunity to take a hard and honest look at how we do our job and to use that information to improve how we do business. Past reviews have been comprehensive and objective examinations that resulted in responsible recommendations for improvement. The Government Accountability Office and the Department's Office of the Inspector General are also conducting independent reviews of various aspects of MSHA's programs.

Despite the progress the mining industry has achieved in the area of health and safety, there is always room for improvement. The recent fatalities in West Virginia, along with other recent fatalities, are vivid reminders that we must continually seek new and improved accident prevention measures. And when accidents occur, we need to give miners the best possible chance to survive. I want to share some of the actions MSHA is currently taking in the areas of rulemaking, mining technology, mine rescue operations, and civil penalty assessments.

EMERGENCY TEMPORARY STANDARD

MSHA's safety and health standards are constantly being reviewed and adjustments made to improve them or address newly recognized hazards. As a direct result of the recent two West Virginia accidents, we will soon be issuing an Emergency Temporary Standard to improve safety in underground mines in the areas of: underground supplies of oxygen generating breathing devices, training, lifelines, and accident notification.

TECHNOLOGY

There has been much discussion surrounding the availability of technology and equipment that, if available to miners during and after fires and explosions, could increase their chances for survival. MSHA constantly searches for and evaluates emerging technologies that can be used to protect miners. On January 25, 2006, MSHA published in the Federal Register a Request for Information (RFI) on Underground Mine Rescue Equipment and Technology.

MSHA is currently in the process of evaluating advanced underground mine communication and tracking systems. The Personal Emergency Device (PED) system is a one way "through the earth" communication system used in Australia, but only used in about a dozen underground mines in the U.S. MSHA is evaluating the PED at four different U.S. underground coal mines, and plans to evaluate the system at the only U.S. mine with a surface-mounted antenna. Information on PED performance will also be collected in Australian coal mines. Although the PED could send evacuation instructions to miners in the early stages of a fire, system limitations already noted in MSHA's field evaluations may seriously compromise the reliability or true usefulness of the PED during a U.S. mine emergency. These shortcomings include the vulnerability of commonly-installed underground antennas in the event of a fire or explosion, signal loss issues, range limitations, and potential interference with other mine communication systems.

The Tracker Tagging System is an MSHA-approved tracking system for use in underground mines. A remote unit, carried by a miner, transmits its location to a "beacon" receiving unit as the miner passes the beacon. Tracking of miners is limited to identifying their location in the "zone" between two beacons where any given transmitter is located, and beacons are commonly spaced at 3,000–4,000 ft. intervals. While some have advocated mandating its use in underground mines in the U.S., little is known about the system's performance. There are no underground mines in the U.S. using the Tracker Tagging System. While it is used in several mines in Australia, it is used in just one underground coal mine in that country, and one coal mine in China.

Both the Tracker Tagging system and the PED system must be further evaluated and their effectiveness tested before rushing into a decision to mandate their use in underground mines. To that end, in a cooperative effort with the manufacturer of both systems, MSHA and the West Virginia Board of Coal Mine Health and Safety will visit four mines in Australia this month to conduct further field evaluations of the two systems. The issues reported in U.S. mines regarding signal loss or "shadow" zones will be further investigated to accurately determine the nature of these anomalies.

Other available communication technologies for consideration are actively sought through the RFI. MSHA is soliciting technical presentations or written comments on underground communications and systems for tracking underground miners and will hold a public meeting specifically for that purpose on March 13th at the National Press Club in Washington, DC. We are hopeful that the information gathered at this meeting, together with the conclusions drawn following the field evaluations of the PED and Tracker systems in both the United States and Australia, will help direct MSHA and all other concerned parties in our efforts to provide the best available communications technologies to miners in the event of an emergency underground.

Furthermore, in response to the recent RFI noted above, MSHA has received more than 70 proposals from manufacturers and distributors of emergency communication and tracking systems. Additional proposals continue to come in on a daily basis. MSHA's Technical Support Directorate is currently reviewing these products and proposals and will assist interested manufacturers in obtaining approval for the equipments' use in underground mines. For our initial reviews we are prioritizing the emergency communications or tracking systems that do not rely on a wire backbone and that have the greatest potential to remain functional in the event of a roof-fall, inundation, fire, or explosion. From the over 70 proposals received, MSHA has initially selected several promising communication systems to evaluate based on the following criteria: precise tracking and 2-way voice preferred capability; survivability in a fire or explosion; current availability; and capability of complying with MSHA requirements.

To help expedite and standardize the evaluation of these existing and promising technologies, a mine communications partnership is being formed with membership consisting of the National Institute for Occupational Safety and Health (NIOSH), MSHA, the Bituminous Coal Operators Association (BCOA), the United Mine Workers of America (UMWA), the United Steelworkers, the National Mining Association (NMA), and the State of West Virginia. The primary goals of this partnership are to establish general performance expectations for mine emergency communications systems, establish uniform and fair criteria for testing and evaluating systems, and to conduct in-mine tests on systems. A secondary goal is to identify gap areas that should be addressed through research.

The State of West Virginia, MSHA, and NIOSH are co-sponsoring the International Mining and Health Safety Symposium on April 20–21, 2006. The symposium will bring together technology developers, equipment manufacturers, the Federal Government, the State of West Virginia, organizations representing the mining community, and other countries to discuss the development, approval, and adoption of state-of-the-art technologies and mining methods. Wheeling Jesuit University will host the symposium at the Robert C. Byrd National Technology Transfer Center and the Civic Center in Wheeling, WV.

MSHA is working with the BCOA and the NMA to jointly develop a template on mine rescue preparedness. This document will describe standardized mine emergency procedures related to mine rescue organization, lines of communication, and establishing lines of authority. In addition, MSHA has sought information from the entire mining community, including labor, industry, academia, and local first-responders on improvements to mine rescue preparedness.

CIVIL PENALTY ASSESSMENTS

Assessments are civil penalties (fines) levied on mine operators, independent contractors working on mine property, agents of operators or contractors, or, in some cases, individual miners, for violating safety or health standards or sections of the Mine Act. The process of determining penalty amounts is governed by the criteria included in the Mine Act and Federal regulations. The penalty assessment process is administered by an MSHA office separate from the enforcement arms of the Agency to ensure the objectivity of the fines proposed for violations. The Office of Assessments implemented the most recent guidelines for proposing civil penalties in 2003.

These penalties range from $60 to a statutory maximum of $60,000. The $60 fine is generally imposed for less serious, timely abated violations that occur in mines with low violation histories. More serious violations may receive a computer-generated regular formula assessment that assigns points based on criteria specified in the Mine Act. The most egregious violations may receive higher assessments with proposed penalty amounts determined by assigned specialists. The statutory maximum of $60,000 can be imposed for regular formula or special assessments.

Proposed civil penalty amounts are determined using five statutory criteria in the Mine Act:

- the size of the operation,
- the operation's history of violations,
- the negligence of the operator,
- the gravity of the violation,
- the degree of good faith the operator exhibits in correcting the violation.

A sixth statutory criterion, the ability of the operator to continue in business, is taken into account only after the amount of the fine is proposed and presented to the operator. The operator must provide convincing evidence of financial hardship and inability to continue in business. In these cases, MSHA may adjust the fine.

If the mine operator thinks the proposed penalty is too high, the operator can contest the penalty. The contested penalty first goes to an administrative law judge of the Federal Mine Safety and Health Review Commission who can uphold the original penalty, vacate the penalty, reduce the penalty, or (in rare instances) increase the penalty. If the operator is dissatisfied with that result, the operator can ask the full Federal Mine Safety and Health Review Commission to hear the case. If the commission takes the case and the operator is dissatisfied with that result, the operator can appeal to the Court of Appeals. Sometimes this process takes several years. A case may ultimately go to the U.S. Supreme Court.

Operators have 30 days to pay or contest their fines once they are assessed. If the fine is not contested, it is considered a final order of the commission after the 30 days. If these fines are not paid within 30 days, MSHA begins contacting the operator and 8 percent interest begins to accrue. If the debt remains unpaid for 90 days, an additional nonpayment penalty of 6 percent begins to accrue, retroactive to the date the fine became final.

Penalties are considered debts under the provisions of the Debt Collection Improvement Act of 1996. When a debt is delinquent more than 180 days, MSHA refers the debt to the Department of the Treasury for collection. Treasury may attempt to collect the debt directly, refer the debt to a private collection Agency, collect the debt by offsetting Federal payments made to the debtor, or, ultimately, refer the debt to the Department of Justice for collection. If this process is unsuccessful, MSHA may terminate collection of the debt and report it to the Internal Revenue Service to be included in the company's income tax liability as taxable income.

MSHA cannot close a mine if it has too many fines or does not pay the fines assessed. The Mine Act does not give MSHA that authority. MSHA is neither soft on enforcement nor soft on assessments. This administration stands by its assessment record. Over the last 5 years, MSHA proposed 21 percent more penalties at the $10,000 or higher level than during the previous 5 years. The total dollar value was up by 16 percent during this same period of time.

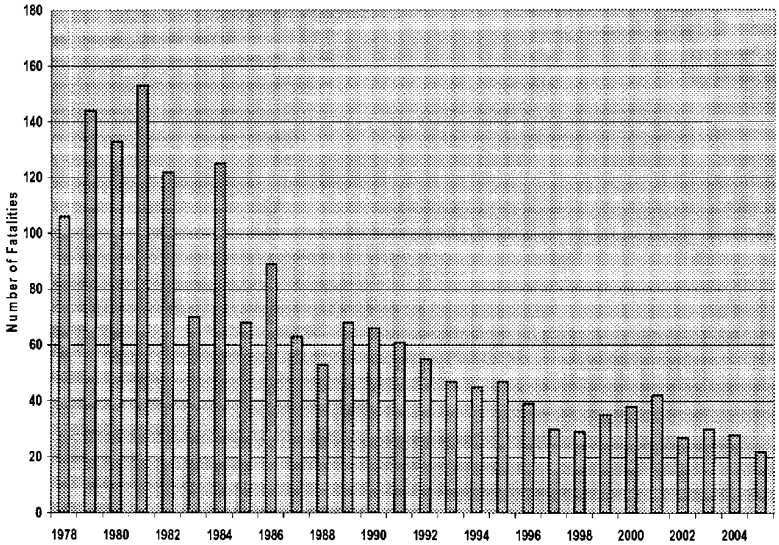
Approximately 6 percent of citations and orders are contested. Litigation at the commission or in Federal court impacts a large percentage of contested proposed assessments. For assessments contested between 1995 and 2005, 46 percent of the penalties were reduced and the average reduction in the penalty was 47 percent. The administration has already proposed legislation to increase the maximum civil penalty for flagrant violations from $60,000 to $220,000. Additionally, I have directed a re-examination of the penalty amounts and MSHA will soon propose rule making revisions to the penalty schedule (subject to the statutory $60,000 penalty cap).

MSHA has also filed two lawsuits in February in the U.S. District Court for the Eastern District of Kentucky seeking injunctions against two separate mine operators who have chronically failed to pay assessed civil penalties for violations of the Mine Act. The complaints ask that both operators be enjoined from failing to pay penalties for future violations of the Mine Act and that both be required to post a bond with the court to guarantee future compliance with the law. MSHA is also evaluating other cases involving operators who have refused to pay civil penalties and will seek injunctions against them where appropriate.

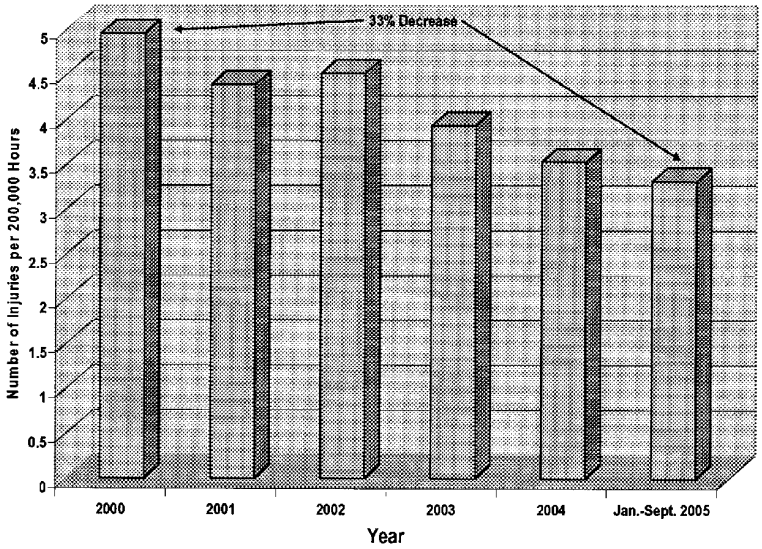
Finally, it is important to note that any MSHA violation must be abated within a specified time frame even before the penalty is finally assessed. In the case of withdrawal orders, the hazard must be abated before miners are allowed to work in the area or activity affected by the hazard.

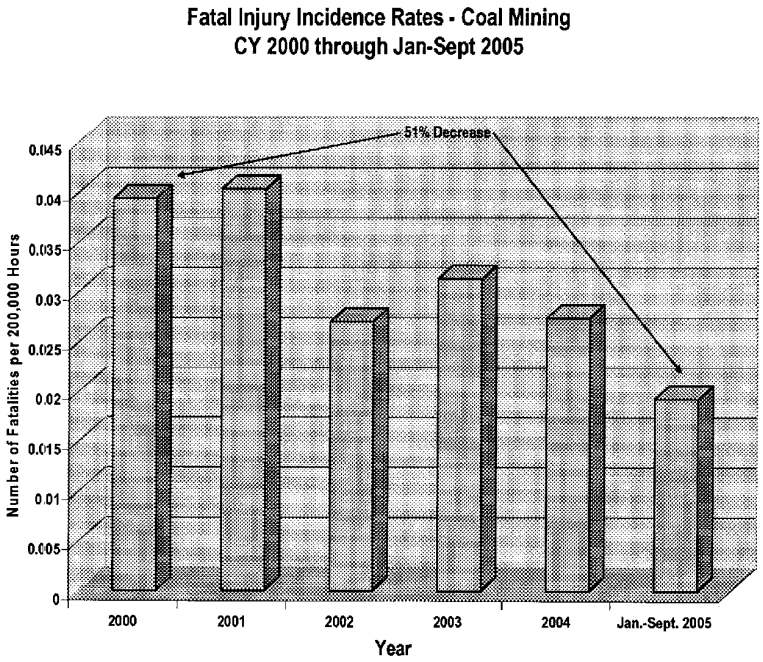
Every employee at MSHA is dedicated heart and soul to the Agency's mission. Every employee at MSHA lives and breathes for the day when there are no fatalities, no injuries, and no occupational illness among all of this country's miners. Every employee at MSHA strives every second of every day to reach our goal: sending every miner in this country home to family and friends, safe and healthy, at the end of every shift, every day. We will not rest until that happens. Thank you.

Coal Mining Fatalities
1978 - 2005



NFDL Injury Incidence Rates - Coal Mining
CY 2000 through Jan-Sept 2005





The CHAIRMAN. Dr. Howard.

Dr. HOWARD. Good morning, Mr. Chairman, Senator Isakson, Senator Rockefeller, Senator Clinton. I am pleased to be here with our statutory partner, MSHA.

The focus of NIOSH research is to generate new knowledge in the field of occupational safety and health and to transfer that knowledge into practice globally. The mission of NIOSH safety and health programs is to prevent injuries and illnesses amongst our Nation's miners. Our mining program has an aggressive research transfer effort involving industry and labor workshops, mine site demonstrations and dissemination of print, electronic, and video information.

One of our most effective research-to-practice tools is partnering with other Federal and State agencies, mine operators, labor, academia. These partnerships are the most important channel to move all research products into practice. We use injury and illness data, stakeholder input, and other mechanisms to organize our mining program into several major areas: The elimination of respiratory hazards, the prevention of noise-induced hearing loss, elimination of traumatic injuries including those of a cumulative nature, prevention of rock falls, disaster prevention and response.

I would like to highlight this last area this morning. Our research in this area addresses a heirarchy: prevention, escape, and rescue for mine fires, explosions, and inundations. First, we focus on the development of design and engineering controls to prevent a fire, explosion, or inundation. Our research has led to the general

use of fire prevention and ventilation practices throughout the industry.

The second area, mine escape, focuses on providing effective training and tools to aid miners in making a successful escape from the mine during an emergency. Our training programs for self-contained self-respirators and the use of emergency communications are used throughout the industry.

A third area, mine rescue, focuses on the development of training exercises for mine rescue teams and fire brigades as well as the development and testing of technologies to allow rescuers to work more quickly and more safely. Thousands of miners and more than 100 rescue teams have been trained by NIOSH in partnership with State mining agencies, mining companies, and labor.

Our ongoing work includes preventing gas explosions from lightening strikes, preventing the propagation of explosions, improving response during the first 30 minutes of a mine emergency, training rescue teams, and launching a new pilot project to look at disaster prevention and response issue arising from the recent tragedies; but much remains to be done in several areas: one, to improve and harden ventilation systems; two, to improve seal construction and installation criteria; three, to develop the next general of self-contained self-rescue respirators; four, to improve emergency communication systems; five, to harden mine communications as well as atmospheric monitoring systems; and six, to improve escape training and establish application guidelines for rescue chambers and to examine carefully risk-management approaches.

Recent mine disasters underscore the importance of NIOSH's disaster prevention research. Mining conditions are becoming more difficult. Mining methods are evolving. And the mining workforce is undergoing significant change. We are re-evaluating the practices that made sense in the past to confirm their continued application to these changing mining conditions. There is no single solution. Each mine is different and requires a different mix of technologies and practices to address the problems at hand.

We will continue to work with this committee together with our partners and stakeholders in the mining community to put into practice the best science to ensure a safer and healthier mining environment.

I would be happy to answer any questions, Mr. Chairman. Thank you very much.

The CHAIRMAN. I want to thank both of you for your testimony. I am sure we have quite a few questions.

[The prepared statement of Dr. Howard follows:]

PREPARED STATEMENT OF JOHN HOWARD, M.D.

INTRODUCTION

Good morning Mr. Chairman and other distinguished members of the committee. My name is John Howard, and I am the Director of 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 accompanied by Dr. Jeffrey Kohler who is the NIOSH Associate Director of Mining and Construction. I am pleased to be here today with our sister Agency, the Mine Safety and Health Administration (MSHA). Our agencies work together toward the common goal of protecting worker safety and health.

The focus of NIOSH research is to develop new knowledge and to transfer that knowledge into practice. The NIOSH Mining Program seeks to understand and ex-

plain through its research the underlying causes of diseases, injuries, and fatalities among mine workers, and works to develop interventions to eliminate these underlying causes. In many cases engineering controls, best practices and improved training programs are developed or improved. These have little potential for impact, however, until each is practiced at the mine. Towards that end, the NIOSH Mining Program has an aggressive technology transfer program encompassing workshops, stakeholder meetings, mine-level meetings, and the dissemination of information in print, electronic, and visual materials, among others. One of the most effective research-to-practice tools employed by the NIOSH Mining Program is the wide use of partnerships. These partnerships of labor, industry, Government, universities, and manufacturers are involved from project conception to completion, and provide an excellent conduit to move the research products into practice at the mine.

Based on surveillance data and stakeholder input, the mining program, is organized in six areas.

RESPIRATORY HAZARDS CONTROL

This area is focused on the elimination of coal worker pneumoconiosis, silicosis, and the adverse health outcomes associated with exposure to diesel exhaust. The development of engineering controls and best practices is a major focus of this area, along with empowering miners with real-time dust measurement devices. NIOSH-developed innovations to reduce exposure are found throughout the mining industry, and a few examples include coal and silica dust suppression technologies, and the diesel particulate matter filter selection guide.

NOISE-INDUCED HEARING LOSS

This area is focused on the elimination of hearing loss resulting from exposures to noise. The development of engineering controls to reduce noise at the source is the major focus, with a secondary focus on training, along with the development of inexpensive devices to empower miners to determine their exposure in real time. Although this major area has only developed over the past 7 years, several NIOSH innovations can be found in practice, including improved noise controls for mining machinery and improved training tools for mineworkers.

TRAUMATIC INJURY

This area is focused on eliminating the injuries and fatalities resulting from machinery and powered haulage, electricity, and falls, among others. The development of improved design practices, engineering controls, and training tools are focus areas for NIOSH researchers. NIOSH-developed recommendations for safer blasting have been adopted by the mining industry, and NIOSH developed training programs to recognize hazards and prevent injuries are utilized throughout the industry. NIOSH has recently licensed two new technologies that will reduce powered haulage injuries and electrical contact injuries, respectively.

CUMULATIVE TRAUMA INJURIES

This area is focused on elimination of musculoskeletal injuries, e.g., to the lower back, knees, and shoulders, and with an aging workforce, this is becoming an increasingly critical area. The identification and redesign of the workplace and work tasks is proving to be a successful approach in eliminating these problems, as is improved training. Important examples of NIOSH innovations include *The Ergonomic Process* which is being widely embraced in the coal, metal/nonmetal, and stone industries, and the ergonomically designed shuttle car seat which has become a standard on nearly all shuttle cars in underground coal mines.

DISASTER PREVENTION AND RESPONSE

This area is focused on the prevention—escape—rescue hierarchy of mine disasters, e.g., fires, explosions, and inundations. This research focuses first on the development of design and engineering control interventions to prevent a fire or explosion. NIOSH developments, in the areas of fire prevention and ventilation are in general use throughout the industry. The second area of mine escape focuses on providing effective training and tools to aid mine workers in making a successful escape from the mine during an emergency. NIOSH developed training programs for Self Contained Self Rescuer use, and the *Emergency Communications Triangle*, are prevalent throughout the industry. The third area of mine rescue focuses on the development of training exercises for mine rescue teams and fire brigades, as well as the development and proving of technologies to allow rescuers to work more quickly and safely. Thousands of miners and more than 100 rescue teams have been trained by

NIOSH in partnership with State agencies and mining companies. The Res-Q-Com communications system for mine rescue teams has the potential to significantly enhance communications during rescue. NIOSH's on-going research on the aging workforce is addressing some of the barriers to staffing rescue teams today.

GROUND CONTROL

Mines are developed within the earth in the naturally occurring geologic structures. This area is focused on the prevention of unplanned rock failures since the structural integrity of the mine openings is essential to worker safety, the ventilation systems and adequacy of escape routes. The focus areas of research include defining rock mass behavior within specific geological and geotechnical conditions, such as high stress fields or interactions with surrounding mines; and the development of engineering controls and design strategies to prevent unplanned fall of ground, e.g., rock or ore. NIOSH-developed design practices and computer design tools are widely used throughout the industry. NIOSH developed or tested innovative roof supports are found throughout the coal industry, and Mobile Roof Support (MRS) is used on virtually every retreat coal mining section in the United States.

Overall, important advancements have been made in mining safety and health, and many of these advancements can be directly related to NIOSH mining research and prevention activities and those of its partners. Nonetheless, much remains to be done. Recent mine disasters underscore the importance of NIOSH's disaster prevention research, and especially in light of specific changes. Mining conditions are becoming more difficult, mining methods are evolving, and the mining workforce is undergoing significant changes. Practices that made sense in the past are being reevaluated by NIOSH. There is no single solution—each mine is different and requires a different mix of both technologies and practices to address the problems at hand. NIOSH will continue to work together with our partners and stakeholders in the mining community to put into practice the best technology to ensure a safer and healthier work environment.

At this time, I will be happy to respond to any questions that you might have.

The CHAIRMAN. One of the things we are trying to do, of course, with the mine safety technology is to make sure that anything that we write into law is not just dealing with the present, but also looks at the future. We want there to be a focal point for the exchange of ideas, an incentive for people to invent things that will serve to make more people safer in mines.

Can you give me an idea of the process for getting something approved once it has been invented and a little bit of a timeframe of how that would work? Probably Dr. Kohler would be the best to answer.

Dr. KOHLER. Thank you. Are you talking about the statutory approval of actually using the mines?

The CHAIRMAN. Yes.

Dr. KOHLER. MSHA approval and certification would be.

The CHAIRMAN. OK.

Mr. DYE. Yes. Our approval, I think there is a serious misunderstanding of our approval process. The approval process is to ensure inherent safety of the device. So all electrical devices, whether they be a large continuous mining machine or a shuttle car or a handheld communications device, anything that uses electricity, including battery power, has to be designed in such a way that it will not cause a spark in a gassy environment so you won't have either a fire or an explosion. So outside of equipment that is designed specifically for mining, where they take that into account when they design the equipment.

Senator BYRD. Can you speak a little louder, please?

Mr. DYE. I'm sorry. Is this better, Senator?

Senator CLINTON. Is your mike on?

Mr. DYE. Yes, it is. I am sorry. I am a little horse today. I will try to speak louder.

So when adapting equipment that wasn't specifically designed for mining, it requires that equipment be redesigned and a manufacturer will submit that to MSHA and we will work with them to redesign hand-held communications equipment, that usually requires re-designing the case, the outer case. It may require other things. Even for a small piece of equipment like that, is fairly expensive for manufacturers to do that.

And they send it back to us. We test it. We make further suggestions. We test it again, if necessary, and that goes back and forth until that device will be inherently safe inside a mine.

The CHAIRMAN. So what would you guess is the average length of time that it takes to do that?

Mr. DYE. Well, there have been some complaints about the time, but that is really driven by how fast the manufacturer makes the changes and gets back to us. For instance, we are in the midst of approving a new hand-held walkie-talkie radio, a wireless communications device. That has taken a bit over a year, but that is largely because we are dealing with a Japanese manufacturer and have to send drawings and schematics and engineering details that go back and forth between us and Japan, and sort of the pace of doing that is determined by the manufacturer. So it has taken a while.

I would like to mention in connection with that, we used to have an approved device made by Motorola. They decided not to manufacture that anymore. We worked very hard with them to continue to provide support for that device, which they are doing, but they are not providing a new device. So we worked to try to find another manufacturer that would do that, and Kenwood is in the midst of trying to make that device permissible.

The CHAIRMAN. Thank you. I am concerned about how advances in technology can best be moved from the research lab to the commercial market. Now, we have heard there has been a lot of research done with something called piggyback oxygen systems, and from what I understand, those systems might be safer than supplying or catching spare self-contained self-rescuers because the piggyback system doesn't require removing the face mask on the oxygen operatus.

Could someone comment on that system and give any suggestions you might have about how we can speed up or encourage the development and commercial availability of any new mine safety technology?

Dr. KOHLER. Yes. I could comment on the point. The general point that you raise is very critical, and that is in the mining industry, how do we effectively move demonstrated research concepts into the marketplace, and this has been a chronic problem because it is a very small industry. In fact, we find ourselves in the role of not only having to develop an intervention and demonstrate its effectiveness, but then we have to address a variety of other issues that would normally be addressed by manufacturers who would be clambering to manufacture the device for sale, but since the market is so small, they are not clambering. They don't want to take on any risk, and that creates a special problem for us to move that technology from the demonstration phase to the market face.

In the case of some of the things that you mentioned and we mentioned earlier, in Mr. Dye's remark, he mentioned the prox-

imity detection system, and that is a very good example. That is a critical technology that was developed by NIOSH to prevent mine workers from being pinched or crushed between machinery and the confined workspace. After it was patented, many licensing attempts were made and it has taken really years in order to find a manufacturer who is willing to bring that device to the market and then it has taken the efforts of MSHA and others working in cooperation with labor and industry to actually demonstrate it in the mine and bring it into the workplace.

The respirator issue is another example. If we look at a holistic solution to all of this, one would say maybe it is time to move to the next generation of self-contained self-rescuer. While the current generation is belt-wearable, the miner already is wearing so many things that it is not always practical to belt-wear it, and that creates its own issues. So a slightly smaller and lighter next generation is very much needed.

Second, years ago, people looked into the concept of a dockable or piggyback type of self-rescuer. Whereas you worked your way through the mine in an escape instead of having to take off the self-rescuer and don a new unit, which involves some potentially serious risks, you could simply plug in another cartridge and keep moving.

Those ideas are there. They need to be revisited, and Government needs to play a role in trying to move this technology into the workplace despite the small market.

The CHAIRMAN. Thank you. My time has expired. I have a lot more questions, but probably some of them will be covered by others on the panel.

We have been joined by Senator Kennedy, who of course made the trip with us and has been deeply involved in this whole process, but has to juggle a number of committees. We are glad you joined us. We will let you make a statement and then begin your questioning.

OPENING STATEMENT OF SENATOR KENNEDY

Senator KENNEDY. Thank you, Mr. Chairman. I remember just hours after the Sago mine or during the Sago mine tragedy calling our chairman at that time, and he indicated what can we do and when can we do it and brought the committee together, Senator Isakson and others that took that trip, Senator Rockefeller. Senator Byrd was here preparing for that very, very important Appropriations Committee. So I thank you for having this hearing today.

I thank you also for extending the courtesy to Senator Byrd and Senator Rockefeller. That is typical of you. They have enormous interest, obviously, in their State, primarily West Virginia, but this is an issue, obviously, that reaches a number of other States, and there have been no two Senators who have been more committed to the safety and security and well-being of miners all over this country than these two Senators, and we rely on them day in and day out for their counsel, advice, and their leadership. We are fortunate to have them here, and it is an unusual courtesy, Mr. Chairman, but it is typical of the way that you run this committee.

I note and see many of our miners families that are here that have joined us. As you mentioned, we had the good opportunity to

meet with a number of them. I found that just in that couple of hours—I know you did as well and our colleagues—that their insights into these issues of safety and security and technology was enormously profound, and not just interesting, but I thought incredibly insightful. I hope at some time or other, those of the families that have that kind of awareness and understanding, I hope they can have their contribution to this record because I do think it is enormously important and would be very, very valuable to us.

Let me just say, we have got a number of my colleagues here, it seems we have got three basic kinds of issues. One is the resources. Money isn't everything, but it is a clear indication of where your priorities are, and if you are not going to give NIOSH the kinds of resource to be able to do the job and we have to rely on the initiatives of Senator Byrd, Senator Specter, Senator Rockefeller to try and boost up those figures, and you only have NIOSH able to have their equipment to test for black lung 2 weeks out of every year, we know that there is some problem, and we have enforcement, when we have penalties, it is always pleaded out to be the least amount after their fines for safety issues.

It doesn't do much good to raise the maximum penalties if the whole tradition is to go for the minimum amount of penalties, and that has been certainly a part of the real tragedy over the period of the last years. So the penalties are just sort of a matter of the cost of doing business rather than recognizing these are real men and real women and real families that are doing extraordinarily dangerous and difficult work. So that is important.

I was amazed to read the fact that many of the safety and security ideas that were in existence a number of years ago were effectively eliminated from the requirements from MSHA and now some of those are being reconsidered, which is useful, but is also awfully late. I was thinking about what they did about abandoning in 2001, for example, the emergency rules to improve the performance of emergency oxygen devices. This was an item MSHA proposed to enact in 1999, and like so many others, it was removed from the Agency's agenda by Assistant Secretary Lauriski. He was quoted recently, just 3 weeks ago, as saying in retrospect, maybe we ought to have had the requirements for more caches.

I think the question I would have really today, Mr. Dye, is to ask you will the Agency have not just studies or proposals, but really concrete final regulations to require that every mine in the country has the best and most up-to-date technology and practices on communications, on oxygen, on rescue teams, on training, and keeping clear passage ways for ventilation, escape to save miners' lives and protect their health? What will you do to show that we value the miner's life in America as much as they do in Australia and as much as they do in Canada and that a miner's life is precious and must be protected no matter how large or small the size of the mine?

Mr. DYE. I certainly agree with that sentiment. We will, of course, and we have the responsibility to look at all of those things, particularly the technology and to evaluate it, and we are going to do that as quickly as possible. As soon as we do that, we will look at what is appropriate to do in terms of regulation with those things. Some of them, I have to say in all candor, particularly in

the communications area, have limitations. All communications equipment has limitations. We want to be realistic and make sure that everyone, including yourself and the other members, understand what those things are capable of doing and what they aren't.

I certainly have no objection and the statute contemplates technology forcing, but we want to make sure that the technology can be and most likely that it is going to be improved and extended into the future.

Senator KENNEDY. Well, Mr. Dye, I just want you to re-read the excellent hearing that we had, which Senator Isakson had, 15 or 18 different leaders with different types of technology, also those that were familiar with what was happening in Australia, some that had also been involved in the Naval research program, others in the private sector who have a long life experience. You cannot listen to those presentations and not recognize that in the areas of communication, in all of these areas, there is new kinds of technology, new opportunities, and new ways and paths for protection. The real kind of issue and question is whether you are going to be energetic enough, restless enough, tireless enough to make sure that we are going to implement them. Are you going to give us the assurance that if you haven't the legislative power to do it, that you are going to come back to the Congress and make the request of Congress for the additional kinds of authority so that we can get these safety measures working and in order and in place?

Mr. DYE. Yes. I mentioned in my opening statement that since Sago we have had 70 different proposals that have come in.

Senator BYRD. I can't hear you.

Mr. DYE. I'm sorry. I will try a little louder again, Senator. Is that better?

Senator BYRD. Yes.

Mr. DYE. OK. We have had 70 different proposals that have come in, and we are winnowing through those and looking at the most promising ones. With respect to some that you mentioned, either this week or early next week, we are sending a team to Australia to look at a couple of those systems. We requested from the manufacturer a complete system on the tracker system to evaluate. We are not able to obtain it. So we are going to Australia to look at it, and we are, in fact, taking someone from our sister regulatory Agency in West Virginia and we are paying for that person to go to Australia with us.

So we are moving very quickly to evaluate these things, and I can assure you, Senator, if we find the technology that is appropriate and looks promising at this point, we will take action to make sure that is done.

Senator KENNEDY. My time is going to expire. So what about Canada did they require 36 hours of breathable air? Are you going to send a team up there? Have you got all the information that you need?

Mr. DYE. Are we talking about with respect to the rescue chambers up there?

Senator KENNEDY. Yes.

Mr. DYE. I mentioned holding a workshop here with NIOSH in April. We are going to have people come internationally to work on those issues.

With respect to rescue chambers, it is a little bit different with metal/nonmetal than it is in coal. In fact, we require rescue chambers in metal/nonmetal mines where it takes more than an hour to get out of the mine. We have, I believe, 27 or 28 of those spread out in various parts of the country, but you have to remember a coal mine is just fuel. You are surrounded by fuel, unlike a metal/nonmetal mine where if you have a fire, it is usually a piece of equipment or something burning. Fumes and smoke come down to perhaps where you are. Hopefully you are a little ways away from it.

Now, a coal mine, the fire can come to you and you have the risk of an explosion. So the kind of device that you use in this circumstance has to be considerably more robust.

Senator KENNEDY. Well, what I would suggest is that you bring in and include on your team some miners as well that have understanding and experience.

Just, finally, would you comment about the penalties? You saw the *Times* story today, the Sago Mine, over 200 safety citations last year, almost half of which were serious and substantial. The maximum fine the company paid was $440, less than one-thousandth of one percent of the $110 million profit for last year reported by the company.

Mr. DYE. Yes.

Senator KENNEDY. The fines issued are notoriously low and are often reduced. For example, the explosion at the Jim Walters resource mine in Alabama in 2001, where 13 miners were killed. MSHA originally issued a penalty of 435,000, but an administrative law judge at the Mine Safety Review Commission reduced it to a $3,000 penalty in a case where 13 miners were killed. The Secretary is appealing this, but this shows just how faulty the whole system is.

Mr. DYE. Well, like you said, we don't agree with the administrative law judge and we have appealed that. Those are very difficult cases.

Now, with Jim Walters, remember—well, I will tell you that they had two explosions there and then they flooded the mine. So that took a toll on the available evidence. Nonetheless, just like you see on CSI on television, our cameras are in there for weeks at a time gathering evidence, and we believe that we have sufficient evidence to sustain the $430,000 that we assessed, but we didn't make it past the administrative law judge. We are appealing it and we will carry that as far forward as we have to.

Senator KENNEDY. Well, you didn't have the evidence for $430,000 only evidence for $3,000?

Mr. DYE. Well, no. I don't think that is correct. I think that is what the administrative law judgment thought. we don't think that.

Senator KENNEDY. In any event, it is illustrative of the fact that these penalties are missing achieving the kind of safety that I think all of us demand. We understand progress has been made, but when we have the kind of loss of life that we have seen, we know we can do better.

I want to thank the Chairman and thank the members of the committee. We are in markup on the immigration bill in the Judici-

ary Committee today. So I particularly appreciate the courtesy of the chairman and the other members for letting me ask questions.

The CHAIRMAN. We thank you for your participation and your expression of urgency that all of us have noted is leading us to do some nontraditional things with the committee to get this solved as quickly as possible and to have as much input as possible. We always thank you for your participation, and I would now call on Senator Byrd, who also is not on the committee, but has played a great role in the urgency that we have been working through the problems to make sure we get some solutions.

Senator Byrd.

Senator BYRD. Thank you, Mr. Chairman.

Mr. Dye, can you speak up a little bit?

Mr. DYE. I will certainly try, sir.

Senator BYRD. How is that?

Mr. DYE. I certainly will try.

Senator BYRD. Don't be afraid.

Mr. DYE. Oh, I am not afraid. I have a voice.

Senator BYRD. Don't get nervous.

Mr. DYE. I am not nervous.

Senator BYRD. Just speak into the mike.

Mr. DYE. I will try.

Senator BYRD. We will see.

In your testimony, you said that MSHA is doing all that is possible to ensure the safety of miners, and from what I have seen, you are doing what is required by the law, nothing more. What examples at the Sago and Alma Mines can you give where MSHA did more than what is required by the law?

Mr. DYE. Well, I am glad you asked that question. At Sago, starting in late 2004 and 2005, when it appeared the incident rate was going up at that mine, our staff there started increasing their attention in that mine. They increased the number of onsite hours that they had spent at that mine from, I think, 405, I believe, up to about 744, about a 94 percent increase. They issued, as you mentioned, a large number of penalties and orders, used closure orders 18 times.

Now, if I could just mention that people sometimes fixate on penalties. Orders, closure orders, are your biggest hammer.

Senator BYRD. Closure orders?

Mr. DYE. Yes, sir.

Senator BYRD. How often have they been used? How many have been closed?

Mr. DYE. Well, 18 times, they have actually closed the area affected by the violation.

Senator BYRD. Can you say that again?

Mr. DYE. The law allows you to close an area affected by a violation, and we used that 18 times in Sago in 2005, which is a fair bit for a mine that size.

Senator BYRD. Can you give the committee examples of the 18 times?

Mr. DYE. Oh, gosh. The particular areas of those?

Senator BYRD. What?

Mr. DYE. Well, they used them for, I believe, rock falls, ventilation violations. There was a whole laundry list of things, that when

we find a violation that has a serious affect on the mine and there has been a failure of the operator to correct that, then the inspector can just close that area of the mine until it is abated, but as soon as it has been abated, the law allows them to re-open.

OPENING STATEMENT OF SENATOR BYRD

Senator BYRD. Let me make my opening statement. Your testimony lists a number of initiatives and emergency rules that MSHA is pursuing but not yet implemented. Let us take a look at today's Charleston Gazette, Charleston, West Virginia, by Ken Ward.

A rule to give the Nation's coal miners additional emergency oxygen has been delayed while the White House continues to review it, Government officials said this week. The United States Mine Safety and Health Administration announced the rule February 7th, but had not put it into affect by publishing it in the Federal Register. MSHA officials submitted their proposal to the White House's Office of Management and Budget on February 14th, a spokesman said. OMB, which must sign off on the Agency rules, sent the proposal back with comments and questions.

On Tuesday, MSHA officials submitted a revised version. Now they are again waiting for the White House. Under growing pressure following a series of mining accidents in West Virginia, MSHA said it would implement the oxygen supply rule as a temporary emergency standard when Federal law allows MSHA to implement emergency rules only if miners are exposed to grave danger. Since passage of the 1977 Mine Safety Act, MSHA has used this authority only twice.

Most recently, the Agency used an emergency rule to modify mine evacuation guidelines following the death of 13 miners at the Jim Walter Resources No. 5 Mine in Alabama in September 2001. Details of the MSHA oxygen supply plan have not been made public. MSHA's spokesman Dirk Fillpot would not discuss his Agency talks with OMB about the emergency rules. "That is all something considered part of the deliberative process," Fillpot said. "You can get the final draft once it is completed."

Alex Conat, a spokesman for OMB said, "You are making a mountain out of a molehill; this is a routine process." Conat said, "We work with agencies all the time." In a phone interview, Conat refused to discuss what questions or concerns OMB had about the MSHA rule. Later, he e-mailed a prepared statement in which he said that MSHA did not make any changes to the rule at OMB's request, nor did the OMB staff ask for any. MSHA has said that its emergency rule would require lifelines to guide miners safely out of mines and immediate notification by operators of accidents and additional emergency training for miners.

In West Virginia, Governor Joe Mansion has already pushed through legislation to require mine operators to install wireless communications and miner tracking devices in all underground coal mines. Over the last month, industry officials and MSHA have repeatedly questioned whether those devices will work.

Bob Friend, an Acting Deputy Labor Secretary for MSHA, continued that effort during a House Committee hearing Wednesday in Washington. Friend told lawmakers that it is difficult to operate wireless communications from the surface to miners underground.

What about that? Difficult.

"There is a lot of ground over our mines, and it is difficult to go through that much ground," he told the House Education and Work Force Subcommittee in a hearing. Under questioning from Representative Major Owens, Democrat of New York, National Mining Association Lobbyist Bruce Watzman also questioned the wireless devices.

Why can't we get our act together? Why did 21 coal miners die this year before MSHA took the steps and initiatives in the emergency rules that MSHA is pursuing but have not yet implemented? Why weren't rules such as those addressing belt air ventilation in 2004 addressed before these critical initiatives?

Mr. DYE. Well, with respect to what you said earlier——

Senator BYRD. Speak up louder so the audience can hear you back there.

Mr. DYE [continuing]. I share your frustration, but, in fact it is moving through, our regulation is moving through, relatively speaking, very fast. We expect that—I hate to predict, but within a very few days, we expect that we will be able to publish that emergency legislation.

Senator BYRD. How much is a very few days?

Mr. DYE. Well, you know, it is not in my control. My sense of it is that it is almost done. Their concerns were minor clarifications. So it shouldn't take them long.

Senator BYRD. Well, give us something better than it shouldn't take us too long.

Mr. DYE. Well, again, that is when they clear it. So that is beyond my control, but I don't expect that to be long.

Senator BYRD. Can't you needle them a little bit?

Mr. DYE. Well, there are others needling them, actually.

Senator BYRD. We have known about these problems since 1995. That is almost 100 years ago, 1995, isn't it?

Mr. DYE. Well, it seems like it.

Senator BYRD. You have had the opportunity to do something. Nothing has happened. It has been 25 years since mine rescue rules were updated. How about that? Twenty-five years, that is almost half as long as I have been on this Earth.

It has been 25 years since mine rescue rules were updated.

It has been 15 years since communications requirements have been updated. How much longer do we have to wait?

Mr. DYE. Well, like I said, we are moving ahead as fast as we can go, Senator.

Senator BYRD. Well, that is not good enough. How much longer are we going to have to wait?

Mr. DYE. For the emergency rule? Like I said, a very few days.

Senator BYRD. When?

Mr. DYE. A very few days.

Senator BYRD. How much is a very few days?

Mr. DYE. As I said, it is not under my control, but my sense of it is that it is going to happen shortly.

Senator BYRD. When will MSHA publish its emergency standard on mine rescue training, accident notification, self-contained self-rescuers, and lifelines?

Mr. DYE. As I said, as soon as it is cleared.

Senator BYRD. What?

Mr. DYE. As soon as it is cleared by OMB, it will be sent to the Federal Register.

Senator BYRD. Today's Charleston Gazettet reports that the White House is delaying a rule for emergency oxygen. I read that. Why is that?

Mr. DYE. I don't sense that at all. As a spokesman said there, it is part of the normal clearance process. All regulations have to be reviewed by OMB. That has been in every administration that I can remember, and they are moving very fast on this one.

Senator BYRD. Why did MSHA not update these rules before the Sago and Alma tragedies?

Mr. DYE. Well, I have only been here for a short time, but, you know every—I don't know, but I have been at MSHA for a little over a year. So I really don't have a recollection back beyond that, but I will tell you that one of the sad but fortunate things after a major tragedy, there is always a great leap forward in these kinds of things, and we take advantage of that and we are going to make some progress here.

Senator BYRD. Now, when we can expect your taking advantage of that and making the progress?

Mr. DYE. As I said, in just a very short while, Senator.

Senator BYRD. Gee, whiz. In a short while, people are dying in coal mines. They die in a short while too. When are you going to get off your duff? When?

Mr. DYE. Well, I don't think I am on my duff, Senator, and I agree with you. I understand your impatience. It is not in my hands at the moment, but the minute that we get that back, I will send it to the Federal Register.

Senator BYRD. Mr. Chairman, I want to thank you for what you are doing. I want to thank Senator Kennedy and Senator Rockefeller and Senator Clinton.

All my life, I have been with coal miners. I know the stories. I know the tragedies. I know the weeping. I know about the sobs and the tears that are shed. It is a tragedy that we have to wait until coal miners are killed.

Have you ever been in a coal mine?

Mr. DYE. Yes, sir.

Senator BYRD. When?

Mr. DYE. The last time was several months ago.

Senator BYRD. Several months ago.

Well, Mr. Chairman, I will wait another round for further questions. I am not on the committee, but you are kind to let me ask these questions. I may have to wait a long time, but you are a friend and a friend of the coal miners.

The CHAIRMAN. Thank you. We extended the time there, and I appreciate your participation in this process.

Senator Isakson.

Senator ISAKSON. Thank you, Mr. Chairman. I have tremendous admiration and empathy for the position that the two Senators from West Virginia are in. I would acknowledge, however, that our job here is not to rewrite history, as disappointing as parts may have been, but it is to make history by making sure things don't happen again. And all of us had responsibility since 1995. So there

is fault to go around. I imagine that everybody in this room that is in an elected or appointed office has some of that responsibility.

Senator BYRD. Will the Senator yield?

Senator ISAKSON. Sure.

Senator BYRD. Lord Byron said, "History with all her volumes vast, hath but one page."

Senator ISAKSON. You know, Senator, my goal in life is before I leave the Senate to have made one speech anywhere close to the caliber of your speeches or know quotes anywhere close to your ability.

I notice, Mr. McKinney, that you are the administrator and Mr. Dye is the Acting Director; is that right, Assistant Acting Director.

Mr. MCKINNEY. Yes, sir.

Senator ISAKSON. Well, without taking all 5 minutes of my time, Mr. Dye deserves a break. I would like to see if you have any comments regarding what Mr. Dye had to say in response to those answers, because I believe your positions would reflect that of the Administration. Is that not correct?

Mr. MCKINNEY. Yes. Just to respond to why something wasn't done beforehand, I think if you look at any time back—I have spent 36 years in the mining industry. So I have some understanding of it, but if you look at the 1969 Act Farmington and Finley caused us to rethink what we do in the coal industry. If you look at the 1977 act, Scotia brought that about, and we have had a terrible disaster at Sago, and I think it behooves us to sit and look at things that we need to do. I wished I had had the foresight and I was a soothsayer and I could have seen this coming, because I guarantee there is nobody here that is anymore hurt about this than I am. I didn't have that, but I think we all have to come to terms now that we have to do something positive. We have to agree upon that and we have to find the technology and we have to move forward. Now, we can debate what we should have done in the past, but that is not going to help the future.

So that is where I stand on the issue. I think there are things we need to do technology-wise. I have served on a mine rescue team and I understand the issues associated with communication underground. I think it can be overcome. I think we have to explore all avenues to do that. I think we have to look at refuge chambers, but they have to be doable. We have to understand exactly what we are doing with the second explosions.

Last week, we had an explosion in Alabama, the Shoal Creek Mine. We were very fortunate. We did the evacuation process. We got everyone out of the coal mine, but naturally people wanted to go back in there and we didn't allow them to. Less than 12 hours later, we had a second occurrence underground and then another one the next day. So once you stay underground in any kind of chamber, if you choose to do that, you are susceptible to explosions.

So there may be technology out there and we should explore that. If it is possible, we should make it available.

Senator ISAKSON. I appreciate that answer, and to that end, Senator Clinton was kind enough to appear and be at almost all of our 2 hour hearings that we had. We heard from experts from around the world. I learned two things from that. First of all, there are technologies in Australia and other parts of the world that are

being used that not only have promise, but are performing, although 100 percent reliability in a mine environment, depending on the type of mine, is a difficult thing to accomplish.

To that end, Dr. Kohler, you made a comment—and I wrote it fast so if I misquote you, you can correct it—but you asked the rhetorical question shouldn't Government play a role in the product development, and I think you were referring then to product development of these emerging products that are providing some answers to the communication questions, some answers to the location question, some answers to the storage question, but not the total answer. I would just ask you, being at NIOSH—and you were at the whole hearing. You sat through the entire hearing we had—what can Government do and what role can it play to accelerate those product developments that have demonstrated promise that we want to get to full productivity?

Dr. KOHLER. Yes, Senator. I think there are a couple of things. First of all, Government can help everyone to recognize that there are some things that are in the here and now. There are things that we can do today and we should move forward and we should do those things today, and then we have taken care of helping out some group of mines and mine workers.

Second, there are other technologies which would solve the problem in cases where today's technology maybe won't meet the bill, and those are the ones we have to focus on getting into the marketplace. Toward that end, I think that, for example, there are a number of concepts, some that have been on the shelf for many years that address some of the emergency communication issues. If Government made resources available, those technologies could be built into prototypes. They could be field-tested. Manufacturers could develop some confidence in their ability to work, and then perhaps they would take the lead and bring them to the marketplace.

Senator ISAKSON. I am going to take advantage, Mr. Chairman, if you would let me ask one more question or make a comment.

I learned a lot from the miners that met with us in West Virginia after meeting with the families of the miners that were lost, and I learned a lot of from the UMW gentleman that testified on that panel the day you sat in. We had the roundtable, and I asked him this question, and there are lots of miners in the room, so I am sure I will be educated if I didn't answer correctly, if it didn't reflect; but one thing I appeared to learn from all of them is that the most important priority for the miners is to give them a way to get out first, that they are in control of their environment with the opportunity to get out first is goal one. All the other things that you do are great. Rescue teams are great, but they can't go in if the environment won't tolerate their presence there. We know that from Sago, because those guys went in. That second crew, they tried to go in against what would be protocol to save their fellow miners, but they couldn't get past the barriers.

So I would just say as we work with all of you on these solutions, that if that is, in fact, what the miner tells us, that we don't forgot that empowering them to save themselves first is job one. And the last part on that is on these approvals that Mr. Dye was questioned on quite extensively about various things, I have learned that potash mines are different from coal mines and metal mines

are different from potash mines, but in this approval, are we so tied up in the approval process that we don't allow—do we give companies that are willing to test new equipment waivers to test in the mines, or do we wait until we have 100 percent foolproof proof that it works before we let anybody use it?

Can somebody answer that real briefly so I don't take too much of Senator Clinton's time?

Mr. MCKINNEY. Yes. There are times and situations where we do give waivers to people to put it in the mines before we permanently approve it, and I think that is a prudent process.

Senator ISAKSON. So do I.

Mr. DYE. Remember that the approval for permissibility is only for gassy mines. There are a few metal/nonmetal gassy mines, Trona being one of them, but most times you don't have to go through that process to use equipment, say, in a coal mine.

Senator ISAKSON. Well, I know that there are liability issues that companies have to concern themselves with, there are responsibilities issues you have to concern yourself with, but it seems to me in that hearing we had the other day that if we became catalyst for test beds of new products in the mines, that would be an incentive for these companies to go the next leg of development, which is why I asked the question.

Mr. DYE. Yes. In fact, we do, and Dr. Kohler mentioned proximity detectors where we work very closely with companies to test that and work with them.

Senator ISAKSON. That is what you are going to see in Australia, by the way.

Mr. DYE. Yes.

Senator ISAKSON. Proximity detectors by zone is one of the things we heard in that testimony as well.

Mr. DYE. Yes. By the way, we are going to also go look at some rescue chambers there also.

Senator ISAKSON. Thank you, Mr. Chairman.

I apologize, Senator Clinton, for taking some of your time.

The CHAIRMAN. Thank you.

I will call on Senator Clinton next and then save Senator Rockefeller for the clean-up batter on this panel.

Senator CLINTON. Mr. Chairman, I would be more than happy to yield to Senator Rockefeller.

The CHAIRMAN. That is okay.

Senator CLINTON. OK. Well, I think our witnesses, obviously this has to be a partnership within a regulatory framework. It needs to be a partnership between the Government and the mining companies and the miners, and it appears to me that we have not been as aggressive in pushing safety measures and in deploying new technology as we should have and could have been.

Mr. Chairman, I ask unanimous consent to submit for the record the New York Times story today, "U.S. is Reducing Safety Penalties for Mine Flaws."

The CHAIRMAN. Without objection.

[The *New York Times* story follows:]

[From The New York Times, March 2, 2006]

U.S. Is Reducing Safety Penalties For Mine Flaws

(By Ian Urbina and Andrew W. Lehren)

CRAIGSVILLE, W.VA.—In its drive to foster a more cooperative relationship with mining companies, the Bush administration has decreased major fines for safety violations since 2001, and in nearly half the cases, it has not collected the fines, according to a data analysis by *The New York Times.*

Federal records also show that in the last 2 years the Federal mine safety Agency has failed to hand over any delinquent cases to the Treasury Department for further collection efforts, as is supposed to occur after 180 days.

With the deaths of 24 miners in accidents in 2006, the enforcement record of the Mine Safety and Health Administration has come under sharp scrutiny, and the Agency is likely to face tough questions about its performance at a Senate oversight hearing on Thursday.

"The Bush administration ushered in this desire to develop cooperative ties between regulators and the mining industry," said Tony Oppegard, a top official at the Agency in the Clinton administration. "Safety has certainly suffered as a result."

A spokesman for the Agency, Dirk Fillpot, defended its record, pointing out that last year the coal industry had 22 fatalities, the lowest number in its history.

"Safety is definitely improving," Mr. Fillpot said.

A spokeswoman for the National Mining Association, Carol Raulston, agreed.

"The Agency realized in recent years that you can't browbeat operators into improved safety, and this general approach has worked," Ms. Raulston said. "The tragic events of this year have given everyone pause. But I don't think it means we want to abandon what we have found works."

Federal records show that fatalities across all types of mining have stayed relatively stable. In each of the last 3 years, 55 to 57 miners have died in all areas of mining. Experts say a long-term decline in coal mine fatalities is in part a result of growing mechanization.

Mr. Fillpot also said delinquent cases had not moved to the Treasury Department since 2003 because of computer problems. He could not say when the problems would be corrected. "Referrals from MSHA to the Treasury Department have been impacted by technical issues on both ends, which we are working to resolve while maintaining an aggressive record on enforcement and collections," he said.

Although the Agency has recently trumpeted Congressional plans to raise the maximum penalties, Federal records indicate that few major fines are issued at the maximum level. In 2004, the number of major fines issued at maximum level was 1 in 10, down from 1 in 5 in 2003.

Since 2001, the median for penalties that exceed $10,000, described as "major fines," has dropped 13 percent, to $21,800 from $25,000.

Also troubling, critics say, is that fines are regularly reduced in negotiations between mine operators and the Agency. From 2001 to 2003, more than two-thirds of all major fines were cut from the original amount that the Agency proposed. Most of the more recent cases are enmeshed in appeals, so it is impossible to know whether that trend has continued.

"The Agency keeps talking about issuing more fines, but it doesn't matter much," said Bruce Dial, a former inspector for the mine safety Agency. "The number of citations means nothing when the citations are small, negotiable and most often uncollected."

Before the January disaster at the Sago Mine near here, where 12 miners died, the operator had been cited 273 times since 2004. None of the fines exceeded $460, roughly one-thousandth of one percent of the $110 million net profit reported last year by the current owner of the mine, the International Coal Group.

At a House oversight hearing on Wednesday, Agency officials repeatedly cited the frequency of fines against Sago in the year before the accident as proof of aggressive enforcement. Exasperated, Representative Lynn Woolsey, Democrat of California, replied that maybe those fines had little effect because many were for $60. That point set off applause from audience members.

"Most fines are so small that they are seen not as deterrents but as the cost of doing business," said Wes Addington, a lawyer with the Appalachian Citizens Law Center in Prestonsburg, Ky., which handles mine safety cases. Using Federal records, Mr. Addington released a study in January indicating that since 1995 nearly a third of the active underground mines in Kentucky had failed to pay their fines.

"Operators know that it's cheaper to pay the fine than to fix the problem, "Mr. Addington said." But they also know the cheapest of all routes is to not pay at all. It's pretty galling."

Larry Williams, who now lives in Craigsville, 50 miles east of Charleston, knows this frustration well. In 2002, he was working with a fellow miner, Gary Martin, in a deep mine near Rupert, 25 miles south of here, when the roof collapsed on them. Mr. Martin died instantly, and Mr. Williams was trapped for more than 4 hours under several thousand pounds of rock that crushed his pelvis and both legs.

The men had been pillaring, or second mining, which involves extracting the last remaining coal in tunnels by scraping it from the coal pillars used to hold up the roof. This method is considered extremely dangerous. Federal regulations aim to reduce the risk.

In this case, Federal investigators found that the regulations were not followed. The operators were fined $165,000. Those fines have not been paid, even though the mine owner, Midland Trail Resources, which did not reply to requests for comment, remains in business, according to State records.

"It makes me mad," said Mr. Williams, 50, who is paralyzed through much of his right side. "One dead and another man's life ruined, and they pay nothing? It just doesn't make sense."

On Feb. 14, Senator Arlen Specter, Republican of Pennsylvania, introduced a measure to raise the maximum penalty that the mine safety Agency can assess for failing to eliminate violations that cause death or serious injury, to $500,000, from the current $60,000.

The law would also prohibit administrative law judges from reducing fines for violations deemed flagrant or habitual.

Ellen Smith, editor of Mine Safety and Health News, an independent newsletter that covers the industry, said that although the law was a positive step, one regulation that continued to need attention allowed fines to be lowered for smaller or financially troubled mines.

"The result of that provision is that it helps keep some habitual offenders in business," Ms. Smith said.

Cecil E. Roberts, president of the United Mine Workers of America, said changes in the law were vital but so were changes in the Agency. "If you don't have enforcement along with a strong law, then you don't have a law," Mr. Roberts said. "The current Agency mentality is to cooperate with mine operators rather than watchdog them, and safety suffers as a result."

Even when Congress passes strong safety laws, the Agency can write regulations that work around them. In 2004, for example, after years of pressure belts not just for moving coal but also to draw in fresh air from outside. A law already existed preventing such safety regulations because of concerns that in the event of a fire, the belts would carry flames and deadly gases directly to the work area or vital evacuation routes.

Though the investigation is not complete, many experts say this is probably what occurred at the Aracoma Alma No. 1 Mine in Logan County, W.Va., where a fire left two miners dead on Jan 21.

Mr. Fillpot said his Agency was revising the regulations on imposing penalties. He also pointed to civil suits filed by the Agency in what he said was an increasing effort to force operators to pay millions of dollars in unpaid penalties.

"You can expect to see more of these types of efforts from us in the coming months," Mr. Fillpot said.

Mr. Williams, the miner who is partly paralyzed, remains skeptical.

"All I know is the roof collapsed only days after a Federal inspector looked right at those pillars and saw that the operator was having us do illegal things," he said. "In these mines, laws don't matter."

Senator CLINTON. Thank you.

In reading this article and in following the issues around mine safety, I do think we have to do a better job on enforcing the rules we already have. That is the first order of business. We have rules. We need to improve those rules, but let us start with enforcing the rules that we have, and it was discouraging to read that Federal records show that in the last 2 years, MSHA has failed to hand over any delinquent cases to the Treasury Department for further collection efforts as it is supposed to occur after 180 days, and I understand that the explanation from MSHA is that the delinquent cases weren't turned over due to uncorrectable computer problems and that cases have not been removed since 2003.

Is that correct, Mr. Dye.

Mr. DYE. Partially, yes. It has been a nightmare, quite frankly. We have changed over to a new computer system. We were not able to do that for a while as we developed our new data base, but since, I think, May of 2005, the new computer system that they have been using at Treasury has not been able to receive those either.

Senator CLINTON. Well, can you walk them across the street?

Mr. DYE. I wish we could. Believe me, I wish we could.

Senator CLINTON. Well, I don't see any reason why you can't. I mean, part of the challenge here is to enforce the laws we have. What kind of message does it send? Most of the mining companies in this country, I would assume—I certainly don't have the experience that my dear colleague Senator Byrd or Senator Rockefeller have, but I would assume that most of the mining companies are obviously concerned about the safety of their miners. Some aren't as much as we would want them to be, but everybody needs to be pushed to do what is expected. I mean, that is human nature.

You know, obviously if we have got 100 things to do and 10 of them are pressing, the other 90 are going to fall by the board, and it disturbs me that you have got low fines in the first place, small, negotiable, and often uncollected, as the article said. Some of these fines are as low as $60. At Sago, the operator had been cited 273 times since 2004, and none of the fines exceeded $640. Now, that is roughly one-thousandth of one percent of the $110 million net profit reported last year by the owner of the mine. I don't think you are going to get somebody's attention in a global economy if you are fining them $640 and you don't even collect it.

So the first order of business, let us enforce the laws we have. Second order of business, let us improve those laws and regulations, and obviously I am concerned that we did have some regulations that were proposed at the end of the Clinton administration: One was regarding revised coal mine standards on self-rescue devices in order to allow miners adequate time to escape, because I agree with Senator Isakson. The first order of business, get our miners to safety, get them out, give them the tools they need to rescue themselves while we are trying to figure out how to get there to help out.

The proposed rulemaking also called for manufacturer expiration dates and periodic inspections to ensure the fully functioning of these self-rescue opportunities. The standards were withdrawn in September of 2001, and the explanation was in light of resource constraint and changing safety and health regulatory priorities. Now, to me, we did the work on this proposed rulemaking. It was withdrawn in 2001. Is this one of the rules you are going to take another look at now?

Mr. DYE. Actually, it wasn't a proposed rule. It was an advanced notice of proposed rulemaking, which means it didn't have a proposal. It asked questions to be answered. There was never any proposal.

Senator CLINTON. Well, but you didn't pursue that. It was an advanced rulemaking proposal that didn't go to rulemaking. Is that basically right?

Mr. DYE. Correct.

Senator CLINTON. OK. Now, another Clinton administration requirement withdrawn would have required mines to purchase con-

veyer belts with improved flame tests and approval standards after a year. This decision directly, the decision not to pursue the flame-tested approved conveyer belts, that decision contradicted a study by NIOSH which highlighted the incredible speed of flame propagation on conveyer belts and its critical role in mine fires. Today's only existing standard measures burn time, and it is outdated, and we know the Alma accident was in part due to a coal conveyer belt catching fire. Where do we stand on that proposed rule or advanced notice?

Mr. DYE. That was, in fact, a proposed rule. It dated from 1992. It sat on the regulatory agenda for 8 years and was never acted on. Since that time, there were developments in atmospheric monitoring systems and fire suppression systems, and we made great advancement.

Senator CLINTON. And those are rules or just voluntary efforts by the mining companies?

Mr. DYE. No. Those are rules.

Senator CLINTON. But I guess part of my concern here is that we have to do several things in this committee. No. 1, if we have rules on the books, why aren't they being enforced? If we need more resources, why aren't we asking for many more resources? No. 2, what are the rules that are needed? And then number three, obviously we are going to look for new technologies, but I have to say that the President's budget proposal which we received a few weeks ago includes no increase for enforcement activities at either OSHA or MSHA, not even in coal mining in response to the recent disasters. The Administration has not requested more inspectors to oversee mines and other work places and, actually, the budget when it comes to NIOSH, Dr. Howard, would be $250 million, $36 million less than requested last year.

So we have some very significant challenges ahead of us, and I just want to end with this final comment: We are hear talking about mines and the safety of our miners, but I see a deterioration in worker safety across the board and I see a lack of commitment to investing in the technologies that will protect our workers.

I can't help but mention, Dr. Howard, how pleased I am that you have now been appointed to help oversee the health consequences to first responders, workers, and volunteers at ground zero. One of the problems we had on 9–11 is nobody could talk to each other. We didn't have interoperable communications. One of the problems we have in the mines, we don't have effective communication. In Katrina, we did not have effective communication.

We are all on notice, Mr. Chairman. We are on notice. We have not done what we need to do to improve communications and to improve worker safety and to upgrade technology and to enforce the rules on the books as they are. So I appreciate very much the chairman's commitment to working through these issues, and under his leadership and the leadership of our two great Senators from West Virginia, I stand ready to do what we need to do to help protect our miners and to take a broader look at worker safety in general.

The CHAIRMAN. Thank you.

Senator Rockefeller.

Senator ROCKEFELLER. Thank you, Mr. Chairman.

I want to just make one observation to the audience, and this is true under both Democratic and Republican administrations, that the gentlemen who are testifying are not testifying out of words and ideas which they, themselves, created and just came up here and gave. None of the gentlemen testifying can give testimony in a congressional hearing without the approval of the Office of Management and Budget. They have to go over to see if there is anything which is inconsistent with what their policy is. So you can see already an enormous conflict between OMB being overwhelmed by budget problems and what they will allow these gentleman to say.

Second, I suspect that it rises higher than that. I suspect that it goes to the Secretary of Labor, and I don't know whether it goes to the White House or not, but that is an extremely important point for families here and miners here to understand. They are not free to speak what they want. That is why they cannot answer questions as directly as perhaps they might, because OMB doesn't want them to, doesn't want them to have to commit. Again, this is bipartisan. It works in both kinds of administrations.

It is the way that Government controls what happens. Now, that can be good if what is happening is good. It is bad if it means that we can't really get to the bottom of things. So understand that. It is not their fault.

Walking across the street, Mr. Dye, you could walk it across the hall to Secretary Chao and probably get some answers.

One of the great problems in Federal Government, it strikes me, are people who have jobs that they have had either for a year or for years and they don't put themselves at risk. The coal miners are put at risk every day because they cannot get out of sorts with the chain of command, and the chain of command rules, therefore the philosophy of the Administration, be it Democratic or Republican, it rules and guides everything that is going on in this hearing.

We all know that, but I wanted to say that so that you all would know that. If you are not hearing answers that you would like to hear, it may be because you wouldn't hear them under any event, but it may be because they can't be given.

So I hope I have a little time left. The September 2003 GAO report on mine safety found that MSHA was not requiring mandated semi-annual inspections of ventilation and roof support plans. Roof supports are overwhelmingly important in mines. Nearly half of MSHA's districts had not completed these technical inspections in what I would call a timely fashion. I don't care what timely means; if they are not completed, they are not completed.

Ventilation failures happened at Sago and Alma. The belt line opening at Alma and the failure of seals at Sago both were a fact of what took place. These must be seen as contributing factors to the deaths of the West Virginia miners, and I want to know what MSHA is doing to correct this problem.

Mr. McKINNEY. Sir, I would like to answer that question. I was directly involved in that GAO report, and we did exactly what Senator Clinton said. We had a computer issue. We ran those inside a computer and we couldn't see them. We had glitches. So what we

had were hard copies of each one of those reviews. Those reviews were done and they were documented in writing.

The problem GAO had was that we didn't have any computer system for oversight purposes. I personally gave them copies of those and pointed out to them the work was done. We protected the miners as we were charged to. The fact that the computer doesn't work, I'm sorry about that, but I am more concerned about us getting the job done. We wrote a letter of protect back to those folks responding to that allegation and explained to them very clearly that your statement is incorrect. We did the work. You are right. We don't have the oversight capability. We are going to build a data collection system that will allow us to do that.

So I sit here today telling you I understand their allegation. I just disagree with that allegation.

Senator ROCKEFELLER. So what happens from this point forward?

Mr. MCKINNEY. Well, before this, we began to build a data base, and they are back in the shop. I have a meeting with them Tuesday, and hopefully this time they will not only see the hard copies that prove that we did the work; they will see the oversight where we have got it entered into our computer system.

Senator ROCKEFELLER. You briefed me at Sago, didn't you?

Mr. MCKINNEY. Yes, I did.

Senator ROCKEFELLER. And you did a good job. I congratulate you for that.

Mr. MCKINNEY. Thank you.

Senator ROCKEFELLER. I want to get back to Senator Clinton's point, because it is really befuddling, that is I think the figure is every single mine infraction, the fine at Sago was either $60 or $270, I believe. You can correct me if you want. I went over 200. Now, I could not understand all of the infractions because I am not underground every day, but I could understand 100 of them, and no matter what they were and how much they seemed to differ in intensity or effect, the fines were all the same.

Now, I agree with Senator Clinton's point, the tiny percentage or the fraction they represent is not an incentive, but why would they all come to be the same? Why would all of the infractions turn out to be exactly the same?

Mr. DYE. Well, all of them have not been assessed yet.

Senator ROCKEFELLER. Well, I saw 200. Just deal with the 200.

Mr. DYE. The major ones, what they call the special assessment, the more egregious ones, particularly the orders, those have not yet been assessed and those will be much higher. The way that works——

Senator ROCKEFELLER. Wait a minute. I want to catch you on that, because these went back and now you are saying they will be higher.

Mr. DYE [continuing]. No. No. Some of them have not yet been assessed.

Senator ROCKEFELLER. I'm sorry, but there are 200 that have been assessed and they have been given a numerical value of worth.

Mr. DYE. Yes.

Senator ROCKEFELLER. Which is extraordinary low. So forget what hasn't been assessed. What has been assessed, how does it get to be that way?

Mr. DYE. Well, there is a point system that is published in the Federal Register, and depending on what the inspector writes on the ticket, it goes in and then those are entered and run through a computer system, and then they are all, whatever they have on there, they are treated with whatever the point system is for that particular infraction or its gravity or its level of negligence. There are six things in the statute that you have take into account. It is statutory, and all of those things are applied. It is all in the Federal Register, like I said. It is built into a computer program and it goes through that and it churns it out.

So I am not sure that they are all exactly the same, but if they have similar gravity, similar negligence, that sort of thing, it also takes into account the size of the mine. That is statutory criteria.

Senator ROCKEFELLER. What worries me about your answer, and I recognize, Mr. Chairman, my time is up, but what worried me about your answer is that what you are saying is legally correct, I am sure——

Mr. DYE. Factually correct.

Senator ROCKEFELLER [continuing]. But there is no way that there can be, just the 200 that I looked at and went through page by page, that can come out to those two amounts, and not just those two amounts. Nothing varied. It was either $60 or $270, period, but the infractions varied enormously, and my real point is that, one, if the final is going to be predictable and, second, if they are that small, it really is, as has been pointed out, a cost of doing business. It is much easier for the company simply to pay the fine, not worry about having to fix the problem. You said you would shut them down 18 times, but in sections, and I think what others are asking is why don't you shut the whole mine down when things get bad.

Mr. DYE. No. We don't have an authority to do that.

Senator ROCKEFELLER. I understand that, and that is not my main question. I am referring to the 200, and there was no sense in that, and they were very small fines and they were not like putting on a fine at all. There was no behavioral modification inducement to the coal company, in my judgment. Do you want to respond?

Mr. DYE. I am sorry?

Senator ROCKEFELLER. Do you want to respond?

Mr. DYE. Yes. I will go back and look at those. I don't recall them being that uniform, but it is not that I don't believe it. I will just go back and look at them.

The other things, can I tell some of the other things that we did there? Because I think it goes with everything that happened. Like I said, we shut down the mine or portions affected 18 times, which on a miner operation, a miner section, that could cost you $50,000 a shift. If you had a long-wall section, that could cost you $150,000 or more in lost revenues. In addition to that, Ray's staff in District 3 met 21 times with that company, telling them that they needed to change what they were doing, worked with them on that. When they had problems, when they weren't doing their pre-shifts right,

we went in and retrained all of their pre-shift examiners, arranged for educational field service personnel to come in and do more training.

At the end, it escalated up. Their CEO was scheduled on January 6th, unfortunately the timing, but to come in and meet with Ray in Washington, telling them that they really needed to change what they were doing. Like I said, they upped the inspection hours there from 405 to I think 744, something like that.

Senator ROCKEFELLER. I want to be able to have a second round. I don't want to wear the patience of our honorable chairman.

The CHAIRMAN. Actually, in the tradition of this committee, we leave the record open for 10 days. We submit additional questions to the people that are on the panel and continue gathering information that way, and we have extended the round that we had considerably longer than we normally do; but we find that we get more information, actually, from the written questions than we do from the verbal questions. They can be phrased more carefully and also they get into a lot more detail.

Mr. DYE. I apologize, Senator. I wasn't meaning to filibuster. I was trying to give additional information.

Senator ROCKEFELLER. I understand.

Mr. Chairman, they do answer the questions?

The CHAIRMAN. They do answer the questions and the questions and the answers become a part of the record as well.

Senator ROCKEFELLER. For those of us not on the committee, do we get to see those answers?

The CHAIRMAN. Yes, you do.

Senator ROCKEFELLER. Thank you.

Senator BYRD. Mr. Chairman, may I just say one other thing? MSHA had the legal authority to require better communications and equipment, didn't use it. It had the legal authority to assess tougher penalties. It didn't use that authority. Even today, MSHA still has not implemented these critical safety improvements, nor has it requested funds to replace the 217 safety inspectors lost since 2001.

So the case grows stronger every day for this Congress, starting with this committee, to adopt the West Virginia Delegation Mine Safety bill. We are just going to have to force MSHA to act.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, and I want to thank the panel, and you can look forward to consider additional questions, I am sure, and Dr. Howard and Dr. Kohler didn't get many yet, but I had another dozen questions that I ran out of time before, although I have to admit that about 10 of those are of a more technical nature that will require some charts and numbers.

So thank you for your participation.

Our second panel today is composed of nongovernment witnesses, all of whom have an extensive background in mining and mine safety and who represent much of the diversified constituency that deals with matters of mine safety on a daily basis.

We have Dr. Tom Novak, who is the department head and Holland Professor of mining and minerals engineering at Virginia Tech in Blacksburg, Virginia. He holds an undergraduate degree in electrical engineering from Penn State University, a master's in min-

ing engineering from the University of Pittsburgh, and a doctoral mining degree from Penn State. He is a licensed professional engineer, a fellow of the Institute of Electrical and Electronic Engineers as well as a member of the Society of Mining, Metallurgy, and Exploration and the American Society of Engineering Education. He is the author of a host of scholarly articles on various mine safety issues.

The second panelist is Michael Neason, a certified mine safety professional and the Administrator of Mining Practice Specialty Group for the American Society of Safety Engineers, ASSE. The group is composed of over 350 safety professionals with extensive mine safety experience. Mike is a fifth generation miner himself who began his career as a utility man. He is currently in charge of the safety and health program at the Midwest Region for Hanson Aggregates, a Kentucky-based mining company.

The third panelist is Mr. Cecil Roberts, the president of United Mine Workers of America, UMWA. UMWA has been a vocal advocate of mine safety for many decades. Mr. Roberts himself has testified before Congress on a number of occasions on a variety of mining and mine safety issues and has always provided valuable information as well as an important perspective on these vital issues, and, of course, he was a part of the briefing team for those of us who went down to the Sago Mine. We appreciate that.

And Mr. Michael Peelish is appearing on behalf of the National Mining Association. He currently serves as the senior vice president for Safety and Human Resources for Foundation Coal Corporation. Mr. Peelish holds an undergraduate degree in mining engineering from West Virginia University and a law degree from the same institution.

I want to welcome all of you. I look forward to hearing your testimony this morning, and as with the previous panel, I would ask that you limit your oral statements to 5 minutes or less. Following everyone's statements, we will begin questions again.

We begin with Dr. Novak's statement.

STATEMENTS OF MIKE PEELISH, SENIOR VICE PRESIDENT, SAFETY & HUMAN RESOURCES, FOUNDATION COAL CORPORATION; MICHAEL E. NEASON, AMERICAN SOCIETY OF SAFETY ENGINEERS, SAFETY DIRECTOR AT HANSON AGGREGATES; DR. TOM NOVAK, C.T. HOLLAND PROFESSOR, HEAD OF DEPARTMENT OF MINING AND MINERALS ENGINEERING, VIRGINIA TECH; CECIL ROBERTS, PRESIDENT, UNITED MINE WORKERS OF AMERICA

Mr. NOVAK. Good morning, Mr. Chairman and members of the committee as well as guests, Senator Byrd, Senator Rockefeller. My name is Thomas Novak. I am the C.T. Holland Professor and Department Head of Mining and Minerals Engineering at Virginia Tech. I have been associated with the coal mining industry as a miner, an engineer, a researcher, educator, and consultant for the past 35 years, and I thank the committee for giving me the opportunity to address the issue of mine safety.

The coal mining industry has made major strides to improve worker safety over the past decades. In the last 15 years, annual fatalities have dropped 76 percent from a high of 66 in 1990 to a

low of 22 in 2005. Nevertheless, the tragic events that occurred during the first 2 months of this year have caused us all to pause and to re-evaluate our commitment to mine safety.

I am not here today to propose a quick fix for the problems of mine safety. Instead, I am here to recommend an overarching approach through engineering and scientific research. The U.S. Government's strong commitment to research and development will provide the most effective means for improving mine safety. Universities with mining engineering programs are ready to partner with mining companies and Government agencies to identify mine safety issues and to conduct interdisciplinary research in order to address, eliminate, or at least minimize safety hazards. University researchers are also prepared to work with manufacturers to ensure the commercialization of proven technologies.

Unfortunately, Government funding for mine safety research has significantly decreased over the last few decades. Funding dropped from a high of approximately $140 million in 1979 to approximately $30 million in 1999 with the vast majority of this amount going to in-house projects and personnel at NIOSH's two research labs. Because of this drop in funding and the dismantling of the internationally-renowned U.S. Bureau of Mines in 1996, the United States has lost much of its expertise in mine safety research. As a result, centers of excellence in mining research have shifted to other countries such as Australia. The remaining technical fragments of the U.S. Bureau of Mines are now managed by NIOSH, operating under the Center for Disease Control.

NIOSH's Office of Mine Safety and Health Research has been responsive to the industry's needs, but it can only do so much with its extremely limited contract research budget. The decrease in contract funding has also devastated mining engineering programs. In fact, only half of the programs that existed 20 years ago exist today. A recent study commissioned by the Society of Mining, Metallurgy, and Exploration, which we refer to as SME, estimated that 300 to 400 graduates per year will be needed to meet the demands of industry for the next 10 years. At the same time, SME reports that only 69 students graduated last year with baccalaureate degrees in mining engineering. Of the dozen accredited programs, only two graduated more than 10 students last year. Keep in mind this is for an industry that provides more than half of the Nation's energy for electricity as well as the mineral products that are vital for our defense, manufacturing, civil infrastructure and national economy.

These are scary statistics since highly-trained mining engineers will be needed to design and manage our country's mining operations and deal with the complex issues of safety. Along these same lines, over 60 percent of the mining engineering faculty is over the age of 50 and one-half of all of the faculty plan to retire within the next 10 years, thus mining engineering education is at a critical juncture. Research funding is necessary to produce the required Ph.D. graduates to replenish our aging faculty.

In summary, I hope the committee will consider my recommendations to institute a strong Government-supported university research program. This program offers the best method for addressing mine safety issues through a three-pronged approach which

provides: one, means for in-depth multidisciplinary analyses and solutions to critical issues that confront our mining industry through collaboration with Government agencies, mining companies, and manufacturers; two, a means for producing well-qualified mining engineers who are trained to promote a mind-set of safety consciousness in the design and operation of our mines; three, a means for regaining our country's mine safety expertise through the training of future researchers and mining engineering professors who will ensure the sustainability of a vibrant mining engineering profession.

I would further recommend that this program be administered through NIOSH's Office of Mine Safety and Health Research or a newly-created institute based upon this office rather than MSHA. Research and enforcement should be kept separate and MSHA should be permitted to totally dedicate its resources to enforcement.

Mr. Chairman and members of the committee, thank you for your attention.

The CHAIRMAN. Thank you.

Mr. Neason.

Mr. NEASON. My name is Mike Neason, and I am a safety manager for Hanson Aggregates. I coordinate the safety and health programs for 35 operations in and around Kentucky. I grew up in a mining family in Alabama and became the fifth generation to work in the mines when I took my first job as a utility man when I was a teenager.

Today, I am accompanied by Adele Abrams, who is ASSE's national representative and she is also a certified mine safety professional.

On behalf of ASSE and its mine practice specialty, I would like to commend this committee for taking a critical look at mine safety and health. Like most of the Nation, our members were moved by the tragedies in the Appalachian coal region this last winter. As a result, the ASSE assembled a task force to address emergency preparedness and communications in mining, and we look forward to providing some more specific conclusions to this committee.

Our members live with safety and health issues in mines every day, and from that vantage point, we have some general perceptions that we would like this committee to consider. First of all, as we move forward in improving safety and health, it is important that the general trend in declining fatalities and injuries and illnesses in American mines not be wholly overlooked in light of the recent tragedies. There are some things that are working very well in mining.

One of those positive things is NIOSH. NIOSH's mining program has been an enthusiastic partner both with us at Hanson and with the ASSE. As an independent Federal Agency responsible for research and not enforcement, NIOSH is uniquely positioned to reach out to producers, to labor, to academia, or whoever is necessary to help solve a problem. Most importantly, they have earned the trust and respect of miners, and as a result, they have a great deal of access to this industry. The ASSE strongly urges this committee to avoid any proposal that would take resources away from NIOSH or to spread out the responsibility for advancing mining technology.

Another positive thing that we have talked about a bunch today is that advancing technology. The effectiveness of utilizing advanced emergency preparedness was made absolutely clear with the successful rescue of the 72 potash miners in Canada this past January. Our task force will be evaluating these and other technologies and we urge both NIOSH and MSHA to explore the utility of other technologies developed by the Department of Defense, NASA, and fire service industries.

I would also like to say a quick word about wholesale regulations, which everybody here so far has touched on. There is just a world of difference between different kinds of mines. Our underground limestone mines bear almost no resemblance to an underground coal mine, and as such, the different mining industries have very different risk factors that all have to be considered individually if you want to provide all miners with the highest possible level of protection. Any one-size-fits-all approach will require some mining segments to adopt controls that are inappropriate for their applications and this would likely divert resources away from individual safety concerns, exposing some miners to a potentially greater risk.

In conclusion, from our view, MSHA doesn't lack power. Compared to OSHA, MSHA is nearly a day-to-day presence in mining. It could very well be what MSHA really needs is more flexibility to focus resources on some actors instead of on every operation to the extent that it does now. A bigger bang in enforcement may be needed. More resources may be needed, but so is a more effective use of the resources Congress has already given incentives for small mine operators and so are more cooperative efforts between MSHA, NIOSH, industry, labor, and organizations like the ASSE.

I can tell you that testifying here is a very intimidating venue for me. I do most of my talking in maintenance shops, and this is a big change, but what you are doing here is very important to me and to the guys that I work with back home. So I wanted to take this opportunity to come down and contribute to these hearings in any way that I can.

We are all dedicated to ensuring that every miner can go home safely at the end of the shift. Your attention and your support in this effort is very much appreciated by our industry and by the safety professionals I represent here today. I can offer you the expertise and experience of ASSE members in whatever way this committee needs, and I appreciate you including us here and I am happy to answer anything that you have.

The CHAIRMAN. Thank you very much.

[The prepared statement of Mr. Neason follows:]

PREPARED STATEMENT OF MIKE NEASON

Chairman Enzi and members of the committee, my name is Mike Neason, and I am a fifth generation miner and a Certified Mine Safety Professional. I manage safety and health for the mining operations of Hanson Aggregates in Kentucky and surrounding States—both surface and underground mining. I come before you today in my role as Administrator of the Mining Practice Specialty of the American Society of Safety Engineers (ASSE). ASSE represents more than 30,000 safety, health and environmental (SH+E) professionals dedicated to seeing that every worker has the best possible opportunity to go home healthy and safe from their jobs each day. The society is the largest professional safety organization and, founded in 1911, has been in existence the longest.

ASSE's Mining Practice Specialty—one of 13 ASSE practice specialties covering the spectrum of safety and health professional interests—currently has more than 350 members. My colleague members are men and women on the front lines of managing mine safety and health in coal and metal/nonmetal mines, surface and underground, or providing training, auditing and consultation services to the mining industry.

We commend the committee for looking critically at mine safety and health issues today, both in terms of what can be done to prevent another disaster such as the Sago mine catastrophe 2 months ago and also to discern what can be done to improve the efficiency and effectiveness of the Mine Safety and Health Administration (MSHA). ASSE shares your concern. We have established a task force to review mining emergency preparedness and communications in response to the recent tragedies. Through ASSE's alliance with MSHA as well as our partnership with the National Institute of Occupational Safety and Health (NIOSH), we intend to help encourage an effective, proactive Federal response to the concern many share over this Nation's commitment to mine safety and health.

For today's purposes, ASSE reviewed the two pending Mine Act reform measures, S. 2231, introduced by Senator Robert Byrd on February 1, 2006, and S. 2308, introduced by Senator Arlen Specter on February 16, 2006. Our comments here are initial reactions largely to the ideas contained in these bills. Following the work of ASSE's task force examining these same issues, ASSE will be able to provide the committee with a more elaborate response, which we look forward to doing.

As a preliminary matter, it is important to recognize that, while the loss of life in the Sago disaster was unacceptable to mine safety and health professionals dedicated to doing everything we can to make mines safe and healthy places to work, it is far from indicative of the overall state of mine safety and health in the United States. To the contrary, mine safety has drastically improved over recent decades, and last year marked the lowest number of fatalities in U.S. history, capping a general trend of declining fatalities, injuries and illnesses. The successes should not be overlooked based on this failure.

These strides were achieved, first, through tough and effective enforcement of this Nation's mining laws. It should not be overlooked, however, the efforts of Government, State and private sector initiatives, often working in cooperation, also played a necessary role. Because of the commitment from each of these sectors, technology is getting better and better at engineering hazards out of mining and removing miners from exposure to hazards. We are now seeing greater computerization of mining methods having a substantial impact on our ability to manage the safety and health risks within mines, with a substantial promise that even better protections can be achieved.

DUPLICATING RESPONSIBILITY FOR TECHNOLOGY ADVANCEMENT

Many of the technological advances we already have in place were developed through the efforts of dedicated researchers at the National Institute for Occupational Safety and Health (NIOSH), which houses the former Bureau of Mines. As we indicated in a recent letter to you and Senator Kennedy, ASSE was extremely disappointed that a NIOSH representative was not permitted by his Agency—the Department of Health and Human Services—to participate in last month's roundtable on mine safety technology. NIOSH's Mine Program is already positioned to conduct effective intramural research, and, by expanding its already proactive outreach to academia and private sector resources, to support extramural research and develop pilot programs that can test the viability of new mine safety technology in real-world situations.

With all due respect to Senator Byrd and his fully understandable effort to examine new approaches for protecting miners—especially since the unacceptable price of Sago tragedy is being paid by citizens of his own State—ASSE cannot support legislative proposals, as included in S. 2231, that would create an Office of Technology within MSHA or in any other way diffuse this Nation's already limited mining safety and health research. Any duplication of NIOSH's technology transfer and research infrastructure would only spread resources thin and most likely add a needless layer of bureaucracy that would delay the development and implementation of new measures to protect miners.

Significantly, Congress originally tasked NIOSH with performing the research to inform MSHA regulatory decisions in the 1977 Mine Act, in which section 501 directs NIOSH to "conduct such studies, research, experiments, and demonstrations" necessary, among other things to improve working conditions and practices in coal or other mines . . . to prevent accidents and occupational diseases originating in the coal or other mining industry . . . to develop new or improved methods of recov-

ering persons in coal or other mines after an accident . . . and to develop new or improved means and methods of communication from the surface to the underground area of a coal or other mine.

The same legislation created MSHA, and the rationale for assigning these responsibilities to NIOSH rather than MSHA was to keep research independent and distinct from regulatory and enforcement influences. The reason for keeping these functions separate still exists. ASSE could not support creation of a duplicative effort within MSHA. MSHA should have every resource necessary to focus on enforcement and reaching out, not only to NIOSH, but the private sector as well to help ensure that its methods and the expertise of its staff keeps current with technological advances and incorporates ongoing change into its culture. A new commitment to outreach, not a new department, is not needed for that to occur.

If any change is needed, it is the current administration's commitment to NIOSH. For Fiscal Year 2007, $5 million has been proposed to be taken from NIOSH, this after many of its essential capabilities were taken away in the name of Centers for Disease Control and Prevention reorganization. We urge the Senate to reject this reduction in commitment and increase NIOSH's resources so that NIOSH can better fulfill its mandate to conduct mine safety and health research, develop technology and provide training support materials.

MINE SAFETY TECHNOLOGY

With respect to mine safety technology, the Sago disaster has pointed out that gaps exist in protections for underground miners—both coal and metal/nonmetal. Although many mines, such as the ones that I oversee, go beyond compliance with MSHA's mandatory standards, others unfortunately adhere to the bare minimum standards, with the result that lives may be lost due to inadequate respiratory protection and technologically obsolete communication systems.

As indicated at the February 15 Subcommittee on Employment and Workplace Safety hearing, the market makes readily available products that function in the same manner as the 1 hour Self-Contained Self-Rescuers (SCSRs) but provide expanded protection from toxic gases that can be created in mine fires or present in gassy mines even without an accident. Promising technologies also exist for locating or communicating with miners underground, such as the text messaging technology currently being tested in approximately 140 mines throughout the world. We agree that redundant communications systems that can demonstrate effectiveness make a great deal of sense.

However, when considering what is and may not be feasible, focus must be placed on post-incident functionality when electrical systems may not be working. We urge both NIOSH and MSHA to investigate this issue thoroughly and to explore the utility of technologies developed by the U.S. Department of Defense, the National Aeronautics and Space Agency, and the fire service industries post-911 for communication with firefighters in emergencies. Although we understand that there may be real promise in current communication advances, the transfer of such technology to the underground mining industry is very much in question. Neither Congress nor MSHA should rush to force solutions by assuming the viability of these products before in-mine tests and research can be conducted and such products become commercially available. At this point in time, there simply is no one-size-fits-all solution to underground mine communication, respiratory protection, or mine rescue, as much as we all would wish it.

Although, as Senator Specter suggests, some mines might easily adopt oxygen stations that provide a 4-day supply of clean air for all mines in each working area of a mine, this might not be readily accomplished in some smaller mines such as those in the anthracite sector, or those with low passageways. There may, in the alternative, be other ways of achieving the goal more feasibly in such mines. Until the information is available, such regulations should not be congressionally mandated. While the Mine Act has historically been considered a "technology forcing" statute, there are realistic limits as to what can be achieved. To be truly effective, any action meant to improve safety—whether mines or any workplace—through technology must fully consider whether appropriate "off the shelf" technology is readily available before mandates are put in place.

INCENTIVES FOR TECHNOLOGY

Congress must also be aware that, in the metal/nonmetal sector, approximately 98 percent of underground mines are classified as "small business entities" under U.S. Small Business Administration criteria. Many coal mines especially are small business enterprises with as few as five employees.

ASSE hopes the committee will consider this reality and look for creative solutions, such as establishing new tax incentives, giving operators some credit against citation penalties to encourage them to adopt new technology quickly, or making establishing small business loans for the purchase of mine rescue, communications and personal protective equipment. Such measures should help expedite the necessary protection of miners without unnecessarily diminishing the economic viability of these mining businesses, many of which are located in economically deprived areas of our Nation.

EFFECTIVE PENALTIES

Both legislative proposals offered by Senators Specter and Byrd would increase significantly penalties for violations of MSHA standards. ASSE fully supports strong enforcement and the role meaningful penalties can play in focusing an employer's attention toward safety and health of its workers.

From the popular reaction to the Sago tragedy, it is apparent that many outside the mining industry may not be aware that MSHA already has more enforcement power than any other Federal Agency, including: mandatory quarterly inspections of all underground mines; warrantless search authority and automatic right of entry under Section 103(a) of the Mine Act; strict liability enforcement powers; mandatory civil penalties for all citations; and civil penalties that have been increased from $10,000 to $60,000 in the past decade. Under Section 110(c) of the Mine Act, individual agents of management can be personally fined up to $60,000 for actions or omissions that constitute aggravated conduct—a power lacking in the Occupational Safety and Health Act covering every other industry. Moreover, the current Mine Act has felony criminal enforcement provisions of up to 5 years of incarceration, and, unlike OSHA, no injuries need occur for MSHA to recommend criminal prosecution by the U.S. Department of Justice.

However much we would like to think that increases in maximum penalties may be appropriate, in the day-to-day reality of the mining industry that I work in, the heightened penalty levels of $500,000 for high negligence violations (compared with OSHA's $70,000 maximum), the $10,000 minimum penalty for "serious" violations—especially when compared with OSHA's maximum of $7,000 for similar violations—and the other enhanced penalties and "user fees" suggested in S. 2308 and S. 2231 could very well put the average, well-meaning mine out of business with a single penalty.

Moreover, as drafted, the legislation offering these increases is often ambiguous. For example, "habitual violators" would be subject to a minimum penalty of $20,000 for "significant and substantial" citations. However, the legislation does not define "habitual" and includes no statute of limitations after which a repeated violation would no longer trigger this mandatory minimum. Because MSHA does not "group" violations into a single citation as OSHA commonly does, it is not unusual for a mine to have multiple guarding or equipment violations in a single inspection. If each individual citation were assessed at $20,000 because these triggered the "habitual" provision, most mines could not withstand the penalty burden and continue to operate. This area must be more critically explored before any new categories of penalties are created.

UNINTENDED CONSEQUENCES

We also want to caution the committee that some provisions of the proposed bills, though well intended, should be reconsidered following this hearing to ensure that unintended consequences do not result in everyone's understandable eagerness to prevent another Sago from occurring.

For example, provisions that would deny the Federal Mine Safety and Health Review Commission (FMSHRC) authority to modify penalties, or requiring abatement action on all citations within 24 hours—have critical due process implications that cannot be overlooked by this committee if it is to move forward an effective program of reform.

It also appears that, while the technology provisions of the proposed legislation largely concentrate on underground coal mines, the penalty provisions would cover all categories of mines, including surface aggregate operations that do not involve the same level of hazards as do underground operations. Such action appears unwarranted at this time. In particular, section 7 of Sen. Byrd's bill incorporates the definition of "coal mine" from the 1977 act, which expands coverage to surface and underground metal/nonmetal mines and to all independent contractors performing any work at any mine, surface or underground. Congress' intent with respect to the proposed Senate legislation must be more clearly articulated to prevent inadvertent expansion of the provisions to those outside the underground coal mining sector.

Other suggested provisions, such as a $100,000 minimum fine for failure to notify MSHA of an accident within 15 minutes, are simply unachievable and may result in unintended consequences in individual situations. In many cases, especially in small mines with few workers, those who would make the call to MSHA must also be involved in immediate rescue activities longer than this time period would allow. Current provisions State "immediately," which the FMSHRC has interpreted this to mean "2 hours or less." Moreover, there are 11 categories of accidents where this 15-minute notification requirement would apply, as set forth in 30 CFR 50.2(h), so it could very well not be apparent within 15 minutes that an incident such as a mine fire or a nonfatal injury falls into the immediately-reportable category. Clearly, we all like the response to mine tragedies to be immediate, but 15 minutes is probably less than can be mandated effectively, especially given the enormity of fine for failure without regard to the impact of the accident. We urge the committee to work with MSHA, NIOSH and stakeholders to reexamine this provision in order to determine a more meaningful way to ensure emergency response.

With regard to mine rescue teams, Sen. Byrd's legislation would direct all coal mines to have rescue teams consisting of their own employees. If this is to be achieved, the consequences of either closed mines or a market for coal that bears this cost must be understood. Many small mines have too few workers to field a team. This is why MSHA has for many years permitted mines to join together to form area rescue teams of highly trained personnel. This practice has been demonstrated to work effectively over many years and can remain as an effective option.

CONCLUSION

ASSE commends the committee for its consideration of these various issues as well as Senators Specter and Byrd for their efforts in defining specific solutions to issues with which we all struggle. This leadership is needed if we are to move forward and help prevent another Sago tragedy. However, we urge the committee not simply to assume a lack of MSHA enforcement powers or too weak penalties are the root cause of the failures we have seen. Along with an examination of penalties and more stringent requirements, the committee must consider other factors that may not be readily apparent.

It could be that the most effective solution is that MSHA make better, smarter use of its current powers and target enforcement resources more directly at the proven "bad actors" rather than being required to inspect all mines in exactly the same way, regardless of their compliance history or safety and health performance. It may be appropriate, if the Mine Act is reopened, to provide the Agency with more flexibility in terms of these mandatory inspections so it can deploy its inspectors where they are most needed. More effective and not merely more severe enforcement may very well be the answer we all seek. Again, we urge the committee to work with MSHA, NIOSH and stakeholders, both within industry and organizations like ASSE to help make these determinations.

ASSE thanks the committee for including us in your deliberations. We stand prepared to provide further technical assistance through our Mining Practice Specialty as the committee continues to explore these critical mine safety and health issues. We also pledge our support in working with MSHA and NIOSH as they look for new methodologies to protect miners and to improve existing standards, programs and outreach efforts.

The CHAIRMAN. Mr. Roberts.

Mr. ROBERTS. Thank you, Mr. Chairman for allowing me to speak today and thank you for your interest in coal miners health and safety. I have had an opportunity to be with you several times, and I thank you for this hearing; and to my two Senators from West Virginia, I want to thank them for the job that they are not only doing today, but they have done their entire careers, standing up and fighting for coal miners' health safety. We don't have two better friends in the world than the two of you, and thank you.

I come today, and it has been mentioned that we have coal miners throughout the United States of America with us, which we bring here to this hearing. Not only do we have coal miners from across the United States here, we have also brought with us members of the mine rescue teams who risked their own personal safety to go in a coal mine in Sago and Alma both to try to rescue people

they did not know. These mines were both nonunion, but that makes absolutely no difference to the United Mine Workers or to the rescue team members, and this country should, indeed, be very proud of these individuals, as we are.

We also come today, Mr. Chairman, with the families from Sago and Alma and Jim Walter No. 5. We are here speaking with one clear and distinct voice. There is no division between the families at Sago, the families at Alma, the families at Jim Walter No. 5, the United Mine Workers, or the mine rescue teams. What I say, we believe everyone concurs with.

We had a meeting this morning. It was interesting to see that the fact that the mine rescue team members that tried to save these loved ones for the first time met these families and had a conversation. That is something to behold; but we must say, Mr. Chairman, unlike some others who have testified, there is a feeling amongst all of us that there has been a failure in our Government to protect the coal miners in the United States of America, and that case can be made by the following: Why isn't it a fact that every coal mine in the United States of America has additional supplies of oxygen available to them?

Senator BYRD. Would you say that again, Mr. Roberts?

Mr. ROBERTS. Why isn't it a fact, why isn't it a law, that every coal mine in the United States has oxygen today as we come together in this meeting to talk about this? How can anyone with a clear conscious even debate that subject matter, and the truth is that MSHA has the power, has the authority, and has had that for many years to require that, but that has not happened. Thirty-seven years ago, it was discussed about putting safety chambers in the coal mines. Thirty-seven years ago, Congress suggested MSHA take a look at that. That is as long as Moses was on the desert if we go through 3 more years, and there has been absolutely no action taken with that.

We need two-way communications in these coal mines. It should be noted for the record, Mr. Chairman, MSHA has already approved two different devices to be carried by coal miners and we don't need to do any additional study and research. Those have been approved by MSHA. The only thing that coal miners in this country have between them and the outside is this: a wire that gets burnt into, blown into, or broken into in the event of a fall.

Mr. Chairman, the law is very clear. Congress wrote a law in 1969 that says you cannot ventilate the face with belt air, but the Agency charged with protecting coal miners wrote a rule and said that was okay, that is okay to go ahead and do that, contrary, Mr. Chairman, to what Congress said. I ask as we look at MSHA today how can MSHA write a rule contrary to the written law that Congress passed, and I submit to you a bold statement here today, Mr. Chairman. The Alma miners would be alive today if that law had been enforced, because what happened there is the belt caught on fire, and remember there was a rule pending for nonflammable belt rubber that was done away with, and the law says you cannot pass air over belt rubber and send it to the face.

The widow of Mr. Bragg is with us today, and she asks Congress today, she asks the Government today, tell us why that is. The mine rescue teams call out for you today to tell us why we do not

have more mine rescue teams. What is going to happen here, Mr. Chairman, before long, we are going to lose all these mine rescue teams underground because there is not enough of them, and we have been aware of this. We have known this. It has been public knowledge since 1995, and, Mr. Chairman, we need to act.

In closing and in my opening statement, we represent a number of these families at Sago, and one of the families we represent is Mr. Hamner, and I would like to for the sake of all of us understanding the severity of what we are talking about here, is just read the note that he left for all of us. He wrote it to his wife. He wrote it to his daughter, and I heard him read this, and I must say, Mr. Chairman, it is the most moving thing I have ever heard. And by the way, this was written 8 hours and 40 minutes after the explosion. These miners were all alive, and I want you to think about this. They were moving around, trying to figure out how do we get out of here, what do we do, but they had not enough oxygen. They didn't have two-way communications to know what to do.

Mr. Hamner says: "Hi, Deb and Sara." Deb is his wife. Sara is his daughter. "I am still okay. It is 2:40 p.m. I don't know what is going on between here and the outside. We don't hear any attempts at drilling or rescue. The section is full of smoke and fumes. So we can't escape. We are all alive at this time. I just want you and Sara to know I love you and always have. Be strong, and I hope no one else has to show you this note. I'm in no pain, but don't know how long the air will last. Tell everyone I'm thinking of them, especially Billy, Marian, Will, Bill, and Peg. I love you all. Junior Hamner."

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you.

[The prepared statement of Mr. Roberts follows:]

PREPARED STATEMENT OF CECIL E. ROBERTS

Thank you for allowing me this opportunity to appear before your committee. As president of the United Mine Workers of America ("UMWA"), I represent the union that, for 116 years, has been an unwavering advocate for miners' health and safety.

Miners' health and safety has been in the headlines for much of 2006, but we all know that is because far too many coal miners have perished. Nearly as many miners died in the first 6 weeks of 2006 as perished in all of 2005. In the 12 month period from February 16, 2005 to February 17, 2006, 43 coal miners died in coal mining accidents.

With me today are people the UMWA invited to attend this hearing: active coal miners from the coal-mining States of Alabama, West Virginia, Kentucky, Pennsylvania, Ohio, Illinois, and Virginia, as well as UMWA members who belong to the mine rescue teams that participated in the rescue efforts at the Sago and Alma mines. They join me in urging Congress to ensure that MSHA aggressively protects miners' health and safety, so that they can do their jobs safely and come home to their families each and every day. **I am also accompanied by widows, a fiance, brothers and sisters, and children of brave miners killed in recent mining tragedies in West Virginia and Alabama.** They want to ensure that their loved ones did not die in vain, so the sadness and loss they are experiencing will not confront other mining families.

We are here today to discuss and review the performance of the Mine Safety and Health Administration ("MSHA"). First let me say that MSHA is made up of many dedicated civil servants: health and safety professionals whose efforts we deeply appreciate. However, MSHA's top policymakers have not been doing their job protecting and enhancing miners' health and safety. This may be because so many of them were mine management executives before coming to MSHA; at MSHA they spend too much time trying to appease their friends, and too little time looking out for miners' interests.

Specifically, MSHA has failed in heeding Congress' express purpose when it enacted the Mine Act and explicitly directed the Secretary of Labor **"to develop and promulgate improved mandatory health or safety standards to protect the health and safety of the Nation's coal or other miners."** 30 U.S.C. § 801(g)(1). For those of us dealing with miners' health and safety on a daily basis, it is apparent that MSHA has neglected this essential purpose of Congress. The entire country has now witnessed the terrible price so many families have paid for MSHA's inaction and misdirected efforts. It is MSHA's inaction and chronically misdirected efforts that are the focus of my remarks today.

It is also important for you to know that coal mining is at record levels in terms of production, with far fewer miners needed to extract the mineral. However, as new mining methods that enhance productivity were being developed, MSHA has not met its challenge: not only has MSHA circumvented some of the most basic health and safety guidelines that are spelled out in the Mine Act, but the Agency has not promulgated rules to keep pace with record productivity and the new mining techniques.

I will first review how current mine safety laws came into being; and then describe a number of ways in which MSHA has failed to protect miners' health and safety: it is not developing enough new mandatory standards to protect miners' health and safety, and through "policy" it is allowing operators to pursue practices that compromise—rather than enhance—miners' health and safety. We hope that in exercising your oversight responsibilities, this committee can help redirect MSHA so it will engage in the principal activities Congress mandated when it crafted the Mine Act.

DANGERS OF MINING

It was shortly after 78 deaths at Farmington, West Virginia in 1968 that Congress enacted the Coal Act in 1969; the legislation was then expanded to other mining industries and renamed the Mine Act in 1977. From its inception, Congress appreciated that the Enforcement Agency must be independent of the operators it regulates: at first Congress assigned the task to the Bureau of Mines, and then it was moved to a newly-created Mine Safety and Health Administration within the Department of Labor.

Since the Coal Act was passed, fatalities in coal mining have decreased dramatically: while over 300 miners died in 1968, the year before the Coal Act was enacted, fewer than 100 miners have perished in any single year over the last 20 years. Yet, mining still remains the second-most dangerous industry in this country.

Aside from the very dramatic accidents that captured the Nation's attention in January 2006, thousands of miners remain disabled and dying from black lung disease, while many other miners die in mining accidents every year. Most typical accidents claim the lives of one or two miners at a time, from roof falls, equipment failures, electrical problems, and other accidents. In just the first 6 weeks of 2006, *in addition to the 12 miners* who perished at the Sago mine and the *two* who died in the January 19 mine fire at Massey's Aracoma Alma No. 1 mine, *seven* other coal miners also died, one at a time.

There are also countless near-misses that occur on a regular basis. Since August 2000, MSHA records show there were well over 400 mine fires, ignitions, explosions and inundations that far too-easily could have developed into significant disasters and fatalities. Many other incidents likely went unreported.

MINE ACT PURPOSES

In passing the Mine Act, Congress set forth four purposes. The first was to establish a long list of very specific "interim mandatory health and safety standards," as well as to direct the Secretary of Labor "to develop and promulgate improved mandatory health or safety standards to protect the health and safety of miners." The other purposes Congress established were (a) for the Secretary to require operators to comply with such standards; (b) for MSHA to cooperate with and assist States with their own mine health and safety programs; and (c) to improve and expand "research and development and programs aimed at preventing coal or other mine accidents and occupationally caused diseases in the industry." 30 U.S.C. § 801(g). As we will show, MSHA has neglected the priorities Congress established; this neglect has been chronic.

WHERE MINE ACT PROTECTIONS ARE FOUND AND EVADED

Mine safety protections may be found in the act itself, in regulations MSHA has promulgated, through modifications MSHA may permit on a case-by-case basis, and

through MSHA's policies. The issue of "belt air"[1] provides an example of both how health and safety protections come into play, and how MSHA has allowed these protections to be evaded.

"Belt air" refers to air that is directed *into* the underground coal mine, and which passes through the same tunnels in which conveyor belts transport coal *out* of the mine. The tunnels, known as "entries," are costly and time consuming to develop, so if an operator is allowed to use belt air it can avoid building a separate entry for the fresh air. When belt air is used to ventilate the active working sections, large exhaust fans pull fresh air from outside the mine into and along the conveyor belt, and the air passes over and around the freshly-cut coal on the belt before the air can ventilate the inner areas of the mine where miners work. However, the belt entry has historically been the dirtiest and most fire-prone entry in the mine, and using belt air introduces a number of safety and health concerns, including (a) exposing miners to excessive coal dust on an on-going basis, and (b) enhancing hazards when fire breaks out along the conveyor belts, including carrying flames and deadly gases directly to the miners' work areas and to vital evacuation routes—dangers exacerbated by both the high velocity of the air fanned through the underground tunnels, and by the immediate availability of a fuel source, fresh coal.

First, there is the Mine Act itself. In writing the Coal Act and the Mine Act, Congress incorporated a long list of very specific mandatory standards. For example, at 30 U.S.C. § 863(y), Congress mandated that, for any mines developed after December 31, 1969, air that passes through belt entries "shall not be used to ventilate active working places."

Congress also gave MSHA the authority to "develop, promulgate and revise as may be appropriate, improved mandatory health or safety standards for the protection of life and prevention of injuries in coal or other mines," consistent with rulemaking procedures set forth in the Administrative Procedures Act. 30 U.S.C. § 811(a). And although the UMWA vigorously opposed the rule, it was pursuant to its authority to promulgate "improved health or safety standards" that MSHA issued a new belt air rule in April, 2004. 69 Fed. Reg. 17480. MSHA's belt air rule superceded the prohibition Congress had written into law.

Petitions for Modification constitute a third avenue for establishing the health and safety standards applicable at a mine. In particular, in Section 101(c) of the Mine Act, Congress authorized the Secretary to "modify the application of and mandatory safety standard" if she would determine "that an alternative method of achieving the same result . . . exists which will at all times guarantee no less than the same measure of protection afforded the miners . . . or that the application of such standard . . . will result in a diminution of safety to the miners . . ." 30 U.S.C. § 811(c).

Typically, petitions for modification are filed by operators when they wish to avoid some mandatory standard safety. To obtain an exemption, the operator submits its proposed alternative, with an explanation about how its proposal is intended to provide miners' with comparable protection.

Over a period of many years, MSHA allowed a large number of operators to use belt air *despite the Mine Act prohibition against it* by use of the petitions for modifications procedure. We believe MSHA approved petitions for modification to allow belt air (albeit conditioned on the installation of equipment intended to monitor the mine atmosphere), because doing so enabled operators to develop fewer entries and thereby increase their production. In fact, when MSHA proposed its belt air rule in 2003, the Agency noted that it had already approved about 90 petitions allowing operators the right to use belt air! 68 Fed. Reg. 3937. For those operations that had such modifications in effect, MSHA had already effectively superceded the prohibition of belt air that Congress had written; when MSHA's final belt air rule took effect, it eliminated that protection for all other mines, too.

The final basis for determining what standards apply comes from MSHA "policies." MSHA maintains a Program Policy Manual in which the Agency explains how it interprets and applies various aspects of the Mine Act and regulations. Using the belt air example, before the belt air rule was finalized in 2004, the Policy Manual explained what exceptions a district manager could approve (for mines opened on or before March 30, 1970), and directed operators of later-opened mines to submit a request under the petition for modification procedures.

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[1] To ventilate sections of the mine where miners work requires the operator to course fresh air into the mine. Under the Mine Act, Congress specified that intake and return airways were to be separated from the belts that transport coal out of a mine. 30 U.S.C. § 863(y).

THE PROBLEM OF TOO FEW RULES, AND THE WRONG ONES

Since the Mine Act was enacted, MSHA has promulgated relatively few rules. Compounding the problem of little rulemaking is that some—like the belt airrule that was finalized in April, 2004—not only removed specific protections Congress had required, but they have been directed at increasing productivity instead of improving miners' health and safety. Yet, Congress never authorized MSHA to spend taxpayer money to improve productivity. In promulgating regulations, MSHA is only supposed to issue "improved . . . standards to protect the health and safety of miners." When it proposed the belt air rule in January 2003, MSHA did *not* even *claim* it would *improve* miners' safety. On that issue MSHA simply stated that the new rule would "*maintain* the level of safety in underground mines while implementing advances in mining technology." Considering how much time and effort is consumed in most rulemaking efforts,[2] to promulgate a rule that does not *advance* miners' health and safety constitutes misdirected, wasted, energy.

There are too many compelling issues that remain unregulated, and which jeopardize miners' safety every day, for MSHA to pursue rules that do not materially contribute to miners' health and safety. As the recent tragedies at the Sago and Alma No. 1 coal mines demonstrate, there is a serious void in the regulatory framework for underground miners confronting a mine emergency. While there is a lot yet to be determined about these accidents, **the note that Sago miner George Junior Hamner wrote to his wife and daughter (copy attached) reveals that most miners survived the initial explosion at the Sago Mine.** It also demonstrates that those miners had no information about where to find fresh air or about how they might have been able to exit the mine. In fact, miners survived for many hours, but in the end they had inadequate access to oxygen to survive the toxic mine atmosphere.

Though Congress specifically suggested that the Secretary consider promulgating a rule requiring rescue chambers for miners to find shelter in an emergency, we are unaware of any substantial efforts MSHA has made to pursue this option since the act was written. Nevertheless, earlier this year just such a chamber was successfully used by, and saved the lives of, miners at a potash mine in Western Canada when they confronted a mine emergency. If they could rely on a rescue chamber to survive, why weren't the miners at Sago and Alma afforded that same opportunity?

At the Alma mine, miners were killed after a mine fire erupted on the belt that was used to ventilate the mine. If belt air had not been permitted, and if the belts were not flammable, or if the miners had more oxygen, or if they had lifelines to guide them out of the smoke-filled mine, perhaps we would have had a different outcome. **Delorice Bragg, the widow of Don Bragg who was killed at the Alma mine fire in January, is here with me today to ask why unsafe practices were allowed to continue, and why well-known emergency safeguards were not afforded to her husband.**

These deficiencies in miners' health and safety are all ones MSHA has known about for many, many years. Most of them have been known since the Coal Act was passed in 1968, over 37 years ago. In fact, in 1968 rescuers could not locate all the miners killed in the Farmington disaster and 19 remain entombed in that mine. After the Pyro mine exploded, killing 10 miners in 1989, many of these same needs were identified. The problems of no communications, the inability to locate underground miners, and insufficient self-rescuers were all noted as problems that confronted miners, including the 13 who were killed at the Jim Walters No. 5 mine on September 23, 2001. The need for these improvements has been talked about after too many tragedies. Long ago, it was time to stop talking and time to take action to implement changes that would help miners survive emergencies. We do not have to wait for 100 percent guarantees; we need to enhance a miner's chance of escaping an emergency, or surviving if trapped.

It is interesting that those advocating the status quo will say that some of the protections we seek, like supplemental oxygen, and better communications, are not worth pursuing because they may be damaged in the event of an explosion or other emergency. However, if the miners survive that initial event, it is likely they will

[2] When MSHA proposed its ventilation rule in January, 1988, the Agency included a provision that would have allowed the use of belt air so long as carbon monoxide sensors would be installed in the belt entry. Because this particular aspect of MSHA's proposed ventilation rule was met with "widely divergent views," 68 Fed. reg. 3937, MSHA withdrew the belt air language from the ventilation rule that it finalized in 1992. ID. Nevertheless, MSHA decided to continue studying belt air as an independent matter to determine "the conditions under which air in the belt entry could be safely used in the face areas of underground coal mines." Id. In pursuing this effort, MSHA did not suggest that allowing belt air would *improve* miners' health and safety.

be able to escape or survive if they are provided additional resources. At the Sago Mine, miners survived for many hours and may well have been able to escape if they had been directed out; or they might have survived if they had supplemental oxygen stored nearby. At the Jim Walters mine, those killed had inadequate information largely because the primary method of communication was interrupted; if secondary communications (i.e., supplemental wireless devices) had been available, it is possible more would have survived.

Active miners and family members of those killed at the Jim Walters mine testified about the need for better communications, the need to be able to locate miners underground, and the need for more oxygen supplies stored underground at hearings MSHA conducted in February, 2003. Two of the miners who testified at MSHA's hearing in Lexington KY are with me today, **James Blankenship and Dwight Cagle, both from Alabama.** Transcripts from those hearings are available through MSHA's web page. What has resulted from those suggestions of 3 years ago? Nothing. Sadly, it came as no surprise to those of us interested in miners' health and safety when these very same problems and deficiencies developed at the Sago and Alma No. 1 mines; MSHA had not advanced any such protections in the intervening years.

In fact, MSHA has been going *backwards* in providing some of these protections. Assistant Secretary for MSHA David Lauriski scrapped 17 proposed rules on topics MSHA had identified as needing attention. A list of those withdrawn rules is attached. Among them were some of the protections that might have helped the miners who perished at Sago and Alma. Offering no explanation for its decision, on September 24, 2001 MSHA withdrew a rule that would have imposed new procedures and requirements for flame-resistant conveyor belts, even though the rule was then close to completion. On that same day, citing "resource constraints and changing safety and health regulatory priorities," MSHA withdrew its "pre-rule" concerning self-rescuers that had been among the Agency's rulemaking agenda since 1999.[3] These rules were actually withdrawn the first day after the Jim Walters' No. 5 accident killed 13 miners.

We note that reports of the recent coal mine disaster in Mexico indicated that miners had access to at least 6 hours of oxygen, and there were additional units available underground. If so, their oxygen resources far exceeded what must be provided to miners in this country.

One year later, MSHA withdrew a pre-rule that would have addressed problems related to diminishing mine rescue capabilities.[4] In the room with me this morning are a number of brave UMWA members who participated in the Sago and Alma rescue efforts. I want to publically thank them for their dedication and unselfishness in answering such emergency calls. Not once did these UMWA members hesitate when they were called in January, even though the miners at risk at Sago and Alma were not at union operations. These UMWA rescue team members are here today to let you know that they are concerned about the state of the mine rescue system, about the need for rules to compel the expansion of mine rescue capabilities, and the importance of having teams at each and every mine regardless of the mine size or location.

The UMWA submits that every underground coal mine should have mine rescue capabilities onsite. These team members should be employees at the facility who would be acutely familiar with the mine. These individuals would not only be best able to carry out many of the duties required in these situations, but would also be uniquely qualified to brief additional off-site teams that may be necessary to com-

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[3] Througout the industry there have been problems with miners not being able to properly don the self-rescuer units in emergency situations. Moreover, without a rule addressing self-rescuers, technological advances of these breathing devices has been stymied. In the legislative history of the Mine Act, Congress indicated that mining regulations should be technology-driving, to maximize miners' protections. We had hoped that with the promulgation of a new rule addressing self-rescuers, the existing problems would be addressed, and technological advances encouraged. The UMWA is convinced that such a rule would have been the catalyst for a new generation of self-rescuer devices. While operators are willing to invest in new technology when it increases production, it appears that they are not so willing to invest in miners' health and safety.

[4] It took 3 to 5 hours for the first rescue teams to arrive at Sago. That mine does not have its own rescue teams, even though MSHA regulations require mines to "establish at least two mine rescue teams which are available at all times when miners are underground, or . . . make an arrangement for mine rescue services which assures that at least two mine rescue teams are available at all times when miners are underground." 30 C.F.R.§ 49.2. The regulation includes an exception for small and remote mines, but does not apply to the Sago mine. That same regulation specifies that teams "shall be considered available where teams are capable of presenting themselves at the mine sites within a reasonable time after notification." Given that it took 3 to 5 hours for the first mine rescue teams to arrive at Sago, it is apparent that the current system is not acceptable.

plete the rescue. For even small and remote mines, MSHA should require mine rescue teams to be ready when disasters strike. No trapped miners should ever again have to wait 3 to 5 hours for rescue efforts to begin.

Instead of promulgating a rule that would improve rescue teams' availability and capabilities, MSHA eliminated further work on rescue teams regulations. Meanwhile, it permits operators to expand on the ill-advised practice of contracting out such work. Withdrawing the proposed rule effectively eliminated any meaningful improvement in comprehensive mine rescue activity, but it also afforded some mine operators the opportunity to disband teams so they could increase their profits.

A number of other rules at various stages of rulemaking were also withdrawn under the current administration. Some of the most compelling concern air quality, miners' exposure to airborne contaminants, and coal dust. The existing regulations utilize the same exposure limits that were in place when the Mine Act was promulgated in 1977, and they are widely-recognized (by MSHA and others) as being outdated and offering inadequate protection to miners' health. Recognizing that the permissible exposure limits ("PEL"s) allowed under existing regulations expose miners to unsafe levels of contaminants in the underground environment, MSHA had planned to update them. However, it withdrew the proposed rule in September 2002.

Another proposed rule would have enacted recommendations emanating from the Secretary's 1996 Advisory Committee on the Elimination of Pneumoconiosis Among Coal Workers. This rule would have decreased the amount of respirable coal dust, in particular, to which coal miners could be exposed. Reducing the allowable respirable dust exposures would both diminish miners' likelihood of contracting black lung disease and it would also reduce the amount of explosive coal dust in the mine environment. This matter was in the pre-rule stage when it was withdrawn in September 2004. Unfortunately, the only efforts regarding coal dust that MSHA made under former Assistant Secretary Lauriski was a proposal that would have allowed respirable dust levels to *increase by four fold.* That proposal was met by a public outcry, including opposition from the halls of Congress, and Mr. Lauriski ultimately withdrew it.

In September 2001, MSHA also withdrew a proposed rule that would have required the monitoring of respirable dust at all times. MSHA also stopped any plans to increase the required training and retraining of miners, even though the Agency identified this need back in 1998, and the UMWA has consistently asked for such increases out of a concern that current requirements are inadequate.

MSHA dropped rulemaking efforts the Agency began in January 2001 to establish uniform procedures for its accident investigations; the failure to have such procedures has frustrated the designated miners' representatives from participating in the investigatory interviews that took place in connection with the Sago investigation. As it stands, MSHA itself, though it could be implicated in the accident, conducts the entire investigation. MSHA investigations also permit the operator to remain, even though the operator may be culpable for the accident.

While the UMWA would normally be present for accident investigations that concern a unionized operation, at Sago which is nonunion, the Union has been excluded from interviews, even though a number of active miners as well as several family members of those killed have asked the UMWA to serve as their representative. A number of family members of miners killed in the Sago Mine disaster are with me here today: **Amber Helms and Virginia Moore, the daughter and fiance of Terry Helms, Peggy Joyce Cohen, the daughter of Fred Ware, Jr., Cheryl Ann Meredith, the daughter of Jim Bennett, and John Groves, the brother of Jerry Groves.** Some of these individuals specifically asked MSHA to give them access to the interviews, whether directly or through the UMWA as their designated representative. Though Richard Gates (the chief MSHA investigator for the Sago accident) promised them a response to their request before the interviews would begin again on February 14, he did not respond to the families by then, and there has been no subsequent change to the interviews' procedure; those interviews have been completed, or nearly so.

We believe MSHA withdrew these and other proposed rulemaking efforts because implementing them would have cost operators substantial capital-resources dedicated to miners' health and safety, instead of production.

IMPORTANT, ALBEIT BELATED, MSHA ACTIVITY

It is not for lack of knowledge that MSHA has failed to enact these needed protections. MSHA knows how to do better. The Agency itself has performed countless internal reviews and self-analyses; the Federal Government's watchdog Agency, the

GAO, has given it direction, and the UMWA has communicated both formally and informally about how MSHA can and must do better.

Indeed, on the heels of so many coal mining disasters commanding considerable national attention, MSHA recently began to initiate some potentially useful rulemaking that could improve a trapped miner's ability to survive a mine accident. Look to its press releases and you can see that by various notices the Agency issued in February, 2006, MSHA has indicated (1) it will aggressively assess and test communication and locating devices for underground mines, (2) it will pursue a new mine evacuation rule and will do so in an expedited, emergency fashion, (3) it will cosponsor an international mine safety symposium that will focus on new technologies and practices, and (4) it participated in a symposium on wireless technology. We support such efforts. We are cautiously optimistic that MSHA will quickly promulgate and implement an emergency rule that would require additional caches of self-rescuers and training on how miners transfer from one such unit to another, lifelines that could help miners evacuate, and clarification that an operator would need to notify MSHA of an emergency within 15 minutes. We are also pleased to see that MSHA is now studying various emergency communications and tracking systems. It has invited manufacturers to submit information about devices that could function in gassy areas of underground mines.

But we must ask, why did MSHA wait this long to pursue these issues? Why wasn't it looking for these solutions 10 and 20 (or more) years ago? Why was it expending precious resources hunting for ways that allow operators to use hazardous belt air to ventilate miners' working sections instead of protecting trapped miners? For an Agency with such a clear mandate as that which Congress wrote into the Mine Act—to protect and improve miners' health and safety, we ask you to consider how MSHA could have gotten so terribly misdirected.

NEED FOR MORE AGGRESSIVE AND CONSISTENT ENFORCEMENT

MSHA has been neither aggressive nor consistent in enforcing the regulations that already exist. The Agency spends too much effort at "compliance assistance," and too little on enforcement.

After the Pyro disaster in 1989, MSHA performed an internal review, and identified a host of Agency performance problems and deficiencies. More recently, the Agency performed an Internal Review of MSHA's actions during the period before the Jim Walters' mine explosions to "improve our inspection process to better protect our Nation's miners." The review again compared what MSHA actually did with what the Mine Act requires it to do. A number of problems were identified as deficiencies "at both the district and headquarters level," deficiencies "relevant to inspection procedures, level of enforcement, plan reviews, the Alternative Case Resolution Initiative and accountability programs, supervision and management, and headquarters oversight." The Government Accountability Office ("GAO") also reviewed MSHA's performance after the Jim Walters' accident and noted in its report, issued in September 2003, that MSHA headquarters was not performing adequately in several key areas. Specifically, the GAO found MSHA failed to ensure violations cited to mine operators were corrected in a timely fashion. In fact, GAO found that of all the citations issued by the Agency, including those written as "significant and substantial," despite inspector-imposed deadlines by which problems were to be abated, 48 percent of the time the Agency failed to follow-up in a timely fashion to see if the operator fixed the hazards.

Unfortunately the Agency's top managers have done little to move any of the necessary improvements from recommendation to reality. We hope that by having Congress add its voice now, along with the public's demand for its better performance on the heels of Sago, Alma, and the other tragic accidents, MSHA will finally refocus its attention.

In addition to the subjects that are already underway for emergency rulemaking (more self-rescuers and training on transferring units, lifelines to help miners evacuate the mine, and the need to notify MSHA of an emergency within 15 minutes), and subjects that MSHA is also actively studying (emergency communications and tracking systems) all of which are long overdue for regulation—we urge MSHA to promulgate and implement rules that would materially contribute to miners' health and safety. Without intending to be comprehensive, the issues that we identify as constituting the top priorities for MSHA rulemaking include: reducing miners' exposure to respirable (coal) dust, updating permissible exposure limits for contaminants in the mine environment; undoing the unwise belt air rule, and requiring nonflammable belts, improved atmospheric monitoring systems, expanding the mine rescue team requirements and support, improving requirements for firefighting and evacuation plans, developing a nationwide emergency communications' system for mines,

increasing training and retraining for miners, revising MSHA's approval and certification system for mining equipment, requiring secondary telephone lines in a separate entry, providing miners with a safer means of escape in the event of a mine fire, explosion, or inundation, updating and increasing fines for Mine Act violations, and developing uniform accident investigation procedures. MSHA should also determine whether the seals it tolerates are adequate (note that MSHA-approved seals failed at Alma although 30 U.S.C. § 303(z) of the Mine Act requires explosion-proof seals, and 30 C.F.R. § 75.334 and .335 provides that seals withstand 20 psi); the Agency also should study emergency safety chambers, as suggested in the Mine Act, at 30 U.S.C. § 315.

MSHA needs a larger budget for coal enforcement. Aside from its budget not keeping apace with inflation, instead of focusing on enforcement in recent years MSHA has redirected some of its inspectors' time toward "compliance assistance." MSHA also needs to bolster its expertise, and prepare for the transition as many of its inspectors approach retirement.

MSHA also has been remiss in seeking and enforcing meaningful fines and penalties for Mine Act violations. In February 2006 MSHA issued a press release to announce that it will seek to "modernize" the fine structure which has not been revisited in nearly 25 years, and "needs updating to strengthen incentives for compliance." The Agency also needs to do a better job collecting the penalties it imposes. One fundamental problem is that MSHA compromises penalties far too often; whether at conferences held with the operator at MSHA's district offices or through negotiated settlements, MSHA collects very little in the way of the fines it assesses. This means that operators have little incentive to pay. There has developed a culture whereby operators view MSHA fines as little more than a nuisance, a minor cost of doing business. MSHA can and must do better to ensure that its fines coerce compliance with the Mine Act—that is what is most needed.

Just last month, in February, 2006, MSHA initiated two injunctive actions against operators with large unpaid fines. This was the first time the Agency attempted such remedies. While we support these efforts, we also must ask, why has it taken this long for MSHA to put teeth into the enforcement side?

CONCLUSION

Coal remains a vital part of our Nation's economy and a primary component of our energy needs. Coal mining is again growing. More and more young people are entering the industry. It is still dangerous. But we can do a lot more than we are doing today to make it safer. Miners should not have to get sick, or to risk their lives just by going to work.

I urge you to require MSHA to do in 2006 all that Congress demanded in 1969 and again in 1977. Regulations that were in the pipeline in 2001 and 2002 should be reactivated and finalized in a timely fashion. New regulations to protect miners—both while on the job and when emergencies strike—must be promulgated. All such regulations must be enforced regularly and aggressively. MSHA must make these much-needed, and over-due improvements.

The status quo is inadequate. The Government failed the Sago and Alma miners, and when it failed them it failed *all* miners. In enacting the Mine Act, Congress plainly stated: "Congress declares that (a) the first priority of all in the coal or other mining industry must be the health and safety of its most precious resource—the miner." (30 U.S.C. § 801.) We take that admonition seriously; everyone else associated with the mining industry must re-establish miners' health and safety as their top priority, too. Senseless deaths and injuries must stop.

I thank you for your interest in miners' safety and would be happy to answer your questions.

The CHAIRMAN. Mr. Peelish.

Mr. PEELISH. Mr. Chairman and members of the committee, I would like to thank you for the opportunity to be here today.

I was born in this industry in 1961 and was born in a small town just north of Sophia, West Virginia named Beckley. My father and my grandfathers were immigrant coal miners and my family has many coal miners on both sides of it.

At the very outset, allow me to restate our shared support for the fundamental tenet of mine safety and health legislation, and that is our first priority and concern must be the safety and health of the miner. We appear before you today to pledge to work with Con-

gress to ensure that out of the recent tragedies will emerge a stronger resolve and greater cooperation in pursuit of safer mines.

The mining industry has undergone a significant transformation that continues at an astounding pace. Safety and health programs have advanced and have become embedded in the mining culture. The industry continues to adopt new technologies that advance the complementary goals of safety and productivity.

Since the first oil embargo in early 1970s, the coal industry has answered the call to provide more coal to meet our Nation's energy requirements while providing a safer working environment for its workforce. Since 1970, coal production has increased by 83 percent and coal mine fatalities have decreased by 92 percent and today's reportable injury incident rate of 5.6 per 100 workers gives coal mining a lower rate of occupational injuries than many other industries. No longer can coal mining be stereotyped as the most hazardous job in America.

We take pride in all of these accomplishment, yet more can, must, and will be done.

Today, I would like to discuss with you a threefold challenge: First, the principles we believe should guide our actions and policymakers based on our analysis of the partial information coming out of this year's tragic events; second, the need to focus on accident prevention in a changed and changing mining industry; and third, modernizing MSHA's enforcement procedures to more accurately mirror actual conditions in the mines rather than an inflexible adherence to outdated procedures.

We have reviewed the publicly available information that has emerged from the events in West Virginia. In addition to the establishment of an independent commission of safety experts, we have developed an offer for the committee's consideration as it looks for ways to advance mine safety and health the following principles: first, expediting development and introduction of ground-penetrating communication and tracking technology; second, improving emergency notification; third, enhancing safety training and rescue capabilities; fourth, providing a liability shield and indemnification for mine rescue activities; fifth, ensuring that new requirements are accompanied by workable transitional timeframes; sixth, providing authority for mine operators to conduct mandatory substance abuse testing to all personnel at the mine; and finally, providing incentives to help companies invest in equipment and training needed for enhanced mine safety and rescue capabilities.

Beyond the specific guiding principles discussed above, we direct your attention to overriding challenges. Today many coal mines present challenging geological conditions. As mines access deeper reserves, the technological limitations of historic control methodologies are readily apparent, presenting miners, mine operators, and Agency personnel with new and more difficult engineering challenges. To address these challenges, we have initiated several partnerships with the National Institute of Occupational Safety and Health, NIOSH, to examine new technologies to better protect miners' health. These partnerships have brought together experts to work on practical solutions to safety and health problems confronting the industry.

I am pleased to report that the industry recently joined with NIOSH and others to form a partnership on mine emergency communications. The members of this committee and your colleagues on the respective Appropriations Subcommittee are very aware of the need to maintain a vibrant and well-funded mining research program within NIOSH. Recent events underscore this need. The Federal Government has an important role in technology development in order to bring safer new devices to a relatively small market for safety equipment. We urge your support to strengthen this vital Government function.

In addition, certain structural changes in our regulatory approach to mine safety are necessary. Key among them is the need for MSHA to conduct more focused inspections and to enhance the quality of inspections. Many of our members who operate some of the safest mines in the country continue to have inspectors on-site during each and every operating shift. The misperception persists that the Mine Act-mandated four inspections annually for every underground mine and two inspections annually for every surface mine translates to only four inspections annually. Nothing can be further from the truth. MSHA statistics show that a large underground mine can have more than 4,000 onsite inspection hours per year. This means the presence of two to three inspectors each and every day the mine operates.

Flexibility in inspection procedures is central to achieving the resource allocation determinations that are vital for improving the Agency safety and health programs and the industry's safe and health performance.

Mr. Chairman, as we look to the future, we recognize that our ability to further advance coal mine safe and health will require an examination of the structural and technological hurdles that must be overcome. Further improvements will require us to identify potentially dangerous conditions before they put miners' safety or health in jeopardy as well as the appropriate methods to minimize the onset of dangerous conditions and practices. We look forward to working with you and your colleague as Congress considers legislation. Working together, we will develop programs to train and educate a new generation of miners so that they can have a safe and productive career in a noble industry vital to this country's energy markets and national interests.

Thank you.

The CHAIRMAN. Thank you.

[The prepared statement of Mr. Peelish follows:]

PREPARED STATEMENT OF MICHAEL PEELISH

INTRODUCTION

Mr. Chairman, members of the committee good morning, I am Michael Peelish, senior vice president, Safety and Human Resources for Foundation Coal Corporation and I am testifying on behalf of the National Mining Association. Let me begin by thanking you for this opportunity to have a conversation with you about miners' safety and health.

Congress declared in the 1977 Mine Act that "the first priority and concern of all in the coal or other mining industry must be the health and safety of its most precious resource—the miner." The mining industry has tried to live these words through its deeds and has taken on the challenges to protect its miners through both improved technological systems and worker safety behavioral changes and has successfully reduced the number of fatal injuries and the incidence rate for injuries

dramatically since that time. But we will never be satisfied until every miner returns home safely at the end of each shift.

Thus we should discuss our successes while recognizing there is much more to be accomplished. I am convinced the mining industry has not received the just credit for its safety success from the Congress, the American people, or the agencies that are charged with the responsibility of enforcing the Mine Act. As any good business should do, we must assess the "As-Is" state of the industry, what is the desired "Future State", and what is the process for obtaining the Future State. The Future State of mining, as it should be for any industry, is to seek Zero injuries and Zero incidences of health related illnesses. Now, the question presented is how do we achieve Zero?

INDUSTRY SAFETY PERFORMANCE

The "As-Is" state of mine safety shows dramatic improvement since 1970.

I know this committee has seen the MSHA published data which shows the dramatic improvements made in safety. To summarize, from 1970 to 2005, fatal injuries have decreased by approximately 92 percent in the coal industry and by approximately 75 percent in the metal/nonmetal industry. Please listen to me when I say these are too many, but there has been significant improvement. In 1978 the coal incidence rate for all injuries was 10.05 and the metal/nonmetal incidence rate for all injuries was 7.95. In 2004, the incidence rate reduced by over 50 percent to 5.0 for coal mining and 3.55 for metal/nonmetal mining. This is also clearly a dramatic improvement, and an incidence rate far superior to many other industries, but not at the level we in the mining industry consider satisfactory.

These MSHA statistics show improvement while both coal and metal/nonmetal industries have achieved record production. How has the mining industry achieved this performance? I would submit these improvements have been achieved through industry initiated mining techniques and technologies and a change in culture whereby mine operators truly believe that safe mines are more productive mines.

In the 1970s, roof and rib accidents were a common cause of serious and fatal accidents in underground mining. Improvements in mining techniques, such as longwall mining in underground coal mines and the use of automated roof drills in hardrock mining have helped mine operators reduce dramatically this most unforgiving type of accident. In surface coal and metal/nonmetal mines, better design and layout of haul roads and high wall management has achieved similar improvements in mine safety. Mine operators and equipment manufacturers have introduced other mining technologies such as remote controlled and automated equipment, roof bolting support systems, rollover protected operator cabs, and atmospheric monitoring systems in both industries. And in coal mines, improved ventilation systems were introduced by mine operators through the use of ventilation boreholes and bleeders shafts for safer gob ventilation and the list goes on.

I 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 "safety culture." My current and former employers all practice what they preach by providing training well beyond what is required by the MSHA training standards. In Foundation Coal, safety culture starts in the board room and at the senior management level and cascades down to the mining operations. Safety performance is discussed at every board meeting, every senior management meeting, and most important at every shift at the mines. This focus has been no different since I entered this industry as a mining engineering student in 1979. The message in this industry is clear, safe mines are productive mines. Said another way, do it right the first time every time has been "preached and practiced" by my employers throughout my career. However, based on recent statements from individuals inside and outside of this industry, they would have you believe that "safety is not a top priority in the mining industry." Those people obviously do not attend the regular meetings I attend, nor do they understand the constant message about safety to employees, because that claim is false. Again, our industry is not perfect and we strive for Zero, and that is why new opportunities should always be explored. This brings me to the current legislative proposals aimed at improving safety.

CURRENT LEGISLATIVE SAFETY PPOPOSALS

The recent spate of State and Federal legislative efforts must not be pursued in a manner so as to miss an opportunity to do what is right. As Senator Byrd stated at the time of the January 23, 2006 hearings before the Subcommittee on Labor, Health and Human Services, Education and Related Agencies of the Senate Committee on Appropriations, "politics must never play a role in the enforcement of safety and health regulations." The mining industry could not agree more, but the

mining industry fears the politics of safety will play a role if a rational approach is not utilized to assess and implement best practices. To do otherwise may result in the implementation of approaches and technology which are not the most effective or reliable. In this regard, I want to address some of the proposed legislative mandates that have recently appeared in this Congress.

First let us look at Communications and Tracking Technologies. The industry members are supportive of improved mine communications. My company's most senior engineer with extensive experience in German and other international coal mines as well, had traveled to South Africa several months before the Sago mine tragedy to assess available technology. A completely fail-safe communications and tracking technology, however, does not exist and did not exist at the time of the recent mine disasters, notwithstanding what this Congress was told during January 23, 2006 hearings. To my knowledge, an affiliate of Foundation Coal installed one of the first PED systems in the U.S. coal mining industry in Utah. This system worked to notify miners of a mine fire in 1998. This system allowed a simple text message to be sent to the miners advising them to evacuate the mine. This early warning allowed miners to evacuate the mine immediately without injury. For this we are grateful. However, it is important that you understand the limitations of this system. First, the text message could only be communicated one way. Second, the system had shadows whereby miners were not always able to receive messages. Third, the system relied on an in-mine antenna to function. In fact, the system was lost within a matter of minutes after the original text message had been sent due to the mine fire destroying the underground circuit. After that incident, testing was done to see if an indestructible surface circuit could be installed and provide the same level of coverage. No system could be found that was capable of achieving this goal.

Can improvements in communication be achieved? Emphatically the answer is yes. My concern is not that additional communication requirements will be mandated, nor is it the cost of communication systems. My hope is that realistic expectations of what is technologically achievable drive whatever requirements become either law or "Best Practice" in the industry. Also, the mining industry does not object to the use of tracking systems although tracking systems that approach the level of coverage expressed to this Congress during the January 23, 2006 testimony clearly do not exist. Let us approach this issue through sound science and not idle promises of equipment vendors and others who want to sell a product or state as fact that which is only a comment or opinion.

Next I would like to address Adequate Supplies of Air. The industry promotes technology or ideas that provide "adequate supplies of air". How that objective is achieved may vary depending on individual mine conditions. Let us not forget however that the first and foremost principle in this industry, a view shared by agencies and mine workers alike, is to evacuate and not to barricade. Barricading is an absolute last resort. The ability of a last resort chamber to withstand a secondary explosion or fire is at best problematic. Our company, without an Agency mandate, installed last resort chambers in 2 western coal mines with exceptionally long escape distances. I am aware that another company with which we were formerly affiliated installed similar chambers in an underground molybdenum mine in the west with multiple mining levels and shafts. These are workable solutions and can provide a "secondary" means of safety. I say secondary means of safety because again the first principle is to evacuate.

The 1969 Coal Act and the 1979 Mine Act recognized this principle by requiring two distinct escapeways from the mining section to the surface. It is not sound safety practice to encourage a false sense of security. In fact, when last resort chambers were inserted into the Mine Act, the mine rescue experts of that time period urged the Agency to emphasize escape and not barricading in its training. We have all followed this prescription for good reason—it is the right thing to do. I realize the recent experience in Canada with the potash mine fire may encourage legislators to revise the principle so as to barricade first, but potash does not burn.

Further, the industry does not oppose additional self-rescuers for escapeway systems that require a longer time to travel through to safety. The industry is continuing to work hard to find a workable solution to these issues. Our request is that if a standard is put forth that it be performance based allowing for flexibility to meet the standard.

There have also been proposals for revamping Mine Rescue Teams. Mr. Chairman, the mine rescue system is not broken, but it can be improved with the right leadership. At both of the mine incidents in January 2006, mine rescue teams answered the call and for this we are all grateful. Changing the law unfortunately would not have changed the outcomes. Rather than mandate teams at every mine, Congress and the States should find ways to encourage mine operators to form

teams of miners who want to be involved in mine rescue or emergency service. The industry's fear is that passing unrealistic mandates will create mine rescue teams on paper only but will not create mine rescue teams that have the desire to do what they are asked at the time of a mine emergency. Furthermore, quickly formed and inadequately trained mine rescue teams will discourage the willingness of well-trained teams to put their teams at risk when the time comes to help a neighbor in need.

Mine rescue team members are very special people. They do not participate in mine rescue for either the money or the glory. They do it because they have the desire to help others in need. We can improve the mine rescue system and the industry has looked at this issue many times over the past decade. In the 1990s and again in 2002, summits on mine rescue were convened by MSHA, and ideas were discussed and plans were developed by mine rescue experts, industry, labor and MSHA. For whatever reasons, MSHA has not taken what the industry, labor, and Agency experts have put forth and caused positive change to occur. Congress should allow these experts to again wipe off the dust from the work that has been shelved and provide the mine rescue experts the confidence that what is developed will be acted upon with all deliberate speed. I do not come before you with the answer, but I do know that well intentioned rules that are developed without the input of the mine emergency experts would be a mistake. I know that these experts can develop a solution. They showed at these summits that they are willing to develop solutions. All they ask is for their ideas to be followed-up with action. Let us consider a few additional points about mine emergencies.

Let us not be fooled that safety will be improved by assuming the answer is more mine rescue teams created through a legislative mandate. Individuals who understand mine emergencies know that mine rescue teams are the last line of defense. The industry looks at mine emergency preparedness in a much broader proactive sense focused on improving prevention, detection and first response. This Congress can provide the leadership for mine operators to engage in the first two levels of mine emergency preparedness so as to avoid the need for mine rescue and recovery. After prevention and detection, the first level of mine emergency preparedness is fire-fighting training. This involves trained fire-fighting personnel capable of responding in the first critical minutes of an emergency and the availability of fire-fighting equipment. The second level of mine emergency preparedness involves more highly trained fire fighting personnel who have undergone more intense training and have additional fire-fighting apparatus. The next level involves the mine rescue and recovery teams as we now know them.

The mining industry has not been afraid to spend money for mine emergency safety if it is to serve a good purpose. Case in point is that my company formed the first mine rescue team at Riverton Coal Production in the coal industry in 15 years in 2001. It did so at the time when the coal market did not support such costly expenditures. It formed a mine rescue team not because of a legislative mandate, but because strong senior and operational leadership believed it was the right decision.

Congress can also assist in the formation of mine rescue teams by providing that mine rescue personnel or operators will not be liable for civil damages for acts or omissions resulting from providing such rescue work unless such acts or omissions are the result of gross or willful misconduct.

Increased Civil Penalties Are Not the Answer. Attaching significant civil penalties for insignificant citations will not improve safety. If this committee wants to penalize a bad actor, then MSHA has every tool in the tool bag to do so now including closure of the mine, enhanced civil penalties under Part 100, and criminal penalties. Further, not allowing an independent body to review citations and the associated penalties when applicable is a blatant attack on the constitutionally derived due process of law. To my knowledge, no other forum in this United States is precluded from reviewing the actions of an Agency through Congressional fiat. It is not good practice to allow the Agency which promulgates the regulations, enforces the regulations, and then assesses the penalties under the regulations to avoid being reviewed by an independent body. This is a bipartisan approach because it works both ways. Penalties can go up or go down. To eliminate the opportunity for a hearing before an independent and unbiased body is unfair. It would not be appropriate in any sector of the economy, be it transportation, agriculture, construction or any other industry with safety incidence rates less favorable than those achieved in the mining industry.

The West Virginia Experience. This industry knows the expediency with which the West Virginia legislature passed legislation to address the actual and perceived shortcomings of safety practices. Since that legislation was introduced, several versions of an emergency rule have been issued, reissued, and are currently being finalized. These revised emergency rules are significantly different than the initial

legislation. Why do you suppose that is? I would submit that once the industry, labor, and competent Government expertise were allowed to have a seat at the table, a better solution was achieved without losing site of the general precepts of the initial legislation. Mr. Chairman, this committee should learn from that experience.

I have heard that some Senators believe we must do something quickly with mining legislation because "perfect is the enemy of good." I would submit to this committee that legislation without the support of science and facts is exactly what we must not do. This committee and the American public and press should not rush to a judgment of this industry especially in light of the vast improvements the mining industry has made over the past several decades and its superior incidence rate over other industries. We achieve more as a total mining industry to solve a problem, without agendas, when we pool our collective efforts of industry, labor and Government representatives.

GUIDING PRINCIPLES

Mr. Chairman, before I move into Recommendations for Reform, I would like to share with this committee the work of the mining industry CEOs whose collective experience will be invaluable to Congress as it discusses mine safety legislation. The CEOs of coal and metal/nonmetal have shown strong leadership by establishing an independent commission of safety experts who will examine how technology and training procedures can be more readily adapted for use in our mines. I am pleased to say that Mr. Cecil Roberts has agreed to be a member of that commission. Those principles include:

- Expediting development and introduction of ground penetrating communication and tracking technology;
- Improved emergency notification;
- Enhancing safety training and rescue capabilities;
- Providing liability shield and indemnification for mine rescue activities;
- Ensuring new requirements are accompanied by workable transitional timeframes;
- Providing authority for mine operators to conduct mandatory substance abuse testing of all personnel at the mine;
- Providing tax incentives to help companies invest in equipment and training needed for enhanced mine safety and rescue capabilities.

Now, I would like to address several areas in need of reform if we are to achieve Zero.

RECOMMENDATIONS FOR REFORM

Mr. Chairman, as shown in the statistics, the mining industry has achieved tremendous success in improving its safety and health performance during a time of tremendous change within the industry. Today, the regulation of the mining industry has lost its focus and the inspection of the mining industry does not fulfill the primary principle Congress declared in the Mine Act by protecting its most precious resource—the miner. We understand and firmly believe the Federal Government has had a significant and longstanding role in fostering occupational safety and health in our Nation's mines, dating back to the passage of the Federal Coal Mine Safety Act in 1952. Before that the Bureau of Mines was enforcing safety and health standards at hardrock mines under the Federal Metal and Nonmetallic Mine Safety Act of 1966. Then in 1969, Congress passed the Federal Coal Mine Health and Safety Act. The Coal Act was amended in 1977 to include all mines in the United States under what is now called the Federal Mine Safety and Health Act of 1977 (the Mine Act).

During the 29 year period since passage of the Mine Act the industry has changed dramatically. Regrettably, the same cannot be said of MSHA. The mining industry believes it is time to review the Mine Act to determine what works, what doesn't work, and what changes are needed to further advance miner safety and health. The recommendations which follow will come as no surprise to MSHA. Indeed, for many years we have discussed these ideas with the Agency. Yet while some gains have been made in the form of industry, labor and Government partnerships on key issues, there remains a general reluctance to adopt needed policy changes to reflect continued improvement in workplace conditions. While we must improve our vigilance against causes of major mine accidents, we must more intensely focus on the causes of individual fatalities and injuries and the potential health consequences of workplace exposures to harmful substances.

To effectuate the proper balance, it is time to reevaluate the current regulatory and enforcement program and stop elevating form over substance. The resources of

both Government and industry must be redirected toward the prevention of accidents, injuries and illnesses and away from issuance of insignificant violations to meet a quota. Decisions must be based upon sound science and recognition of the industry's commitment to further improving miner safety and health. The mining industry believes certain fundamental reforms must be implemented for continued improvements to miner safety and health:

• first, MSHA must base resource allocation decisions on documented need, rather than unexamined conformity with the directives contained in the Mine Act;
• second, inspections must be more focused and the quality of inspections must be enhanced through better inspector training and education;
• third, rulemaking and policy decisions must be achievable, authorized by and in compliance with the law and developed on the basis of sound science and the furthering of miner safety and health rather than ease of enforcement;
• last, a more cooperative, even-handed, and constructive climate must be fostered between MSHA and its various constituencies.

Inspections Activity & Resource Allocation Decisions. Mr. Chairman, MSHA resource allocation decisions, inspector utilization determinations and the time allocated to individual facility inspections must be adjusted based on industry segment and site specific accident rates. MSHA should establish a mechanism to provide incentives to reduce the number and scope of inspections on the basis of performance and the adoption of voluntary performance programs. As you know, under the Mine Act, MSHA is required to inspect every underground mine 4 times per year and every surface mine twice per year, but the Agency also conducts thousands of what it calls "spot" inspections aimed at measuring compliance with standards governing specific conditions or practices. Contrary to Congressional expectations, the two surface mine inspections and four underground mine inspections do not consist of semi-annual or quarterly visits of a few days' duration. Rather, they can generally mean a continual presence at the mine throughout the year. MSHA's statistics show that a large underground coal mine can have as many as 4,000 onsite inspection hours a year. You must recognize that this level of inspection presence means there are 2–3 inspectors at many mines every weekday.

If Congress wants MSHA to have a bigger impact on improving safety, then let us make more efficient use of its resources. Said another way, we need to align inspections with the first priority of the Mine Act—protect the miner. More often than not, a mine inspector is not able to cite the incidence rate of a mine, but they are able to cite the number of citations that have been issued to that mine. Is this really what the framers of the Mine Act wanted?

My experience is that a significant majority of citations are issued based on a subjective application of the regulations. Let me illustrate this point. A mine inspector is stationed at a street corner with a speed limit of 25 miles per hour. A vehicle passes by the street corner. The mine inspector does not know what speed the vehicle is traveling, but issues a citation in any event because the inspector believes the vehicle is traveling over the speed limit. Was the vehicle traveling at 25 or 30 or 20 miles per hour? Should the mine operator be subjected to increased civil penalties under these set of circumstances? I would say not. This is the quandary the Mine Act creates and the difficult position that mine operators and mine inspectors are placed. Now reasonable people will know if the vehicle is traveling at 45 or 50 miles per hour pass the street corner. There is not a mine operator that would disagree that this vehicle should be dealt with harshly. This is the reality of the mining workplace.

Another reality of the workplace is what I will call the second-guessing of mine operators. As an example, a mine operator will have a rock dust plan or an equipment cleaning plan or a haul truck tire maintenance plan in place that has been accepted for "years" by a particular inspector or inspector group. And more importantly the programs worked just fine for all those years. Then 1 day a new inspector or field office shows up and says what you have been doing is inadequate and issues a citation. Where is the fairness in that approach? This is not an isolated story. This is a regular problem with the way MSHA unevenly enforces the regulations. And the answer the inspector or conference officer or district manager will commonly provide, "if you disagree, then appeal it." This is not a good solution because the damage is done at the instant the citation is issued and the mine operators are not in the business of making lawyers rich.

Again, focusing on the facts and the science, there has yet to be a study that shows that more inspections or more citations improve the incidence rate of a mine. And there is good reason, it simply does not compute. Mr. Chairman, this committee could do a world of good if it modified the inspection regime to focus on the significant conditions and hazardous conditions that affect mine safety. MSHA should be

mandated to modify its inspection regime to focus on the bad actors in the mining industry and yes there are bad actors. In my 20 years of experience in both the coal and metal/nonmetal sides of this business, the good mines are inspected more and the poor mines inspected less.

Mr. Chairman, now let us really think out of the box. Let us make MSHA inspectors share the responsibility of the incidence rate at a mining operation. Let MSHA inspectors be judged on a mine's incidence rate rather than its citation per inspector day rate. This novel approach might cause MSHA to focus on what accounts for 90 percent of the accidents and injuries to miners—unsafe behaviors, not unsafe conditions. The industry is not abdicating its responsibility and we would never suggest such an idea. However, if we joined the forces of the mine operator and MSHA, the right behavioral change to achieve improved safety and health would be the outcome and the ability to breakthrough to Zero becomes more of a reality.

Present inspection procedures are disruptive and time-consuming. They are citation oriented with little regard for addressing structural deficiencies in safety and health programs. This industry is so distracted by the actions of MSHA under the current inspection and enforcement scheme that it actually takes away from the safety programs at the mines. It hurts me to make that statement, but it is true. Mine operators have a huge unnecessary burden having to manage 2 or 3 or sometimes 4 inspectors daily and then having to manage a safety program with the intent of changing miners' behavior and actually improving safety. Further, this industry is finding it hard to find miners who have the qualifications and certifications to be mine foreman or responsible individuals because of the day-to-day distractions and second-guessing brought on by an Agency gone awry.

MSHA must utilize the information available, all of which it compiles and maintains, to identify problem areas and allocate its inspectorate accordingly. MSHA collects a substantial amount of accident data from operators. Indeed, under MSHA's regulations mine operators must report all injuries and illnesses within 10 days and other types of accidents directly to the Agency whereas under the OSHA statute, thousands of workplaces need only record such injuries in a log that is subject to examination by OSHA inspectors, assuming, of course that those inspectors show up at the property. In short, MSHA has an extraordinary database that can be used to better manage their resources, but the Agency's resource allocation decisions must be based upon documented need and analysis, rather than in response to those who assert the greatest pressure on MSHA's management decisions. Given their repeated claims of limited resources, and the need to focus on problem areas while meeting their statutory inspection mandate, MSHA needs to streamline its inspection approach to target those conditions or practices which are known to contribute to injuries and illness.

We believe it would be appropriate for MSHA to establish a mechanism to provide incentives to reduce the number and scope of inspections based on performance and the adoption of verified and objectively administered voluntary performance programs. Mines whose safety performance exceeds agreed upon industry averages need not receive the same degree of inspection attention as those that fail to meet such criteria. My former employer operated a copper smelter facility which applied for Voluntary Protection Program (VPP) Five Star recognition. I had the opportunity to view this process and was impressed with the rigor required before such a determination could be granted. It is a process that is successful and actually places greater responsibility on the operator to perform.

OSHA, by virtue of its expansive jurisdiction, has had to target its enforcement resources in order to address those worksites and those conditions that need the most attention. MSHA should consider adopting similar targeted compliance programs which recognize those whose performance is exemplary and permit focused attention toward those whose performance does not meet well-defined criteria. Continuing to mandate a minimum number of rigid inspections, with no consideration of performance, will not move the incidence rate below the current static plateau.

Of equal importance is that MSHA inspectors be trained and qualified to inspect the type of facilities to which they are assigned. The changing nature of mining and the enhancement processes used by certain segments, for example autoclaves and roasters, mandates that those charged with the responsibility of assessing compliance with the law and implementing regulations be thoroughly familiar with the processes employed. Underground coal mining is not the same as underground metal/nonmetal mining. To believe that an individual, solely by virtue of previous MSHA experience, is qualified to administer and enforce the Mine Act at all operations is foolhardy. Regrettably this is what is occurring in MSHA today. To address this MSHA should consider developing minimum professional development standards for individuals at all levels within the organization.

RULEMAKING

Mr. Chairman, MSHA's proposed regulations should undergo scientific peer review, rulemaking procedures should conform to the law, and the Agency should be responsive to its constituencies. All too often in its rush to complete action on initiatives, MSHA has often relied on dubious scientific premises, has given short shrift to the notice and comment requirements of the Mine Act and the Administrative Procedure Act, and has steadfastly ignored serious, scientifically sound, and fundamental concerns expressed by operators and miners in the rulemaking process. This was most evident in the late 1990's. Yet there are those that would have you believe that because some of those rules were later withdrawn that somehow this was a nefarious act on the part of MSHA.

Regarding those withdrawn rules, let us take a minute and look at some of the rules that were withdrawn and the logic behind those withdrawals.

Belt Flammability—The idea of developing a new belt flammability standard was driven by an increase in conveyor belt fires in the 1970s and 1980s. While the development of repeatable test protocols and standards to be met by these tests were being developed other safety features for conveyor belt safety began to be widely used in the mining industry. Among these other items were better early warning fire detection systems and Programmable Logic Controls (PLCs) for more reliable belt slip and sequence protection. These combined with general standards of examinations and maintenance of belt systems resulted in a significant reduction in the number of occurrences of belt fires during the 1990s. This information as well as the toxic by-products caused by the types of chemicals needed to meet a new fire resistant test resulted in a logical concern that this rule as unnecessary. Safety professionals concluded that prevention, detection, and suppression were better safety systems that provided a better measure of safety.

Respirable Coal Dust—The evolution of the Respirable Dust regulation withdrawal is a template for how regulations should be developed. The original regulations were pushed through to public hearings in the mid 1990s. At the public hearings, a universal condemnation of this proposal from both industry and labor resulted in the withdrawal. Both industry and labor wanted a real time monitor that minimized operator involvement in the actual sampling. Research was conducted under NIOSH and eventually a personal dust monitor of PDM was developed. Before these units could be field tested and a workable process for their use could be developed, MSHA again came out with a revised version of the previous regulations. Again, both industry and labor vigorously commented that these rules failed to meet the goals of protecting the miner. These rules were also withdrawn and work continues on developing a personal dust monitor regulation. As an aside, I would like to comment that much of the work on PDM development has been through a partnership of industry, labor, MSHA and other interested parties under the umbrella of NIOSH functioning as a "honest broker" to determine what available technology is capable of accomplishing.

SCSR's—Possibly the most misleading comments have been made regarding SCSR proposed changes. It was implied that the proposed rule would have provided a SCSR that would function for longer than 60 minutes. The quest for a new generation of SCSRs was for a more ergonomically sound, i.e., a maller 1 hour unit. This rule was focused on designing a SCSR unit that was smaller without increasing the amount of air available to a miner. In essence, this was an ergonomics rule. Ironically, the rule missed the boat entirely. We believe the better approach is to provide a smaller unit with 20 to 30 minutes of air and then to require a plan to have more air available in stored units that do not have to withstand the destructibility testing of the belt-worn units.

Air Quality Rules—This rule was withdrawn in 2004. MSHA's reasons for withdrawal acknowledge that "it had been more than 13 years since the proposal was published and more than 12 years since the comments were received. MSHA acknowledges that the threshold limit values (TLVs) are more than 25 yeas old. However, at this point, MSHA cannot proceed without reevaluating its approach to the complex issues that this proposed rule addressed and developing alternatives using more current scientific and technical information." MSHA went on to state "Such a comprehensive approach to rulemaking is no longer a viable means to address such concerns, especially in light of the Eleventh Circuit decision in AFL-CIO vacating a similar OSHA standard. The AFL-CIO court vacated OSHA's entire air contaminants rulemaking, finding that the Agency had not met its statutory burden in establishing the PELs for each of the 428 contaminants regulated by the standard."

Diesel Particulate Standards—These rules were proposed in 1998 and 1999 and the rulemaking did become final for coal in 2003 and is still pending for metal/

nonmetal. While MSHA touted its "toolbox" approach which resulted from a series of public meetings conducted to share ideas on methods to reduce miners' exposures, they did propose rules that are vastly different which makes no sense to either industry. However, as I earlier described when discussing PDMs, there has been a diesel partnership, consisting of the same groups of constituents working on the implementation of these rules.

Belt Air—Regulations to allow for the use of belt air to ventilate the working sections was approved by the Assistant Secretary in 2003 and has now been labeled by some as an example of a reduction in safety. These regulations basically put into regulation what has been approved in section 101(c) petitions for modification requests since the early 1980s. To put this into perspective, petitions had been granted for using belt air to ventilate working sections at over 100 coal mines prior to this regulation being finalized. These petitions for modifications were granted by Assistant Secretaries working for the Department of Labor under both parties. There was nothing under-handed about this regulation being enacted. This regulation essentially codified the requirements of the various petitions for modification into one set of regulations that any operator of the industry could comply with if any of its mines needed additional ventilation for a working section.

POLICY FORMULATION

I agree with Mr. Cecil Roberts' statements during his testimony on January 23, 2006 before the Subcommittee on Labor, Health and Human Services, Education, and Related Agencies of the Senate Appropriations Committee when he said, "Too often MSHA relies on "policies," which are developed internally and without public comment, to circumvent the Mine Act. This reduction in MSHA's effectiveness didn't happen overnight; it has been a problem for much too long. We have been critical of MSHA under both Democratic and Republican administrations."

MSHA should be prohibited from rulemaking by the issuance of policy statements or by after the fact rationalizations during litigation. Section 101 of the Mine Act and the Administrative Procedure Act extend to the regulated community certain participatory rights in terms of a regulatory Agency's rulemaking process. Under the provisions of both statutes the public must be afforded adequate notice of, and the opportunity to comment on, a regulatory Agency's intended actions. Moreover, while the statutes extend considerable discretion to the regulatory body when considering comments from the public, its implied intent is to structure rules that are responsive to the interests of the public, i.e., the regulated community.

The notice and comment requirements of administrative law are significant and do not serve an idle purpose: they give the public fair and adequate notice of proposed regulatory changes, help insure sound standards by permitting input into the regulatory process, and insure affected parties due process of law. On many occasions, however, because MSHA is apparently unable or unwilling to undertake a proper rulemaking under Section 101 of the Mine Act, it has chosen to evade its legal obligation by enforcing new requirements arrived at by administrative fiat.

When these policy initiatives result in an enforcement action and a subsequent legal challenge by an operator, MSHA takes the position that the Mine Safety and Health Review Commission and the Courts of Appeal must "defer" to the Agency's interpretation of the Mine Act or its own standards as long as the interpretation is "reasonable" and, of course, reasonableness is a matter of subjective judgment. MSHA apparently believes that it can adopt any "interpretation" of a standard that it wishes and then argue that its interpretation should be granted unquestioning deference. This attitude characterized the single shift sampling policy, which was vacated by the 11 Circuit Court of Appeals during the latter part of the 1990s as well as the attempt by the Agency to overturn the commission's precedent by unilaterally changing the definition of "significant and substantial" as that term is used to describe the degree of seriousness of a safety or health violation as well as the reissuing of an invalidated policy defining the designated occupation for respirable dust sampling purposes.

Frankly, Mr. Chairman, what concerns the mining industry more is when we challenge MSHA on an issue in court or in the public and win only to find out they will issue a policy and hammer the industry even harder. Way too much deference is given to this Agency and its ill-advised principles. The true experts in this industry are mine operators and laborers. Yet we read decision after decision stating the expertise of MSHA should prevail. This is quite disheartening when most of the scientific research into equipment design or ventilation techniques is being driven by mine operators and NIOSH, not MSHA. The deference given MSHA by the courts has swung the pendulum to the unsafe side.

COOPERATIVE APPROACH

There are some in this industry that believe this "partnership" approach is like the "fox guarding the hen house" and that we should abandon this approach. I am flabbergasted by these beliefs and comments. What has this Government and country come to when it would prefer confrontation over cooperation? What are we afraid of? Are we afraid that the glory may be received by someone else or do we feel we can only show strength in conviction by always raising the rhetoric. I have personally participated in the diesel, noise, and respirable dust partnerships involving industry, labor, MSHA and the NIOSH. As you may know, just last week a partnership was formed under the direction of NIOSH on Mine Emergency Communications. I know that cooperation is better than confrontation. I further know that all parties have input and no one party is disadvantaged by these partnerships, the most important party being the miner. More is accomplished during these intense periods because the "science flows to the top" and directs the actions of the parties. Agendas do arise and over time are eviscerated because the parties at the table won't tolerate these agendas and eventually good, science-based compromise prevails. Indeed, we do not always agree and have honest disagreements during these partnerships. But more good has been accomplished over the last 5 years during these partnership efforts than during the confrontations of the 1990s. Because the confrontation is less, the outcomes are more and better.

CONCLUSION

I have had the distinct honor of participating with the CEOs of the mining industry as they set forth their guiding principles regarding mine safety and health. These are people who have lived and worked in this noble industry and dedicated their lives to this noble industry. I urge this committee to weigh carefully the recommendations of our industry's leaders and give their guiding principles all due consideration so that any legislation resulting from this oversight reflects the practical and thoughtful reflections of their considerable experience.

Today, mine safety and health professionals face challenges far different from those anticipated when the Mine Act was enacted. Today's challenge is to analyze why accidents are occurring at a mine, then use that analysis as a basis for designing programs or techniques to manage the accident promoting condition or cause. Where existing technology is not sufficient, mine operators must be afforded the flexibility to use all existing, nontraditional means to protect miners.

MSHA has been, and must continue to be, a partner with industry to address these new concerns. This can only be accomplished through:

- the reallocation of resources, both in terms of personnel and budget dollars, to address legitimate problem areas that still need correction;
- the incorporation of flexibility to target inspection resources; the allocation and rededication of technical support services to address technical mine problems;
- the establishment of an open and equitable rulemaking process, that quantifies risk and benefits, abandons the penchant for regulating through policy and holds all parties, including MSHA, to the same evidentiary standards.

Mr. Chairman, once again, 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. If you or the other members of the committee require additional information, we stand ready to provide it.

The CHAIRMAN. Mr. Peelish, Mr. Novak mentioned in his testimony that the primary mining research division of the Federal Government was transferred and downgraded from when the Bureau of Mines was closed in 1996. Has this had a negative affect on the development of mining practices and technology that ensure the safety and health of miners?

Mr. PEELISH. Sir, I think that the Bureau of Mines did fundamental research in mining, and many of the advances that were made in mining were done through the Bureau of Mines. That was a great, great facility. I have had the opportunity to work with a German parent company that previously owned us, and the German model was to have much Government research done in the German coal mines, the DSK coal mines. That was similar to the

Bureau of Mines model, although those mines were not owned by the Bureau of Mines.

NIOSH has tried to pick up the ball and has done a good job, but I think the basic level of research now is much, much less than it previously was under the Bureau of Mines. So I think it has impacted, although the partners that we have developed in the diesel, respiral dust, noise area and now the mine technology have proven to be much better. The idea of cooperation versus confrontation has assisted us because all people have a voice at the table. The agendas at the table are quickly done away with because the science tends to flow to the top, and NIOSH is a good honest broker when it comes to making certain that the topic at hand is the protection and the safety and health of the miner.

The CHAIRMAN. Thank you.

Mr. Neason, I appreciated your comment that you are usually talking to mechanics.

Mr. NEASON. It is a very different place, yes.

The CHAIRMAN. I am an accountant. I really prefer numbers and I don't like to speak that much. I know that many in the mining industry are concerned that the workforce is graying, growing older, and there is little influx of new miners. There is a lot of concern that these experienced miners will leave the workforce and industry will have to rely on newer, less experienced miners which could result in less safe and productive mines.

Can you tell me a little about the demographics of the employees that work at your mines, and as a former miner yourself, do you think that there is sufficient incentive for new people to enter the profession, and if not, what can be done?

Mr. NEASON. Well, you know, it is not a real alluring business to a lot of young folks. There is no question about that.

Senator BYRD. It is not what?

Mr. NEASON. It is not a very alluring business to young folks when we are talking about bringing in a younger demographic into mining.

I did an annual refresher training class 2 days ago, and when we were going through our accident history and how we were doing as a company, the question immediately jumped out why are these kind of accidents that we are having, maintenance-related things, why were they occurring, and I was talking to a group that was pretty much made up of older employees, and they were just so adamant that the experience that they had is fantastic, but the fact of it is a lot of them are now 50 and 60 years old, and a lot of the work that they do is burdensome on them and there is not a lot of younger guys around to help them out with it.

So there is absolutely an issue with the aging workforce that we have got, and how you bring younger folks in, I don't know. I took the job because my dad did it. My grand-dad did it and his dad did it, and it was just part of what went on in our family and in our community, but I think that is really the only pull that there is right now.

The CHAIRMAN. Thank you. Dr. Howard in his remarks observed that in mining in particular, there is no single safety solution because each mine is different and requires a different mix of technologies and practices. I know his view reflects the concern of many

about a static one-size-fits-all approach to safety regulation. Your comments on it, each of you?

Mr. Peelish.

Mr. PEELISH. Mr. Chairman, I think the goal of the Congress and of MSHA is to set an objective. Because there are different conditions in mines, there are different needs of mines. The innovation will be stifled if a rigid approach is always adhered to. I believe that a performance standard that has flexibility is the proper approach to achieving ultimately the best and the best practices for miner safety and health. I would agree with that comment.

The CHAIRMAN. Mr. Neason.

Mr. NEASON. Absolutely. In fact, when you said it in your opening statement, I was so relieved, because that was 90 percent of what everybody wanted me to come up and make clear, is that we are all very, very different and there has to be flexibility in how you present an answer to a problem. We weigh risks all the time and make determinations on how to best make sure that we manage every risk to make sure everybody gets to go home safe every day. If a flat answer is thrown out that mandates we allocate a whole bunch to this area, that may not fit exactly what we need to take care of everybody, and you might end up kind of creating a culture where you are trying to satisfy regulators instead of make sure that everybody is as safe as they can possibly be.

So having that flexibility, and MSHA understands it and even in what they put out, it is pretty clear that everyone respects the fact that a stone mine is different from a coal mine and a coal mine is different from a salt mine, and that is absolutely critical that if anything else happens, everyone understands that as well.

The CHAIRMAN. Dr. Novak.

Mr. NOVAK. I will add to that, that even within coal mines there are significant differences between mines. Every mine has its unique set of conditions. If you look at the depth of the overburden, there are some mines that may operate as low as less than 300 feet where other mines are over 2,000 feet. They each have their different conditions in terms of the gas contents of the coal seams that they are working with.

So I would second or third, I guess, what the other panelists have just said.

The CHAIRMAN. Mr. Roberts.

Mr. ROBERTS. You probably wouldn't be surprised I disagree with that for the most part. First of all, let me say that I think the problem is that MSHA has been way too flexible, and it is not a problem with them not being flexible enough. Every coal mine in the United States is dangerous. Anyone that tells you they work in a safe coal mine, they don't understand what they are talking about. Every coal mine in this country is susceptible to fires, explosions. Most are susceptible to methane. Most mining laws that were written in 1969 took into consideration that the coal miner was the highest priority in that mine. That is what the law says today.

Are you suggesting to me that some mines have certain unique characteristics? Certainly. I have been in mines where water was pouring through the roof and you almost needed an umbrella to keep from getting soaked. I have been in mines in Alabama that are 2,000 feet deep, and it is pretty warm in those mines and mil-

lions and millions of cubic feet of methane. You have got to pay particular attention to that. But all coal mines create dust. All coal mines can give you pneumoconiosis or black lung. All coal mines have to have the roof supported, and if you don't support the roof, people get killed. Every coal mine in this country has electrical standards that I don't think are certainly unique. I think every coal mine in this country should comply with the Federal law, and I think when we start down the slippery slope of we are just a little bit different here, one of the problems I point out, Mr. Chairman, is the law is very specific that every coal mine is supposed to have a mine rescue team. That is what Congress said. MSHA said that is not necessarily true. That is another area where I think that the rule-making authority of MSHA has to be observed and taken into consideration by this body and the entire Congress.

When they said we don't need a mine rescue team in every location because of certain circumstances, we ended up with a situation like we had at Sago. They didn't have a mine rescue team. They had to get one from someplace else.

So we have to be cautious, I think, Mr. Chairman, when we start down this area.

The CHAIRMAN. Thank you, and I will have a written question also that will ask more about the communications devices that you said were already approved. I appreciate that.

Senator Kennedy.

Senator KENNEDY. Thank you again, Mr. Chairman.

I just want to use my time to mention some of those that are here, the families that are here from mines where miners were lost. From the Alma Mine, we have Delores Bragg and from the Sago Mine, Amber Helms and Virginia Moore, Paul Cranston, Peggy Joyce Cohen, and John Groves; and from Jim Walters, we have Freida Sora and two brothers, Clinton and Doug Mullins and Wanda Blevins and David Blevins. So I want to recognize them and thank them for being here.

Mr. Roberts, just to follow up on what the chairman asked, in your testimony, you've indicated that with the modernization of the different equipment in the mines, they haven't kept pace with the safety and health procedures. Could you just elaborate on that for us, please?

Mr. ROBERTS. First of all, Senator Kennedy, and you were out of the room, but I would have said the same without you, I appreciate very much your interest in coal mine health and safety and standing up for workers over these many, many years.

A word of interest for the committee, I invite them to look at this—there was a coal miner in Poland, on Monday, that was lost for 111 hours, covered up, and he can only be thankful that he didn't mine coal in the United States because he would have been dead. He had one of these devices that you have seen, Mr. Chairman, that sends out a signal so it can be located. They followed that signal, uncovered the rock off of him, and he walked away and just had to have water and fluid and he lived. That would have never have happened in the United States. I think that is tragic that that is the case.

I find with great interest too in Australia, for many, many years they have used——

Senator KENNEDY. Let me ask you do you think those devices should be mandatory?

Mr. ROBERTS [continuing]. Absolutely.

Senator KENNEDY. What about the rest of the panel, just quickly, if they could answer that? Mr. Novak, could you just go quickly, should they be mandatory? Quickly.

Mr. NOVAK. I think if they are proven effective in the job that they are supposed to do, then they should be mandatory. I don't think that we should just accept what is available there and install those and require the industry to install those in their coal mine.

Senator KENNEDY. Well, we are not talking about ineffective and unhelpful kinds of things.

Mr. NOVAK. I am not sure we aren't. I am not sure the communications systems that we feel that we need in our coal mines are commercially available at this point.

Senator KENNEDY. Well, that is a good issue for another time. We are finding out that in other places, as has been mentioned, they have some very important break-throughs in terms of technology which we are not adopting.

Mr. NOVAK. But in answer to your question, yes, I think that communication systems are critical.

Senator KENNEDY. Thank you.

Mr. Roberts, do you want to continue?

Mr. ROBERTS. Yes. I was just going to point out, Senator Kennedy, a couple of points if I might. I held this up, I think before you came in. I said this is it for communications in a coal mine, and it never works in an explosion. It never works in a fire and it never works when the top falls. So right now, we are talking about a coal miner having zero communications, and if we can improve that to 25 percent or 50 percent, then I think we should do it.

The question I have is how much longer are we going to ask the coal miners of the United States of America to stand by and wait on somebody to come along and say, well, 5 years from now, we will get you something, 10 years from now, we will get you something, 20 years from now, we will get you something. I think that is really what we are talking about, let us delay and let us not do it, and let us not spend money.

I just want to point out one thing. I get a little bit frustrated here. Coal companies are making enormous amounts of money, Mr. Chairman, and that should not go unnoticed here today. Coal companies are making anywhere from $50 million a month in some instances. Stock prices are up. Coal prices are up. Spend $10 million for a long wall, $150 million for a belt line. But you say buy something for coal miners so they can live, $3,500 for another bottle of oxygen, never. Let us not do that, too expensive, don't mandate that.

Senator KENNEDY. Well, hopefully those days are over. Let me just ask, and then my time is up, I will ask President Roberts what could we learn from the families themselves? You have talked to a lot of the family members. I was enormously impressed, I think all of us were, by particularly the personal kind of tragedy that they have gone through—that is obviously No. 1—but second, by their knowledge of the whole industry and the awareness of it and

that obviously if it was the wives that were left, their husbands had talked to them. They seemed to have quite a considerable kind of awareness as to some of the challenges.

What have you found out from talking to them?

Mr. ROBERTS. Let me say this: We have known the Jim Walter 5 families now for 5 years, and I think they would tell you the same thing about us. We love them dearly. We have gone through a lot together. We just recently met the families from Sago and Alma. Of course, those were two nonunion mines, but it makes no difference. Coal communities where people live, we care deeply about one another, rely on one another. Mine rescue teams risked their lives to save many of those UMWA members.

What we have learned as we learned in 2001, families want answers, and some of the most powerful testimony that I have heard ever given in this Congress was given in a House hearing conducted by Congressman Miller when almost the entire panel was family members, extremely moving. They want answers. They want to be part of what is going on here.

I must say to Congress, and I would ask you to consider this, and to Senator Specter's credit, he was somewhat amazed at one of the hearings I was in that the company is part of an investigation. The company that is being investigated, but they are on the team here, so to speak. MSHA who may have culpability, they are on the team. So we have got everyone who might be culpable doing the investigation.

The families in 2001 said, "What about us, what role do we play." You play no role. These families from Sago will tell you that they have gone to their Government, MSHA, and said would you give us some information about what is going on here, and they have been told basically we will provide information, but they have not been provided it. They are not part of anything that goes on here.

I think, quite frankly, Senator, that there is a real flaw in the investigative process, and every family that has ever been involved in this will tell you exactly that. They will tell you what I just told you. I invite anyone, Republican or Democrat, in Congress to ask them the same thing, and they will tell you what I just told you; but I think above all, I am very much moved by the fact that they just don't want this to happen to anybody else. They have been through this. They understand the pain that goes with this, the sadness that goes with this, the sorrow.

If I might, I was just talking to Mrs. Blevins this morning who lost her husband in 2001, and she was sharing a story with me. She said, "I can't hardly go to the supermarket and go by the bakery section of the supermarket." She said, "my husband would go by and buy every cake in the supermarket, and we would have this terrible debate." She said, "I just don't even look at it anymore." She said, "I don't cook anymore." She said, "why should I cook. I don't have anybody to cook for."

And they came up, and the most powerful testimony I heard was that they don't want this to happen again. They are petitioning their Congress for this not to happen again. They are petitioning Congress to take the steps necessary that this doesn't happen to anybody else.

The truth of the matter is I think we can take some very bold steps here, and I don't know if we are ever going to be able to say that you will never have someone killed or injured in a coal mine, but we can take the steps necessary to prevent this type of a tragedy again. There is absolutely no doubt in my mind that that can be done.

Senator KENNEDY. Mr. Chairman, my time is up. Senator Byrd has left. He had some questions that might be submitted at the appropriate time. Thank you.

The CHAIRMAN. Absolutely.

Senator Rockefeller.

Senator ROCKEFELLER. Thank you, Mr. Chairman.

I just want to say to the audience as I said before, now this panel is not controlled by the Office of Management and Budget. They speak what is exactly on their hearts and minds, and I need to make that point because I might have left the impression that everybody who testifies works for the Government. That is not true.

I take incredibly strong exception to that concept of mines, that there is more dangerous work than mining. Yes. I guess if you are a soldier in certain parts of the world, that might be true, but people don't understand. In fact, what people need to understand is probably 99.9 percent of Americans have never been in a coal mine. They have never been underground. They have absolutely no idea. Probably 95 percent of West Virginians or 97 percent of West Virginians have never been in a coal mine, because you can't go in a coal mine just because you would like to go visit and see.

I mean, it is highly dangerous and it also an environment where it isn't just the machinery or roof bolts working or the chambers of ventilation. It is not a matter of that. It is all of this natural material. The work of higher powers is placed. There are so many things that are totally out of the control of miners that they have to deal with. It is incredibly dangerous.

Second, I would like to ask, Mr. Peelish, in some of your foundation coal mines, you have refuge chambers; is that correct?

Mr. PEELISH. For companies that we previously owned or mines, Senator, for mines that we previously owned, we did, and it based on primarily the length of escape. The mines were deep into the mountain. There was long escape, and so we felt that that was an appropriate means.

Senator ROCKEFELLER. And I congratulate you for that. When those were available and something happened, did miners tend to go to the oxygen chambers, or did they tend to still try to get out of the mine?

Mr. PEELISH. Fortunately they were never used.

Senator ROCKEFELLER. So you don't know?

Mr. PEELISH. The first and always the first principle that we taught was to escape, to evacuate. Even in the Mine Act in 1969 when it says the Secretary may proscribe, I would submit, sir, that at that time, the professionals did not believe fully in rescue chambers, that escape was still the primary means out, or the Secretary could have been told you shall require.

Other countries, Canada does require rescue chambers. Parts of Australia do not. South Africa does not. Germany does not. So it is not a uniform approach.

The ability to have air, as Mr. Roberts mentioned, I think is a standard that is an objective standard. How we get there and how we meet that standard could be flexible depending on the type of mine, depending on the length of escape. So there are alternatives.

Senator ROCKEFELLER. Thank you. Thank you, sir.

I want to bring up the question of rescue teams, and there are some here. I think it occurred to Senator Kennedy and Chairman Enzi and myself and Senator Isakson when we talked with family members in Sago, which is where we all four gathered, that it was not just the emotion and the knowledge, but I absolutely believe you could have assembled some rescue teams right out of those family groups, and yet Sago didn't have its own rescue team, and the question I want to ask is that, I mean, you have to wait 2 hours, 6, 7, 8 hours later, and you have got 1 hour's worth of oxygen? I mean, the math doesn't add up and the death and injuries do under circumstances of that sort.

Therefore, the moral question is whether or not any mine that is in business ought to have its own rescue teams. That is not the case now and many would oppose that very vigorously. I am asking is that not a standard that should be the cost of doing business in mining?

Mr. ROBERTS. As far as I am concerned, Senator, it is in our testimony that is absolutely part of doing business. If you read the act, that is what it says when making an exception for, I believe, mines less than 35 employees, I believe is what the act says; but there has been a rule issued here along the way that says you don't have to do that.

One of the interesting things that has come out this, if you recall when Mr. Hatfield came to Congress—he is the president of Sago—he said he was going to get his own mine rescue team at Sago, and he should as well as every other coal company in the United States of America. I would invite Congress at some point in time to talk to these very brave mine rescue team members. I took a little bit of that training when I was at the mine, but I don't want anyone to believe I know anything about it. These people dedicate time to train. They are coal miners for the most part. But when you come on the scene and you are not familiar with the coal mine yourself, you have got to familiarize yourself with the mine. You have got to look at a map. You have to understand the ventilation. You have to understand everything.

If you have got your own team of people who work in that mine, they already possess that knowledge from the very beginning, and there is a chance if you have your own mine rescue teams that if they get underground before the atmospheric conditions get to the point where you can't go. That is one of the things that happened at Sago. As time went on, it got worse. It didn't get better.

Senator ROCKEFELLER. I would just ask of the panel is there any descent from that view?

Mr. PEELISH. Senator, before a mine rescue team can enter a mine, it just doesn't take one team. In West Virginia, it would take three teams.

Senator ROCKEFELLER. That is true.

Mr. PEELISH. To be able to go underground.

Senator ROCKEFELLER. As well as the inspection that takes place before anybody would go.

Mr. PEELISH. Yes. The first thing you have to do is assess the situation. To my knowledge, the Sago and Alma Mine disasters were not a result of the ability to not get teams there in a timely manner. So we do have our teams. We provide coverage for other people who don't have teams, but again, this is a voluntary endeavor. These people are very, very special people. They don't do it for the money or the glory. They do it for the fact that people have a need and they fill that need, and so there is a lot here that I think this mine rescue professionals need to address. There is a lot of work that was done back in the nineties and 2002, and that work needs to be dusted off.

Senator ROCKEFELLER. I am going to interrupt, because I have got a couple of questions and no time.

When I was Governor of West Virginia, and it still goes on today, there were mine rescue team competitions and they come from various States, and if you think the West Virginia University and Pitt play each other in football and basketball, you ought to see the competition that goes on in those things. That is ferocious. But the point is that they are trained. They are alert, and if they are alert for a company that can easily afford to have them and not available—you say they weren't a factor in the Sago mine. I might dispute that, and I am not asking for an answer from you. I am just looking at you as I talk. I don't buy that. I just think that that ought to be a part of doing business. It is like wearing a 1-hour oxygen belt. That should not be a part of doing business, and I feel strongly about that.

One more thing, Mr. Chairman, and this is a sensitive subject. In the legislation which we got through the Senate very quickly, the Senate Finance Committee very quickly, because it happened to have a vehicle which it could get on, we put in incentives for companies to start up their own mine rescue teams. You say why would we do that, and there is no clear answer to that except that something has got to happen, and if we can put up a small amount of incentive for smaller companies to do that kind of thing, then I think we should do it, and if it is not necessary, that will become evident in the long run.

But we have something else in there, which is very important, and that is we have 1-800 numbers at the State and Federal level that can be called by miners if they see that there is something wrong but they are afraid to report it, and I am sorry, but when we talked with the families, there were an awful lot of people who talked about that fear of reporting something within the mine which they knew was not right because they might be worried about consequences. I think that should be eliminated from the fear and psychology of the miner, and there are a variety of ways to do that, but we have to make them unafraid to call the local, State mine safety or MSHA, and make those anonymous phone calls so that they can have expressed it and so then the burden passes to the recipient.

Does anybody disagree with that kind of concept?

Mr. NEASON. No, sir.

Mr. PEELISH. Not at all.

Mr. NOVAK. Not at all.

Mr. ROBERTS. Absolutely not.

Senator ROCKEFELLER. Do you agree that it is a problem? Do you agree there may be some mine mistakes?

Mr. ROBERTS. I know there is.

Senator ROCKEFELLER. Or disasters that happen because people didn't dare speak up?

Mr. ROBERTS. Senator, you probably have heard the same thing I have heard in Logan County, for instance, and West Virginia and other parts of the country. If the company finds out that you have called MSHA, they are going to find a way to terminate you. Now, some can say that is not true, but certainly the miners believe that and have been led to believe that.

Senator ROCKEFELLER. Mr. Chairman, I will leave it at that with very strong thanks to both panels and especially to you sir.

The CHAIRMAN. Thank you very much for your participation too, and I do want to congratulate you on that very speedy amendment that you got through that a number of us co-sponsored, and it isn't easy to get things through by unanimous consent, but Senator Rockefeller did that. That means talking to a lot of people, not just 100 Senators, but a lot of staff too.

Coming from a coal mining area, I am seeing the interest in the Nation in coal being revived. For a long time, there was a decrease in interest and, in fact, a lot of ridicule of coal and a decline in the number of mines and the number of workers, and the Nation finally figured out that we are running out of oil. We are running out of natural gas, and the one thing that we have in some abundance is coal, and it has enjoyed a huge resurgence, and I can remember when out my way, they used to say that a ton of coal costs less than a six-pack of beer. That certainly took away a lot of interest from being able to do any mining, and now it has escalated quite a bit from that time, and I know that there will be additional interest in coal and the Nation will need it, and of course the only way that those mines operate is if there are miners, and it is extremely essential that they feel a degree of safety.

We are some of the people that can do that, and there hasn't been a major change in the mining laws since its inception, and we need to make some changes on that and we work diligently to do it, and we will want to make it so that we not only can get the tools that are needed for safety into the mines, but that we can encourage people to invent new ones and get those in there too. We don't want something that is so flexible that we have to stick with whatever is there now, because I think that as this industry grows, and it will grow, that it will become a bigger market for innovation and invention.

And, of course, the people that can do some of that the best are the ones who are there working every day. I go back to Wyoming almost every weekend and tour a difficult part of Wyoming, and the reason I do that is so that I can talk to the real people, and sometimes they have a little problem with the Federal Government, and all I have to say is what do you think we ought to do about it, and I get a nice common sense answer out of it, and quite often we are able to do that. A lot of times, it doesn't even take a Federal law to do it, so that people are there on the ground, and

I appreciate many of you who are here today who may have some of those common sense suggestions for us.

We do have a Web site, and anyone in the audience who wants to share some solutions, we hope they are solutions. They can share problems as well, but utilize the Web site and share those.

We will keep the record open for another 10 days. Anyone's statement from the committee that they want to submit will become a part of the record, and I have some questions. Most of them deal a little bit more with economics and numbers, and those don't make good hearing fodder. So I will be submitting those to you and I hope you will respond as quickly as possible.

With that, this hearing is adjourned.

[Additional material follows.]

ADDITIONAL MATERIAL

REPONSE TO QUESTIONS OF SENATOR ENZI, SENATOR KENNEDY, SENATOR HATCH, AND SENATOR BYRD BY DAVID G. DYE

QUESTIONS OF SENATOR ENZI

Question 1. Would you explain the manner in which the amount of a civil penalty is currently determined by MSHA, and what personnel are involved in making that decision?

Answer 1. The amount of a civil penalty currently ranges from $60 to $60,000. The single penalty assessment is a flat $60 and can only be imposed on a 104(a) citation that is not significant and substantial (S&S) and that is timely abated and that occurs at a mine that does not have an excessive history of violations.

The regular assessment is imposed for most violations that result in withdrawal, S&S citations and 104(a) non-S&S citations that are not timely abated or that occur at a mine with an excessive violation history. Single penalty and regular assessments are computer-generated; the violation data are transmitted electronically from the issuing Enforcement Office to the Assessment Office. Regular assessments are calculated by the computer using a formula whereby penalty points are assigned for each of the assessment criteria (history, size, negligence, gravity, and good faith) according to point tables in 30 CFR Part 100 and then converted to a dollar amount using the penalty conversion table, also in 30 CFR 100.

Special assessments are reserved for those violations that are of such a nature or seriousness that an effective penalty cannot be derived by either the single penalty or regular assessment method. Under 30 CFR 100.5, special assessment must be considered for certain types of violations. Special assessment is not mandatory for any type of violation. However, all violations in the following categories must be reviewed by enforcement personnel for special assessment:

1. fatalities and serious injuries
2. unwarrantable failure to comply
3. operation of a mine in defiance of a closure order
4. denial of right of entry
5. individuals who are personally liable under section 110(c) of the Mine Act
6. imminent danger
7. acts of discrimination under section 105(c) of the Mine Act
8. extraordinarily high negligence or gravity or other unique aggravating circumstances

Special assessments are individually determined by a staff of mine safety and health specialists (assessors) who apply each of the six assessment criteria to the facts and circumstances surrounding each violation. MSHA has published guidelines that the assessors follow. The special assessment review includes an analysis of the violation and related documents (Special Assessment Review Form, conference notes, inspector's notes, accident report, sketches/photographs, and relevant portions of plans).

Question 2. Do you believe that the delay between the assessment of an MSHA fine and its collection encourages operators to be non-compliant with the act?

And, are there any suggestions you might have about ways to shorten the time between assessment and collection and still preserve the parties' right to due process?

Answer 2. This question assumes lengthy delays between the date MSHA proposes an assessment and the date the penalty is paid. Most operators pay their civil penalties voluntarily and within a reasonable amount of time. Over the last 5 years, 94 percent of the civil penalties MSHA assessed were uncontested. On average, the payments for uncontested cases are received within 2 months after the violator receives the penalty assessment. Contested citations can take many months to litigate and a number of penalties go unpaid.

MSHA experienced problems with referring delinquent civil penalties to the Treasury Department after deploying a new computer system and operating procedures in 2003. This resulted in the manual referral of only a very few unpaid penalties to Treasury for collection in 2004 and 2005. The Agency has resumed electronic referrals of delinquent debt to Treasury. The first electronic referral since 2003 was sent to Treasury on March 17, 2006 and the backlog of Treasury referrals was virtually eliminated by the end of fiscal year 2006. We have implemented new procedures to expedite ongoing delinquent debt referrals to Treasury so that all available delinquencies are referred within the timeframes stipulated in the Debt Collection Improvement Act of 1996.

To help streamline the civil penalty payment process, MSHA plans to develop an electronic payment/contest option for use by mine operators. This approach will reduce the overall time for payments to reach MSHA and also shorten the time to process contested cases.

Question 3. Could you give us a sense of the percentage of mines that currently use contract or co-op rescue teams; and what problems might be faced by small mines in fielding their own rescue teams?

Answer 3. There are approximately 646 underground coal mines. There are approximately 140 coal mine rescue teams. Eighteen of these are contract teams, or about 13 percent. Approximately 97 underground coal mines use contract or co-op rescue teams. This equates to approximately 15 percent of all underground coal mines. Small mines, mines with fewer than 20 employees, are hampered by the number of personnel available and the economic cost of supplying equipment to support these teams. Such equipment includes breathing apparatus, spare parts, testing and maintenance supplies, cap lamps, personal safety equipment, gas detectors, communications equipment, a compressor, medical grade oxygen, and CO2 scrubber chemicals. Team members must attend monthly or bi-monthly training sessions, which take them away from their normal mining duties.

MSHA is implementing requirements in the MINER Act related to mine rescue teams.

Question 4. How many hours of training are required to become a qualified rescue team member, and how long does that typically take someone to complete? Can you describe the physical demands of this service?

Answer 4. Each mine rescue team member must have a minimum of 20 hours of initial training. This initial training typically takes 3-4 days to complete. Among other things, the training develops familiarity with the breathing apparatus they will use, and the actual use of the breathing apparatus for several hours. Besides the initial training, each team member must participate in 40 hours of refresher (hands-on) training annually. The physical demands required for mine rescue personnel are severe. The breathing apparatus alone weighs approximately 34 pounds. Other equipment that must be carried includes gas monitors, communications devices, and personal protection equipment. The physical requirements for mine rescue team members are listed in 30 CFR 49.7. Each team member must pass a mine rescue physical exam annually. In actual operations, team members can experience extreme temperatures, potential heat stress, psychological stress, must often carry heavy weights, and often travel long distances on foot or by crawling through water and mud.

Question 5. Is MSHA conducting more or fewer inspections than 5 years ago? Is the agency completing all the inspections it's required to do under the Mine Act?

Answer 5. In both metal/nonmetal and coal enforcement, MSHA is conducting more inspections than 5 years ago, and has increased its mandated inspection completion rate since 2000.

Metal and nonmetal (MNM). In fiscal year 2005, MNM completed 16,123 required inspections, versus 13,252 in fiscal year 2000.

In fiscal year 2005, MNM completed 87.7 percent of its required inspections; in fiscal year 2000, MNM completed 73.7 percent of its required inspections.

Coal Mine Safety and Health (CMS&H). In 2005, CMS&H conducted 5,053 mandatory inspections, versus 4,947 in 2000. Also in 2005, an additional 155 regular health and safety inspections above the statutory requirements of the Mine Act, were completed, compared to 144 in 2000.

CMS&H has improved its required regulatory inspection completion rate from 98.3 percent in 2000 to 99.6 percent in 2005.

Question 6. A great deal of the criticism of your agency concerns the funding that has been kept relatively flat during the last several years and the number of employees has declined. Statistically, the number of mines and miners under your authority has actually declined during those same years. But I have noted that the number hours MSHA inspectors spend onsite inspecting coal mines has not decreased, in fact it increased significantly at the early part of this decade and has remained steady. How can MSHA use it resources to accomplish its mission more effectively?

Answer 6. MSHA is constantly searching for ways to reduce inefficient and duplicative processes that draw resources away from its core mission of protecting the health and safety of miners. MSHA has reduced overhead costs and administrative and support staff to provide additional resources to its front-line staff. Additionally, MSHA is evaluating all non-enforcement positions as they become vacant and ap-

proving replacements only if there is no suitable alternative. The resources made available from vacated positions determined non-mission critical are used to support other key functions.

For example, MSHA reorganized travel areas for inspectors by assigning them to inspect mines all within a specific geographic area. This maximized their onsite time while eliminating excess travel time to mine sites. Also, inspectors have been instructed to issue citations and terminate them if violations are immediately abated before the inspection is closed out. This allows mine companies to abate the hazardous condition immediately, and avoids having the inspector make a return trip to the mine at a later date to terminate the citation. All inspectors have the latest laptop computer technology, which allows them to download mine histories and mine profiles long before they travel to the mine site. They no longer have to check the mine files in the field office; they may do so at any time while they are traveling. MSHA will use funds included in the fiscal year 2006 Emergency Supplemental Appropriations Act for Defense, Global War on Terror, and Hurricane Recovery for increased enforcement personnel and equipment.

Question 7. What are a miner's options under the Mine Act when encountering unsafe conditions?

Answer 7. The miner can complain about the unsafe condition or practice to company officials, supervisors, or to the miners' representative. Complaining about a hazardous condition is an activity protected by Section 105(c) of the Mine Act. If the mine operator retaliates in response to the safety complaint, the miner has the option of making a discrimination complaint.

The miner can complain to MSHA directly about the hazardous conditions. MSHA has many avenues to receive such complaints, including an anonymous "hotline" number, which will be followed up by an inspection. In addition, miners can make safety complaints to an inspector during or before an inspection either directly or through their walk-around representative. If a miner believes these conditions violate the Mine Act or its standards or present an imminent danger, they can make a written complaint under section 103(g) of the Mine Act, and an immediate inspection of the reported conditions will be made under section 103 (g). The miner's identity will not be disclosed to the mine operator, but the nature of the complaint will be provided. This type of complaint is also an activity protected by Section 105 (c) of the Mine Act.

The miner can refuse to work in a hazardous condition that he reasonably believes may present a hazard to himself or others. The miner will be required to make reasonable efforts to communicate the reason for the work refusal to his employer before doing so. Such work refusal is also considered by the Secretary and the reviewing Courts to be an activity protected by Section 105(c) of the Mine Act so long as the miner had an objective good faith belief that the condition posed a safety hazard to himself or others.

Discrimination Complaint Process. A miner has 60 days to file a complaint of discrimination with the Secretary of Labor. The Secretary has 120 days to investigate the complaint and decide if it has sufficient merit to be pursued. If the Secretary finds that there has been retaliation for the making of a complaint or a work refusal, the Secretary can bring the discrimination case on the miner's behalf and can seek a civil penalty. If the Secretary does not believe that there was a violation, the miner has 30 days to proceed on his own before the independent Mine Safety and Health Review Commission. The discrimination complaint process allows the Secretary of Labor to seek temporary reinstatement of a miner who has lost his job if he engaged in protected activity. The temporary reinstatement lasts until the investigation is completed including the course of litigation should the Secretary determine the case has merit after investigation.

Question 8. Explain MSHA's Accident Investigation Process especially as to rights of families and limitations on family rights.

Answer 8. MSHA's accident investigation procedures are fully set out in the agency Accident Investigation Handbook, which is available on the Web site in the FOIA Reading room. There are two procedures: one for normal accident investigations and another for major accident investigations. The fundamental steps in each are the same, but the time expended and the application of resources is much greater in a major accident investigation. Usually the primary tool of an accident investigation is a thorough review of the on-scene accident site. In addition, relevant materials involved in the accident, such as broken cables, brakes etc., may be sent for additional laboratory analysis. The mine operator and the representative of miners, if there is one, are full participants in this civil process designed to find out the causes and contributing factors in the accident so that similar accidents may be prevented

in the future and to determine if any violations of Federal safety standards were involved in or contributed to the accident. The process also includes a statement taken of relevant witnesses. Prior to a recent change in policy, the operator and the miner's representative would be involved in that questioning process unless their participation was deemed harmful to that process or unless the participation of only the mine operator would create an appearance of unfairness. At Sago and Aracoma Alma, all of the questioning has been done by and in the presence of government investigators alone. MSHA has found that the public hearing process inhibits testimony as many witnesses decline to testify or do not testify fully. That is why we tried to the greatest extent possible to have completed our interviews before the public hearing takes place. Consistent with past practice, general investigatory techniques, and fairness, the investigators do permit each witness to be accompanied by a personal representative of their choosing.

Families of deceased or injured miners have not been participants in accident investigations under the Mine Act or, to our knowledge, to most industrial accident investigations. The participation of family representatives presents an additional element of emotion and cross-purposes that can make it more difficult for the miner being interviewed to give a full and accurate statement to investigators. In addition, potential safety issues and possible violations are going to be identified during the investigatory interviews. Premature discussion of those issues greatly impairs additional investigation and also raises issues, which have not yet been fully explored, to premature prominence and indeed can delay and impede finding the real causes of the accident. In order to perform its investigation responsibilities under the Mine Act effectively and accurately, MSHA evaluates all interviews taken, physical items obtained, tests performed, and mine observations made before releasing any conclusions about the causes or contributing causes of an accident to the families and the public.

As part of its investigation process, MSHA does keep families informed of the investigation progress and listens to any comments and answers any questions family members may have. MSHA had meetings with the families of the Sago mine victims on March 9 and April 13. The families were given early access to the transcripts at the private informational meeting held on Thursday April 13. The witness statements were made part of the public record on May 2–4, 2006, at the joint public hearing. The families had a limited participatory role in being able to pose questions to the Chair to be asked of witnesses at the hearing. When the investigation is complete, MSHA will provide each family a personal copy of accident investigation materials.

Please be assured that MSHA and the State of West Virginia are conducting a thorough and professional investigation into the Sago Mine Accident that includes the public hearing held on May 2–4, 2006. Prevention of such tragedies is our highest priority and the goal of the dedicated professionals in the agency. MSHA is implementing the requirement in the MINER Act concerning the establishment of family liaisons.

Question 9. It has been mentioned here today that several notices of proposed rulemaking were withdrawn by the Mine Safety and Health Administration over the past 6 years. Can you explain what these were and why they were withdrawn?

Answer 9. MSHA withdrew two proposed rules during the past 6 years:

(1) *Flame-Resistant Conveyor Belts*

This proposed rule was published in 1992 and was initially withdrawn from the regulatory agenda in March of 1994. It was reinstated on the regulatory agenda in the fall of 1994 and removed a second time in 2002. Improved technology associated with atmospheric monitoring systems and fire suppression systems has greatly reduced the need for increasing the flame-resistance of conveyor belt material beyond the current requirements for flame-retardants. Further, in the last 25 years all miners have been able to escape from fires that started in the conveyor belt entry. We are implementing the provision in the MINER Act related to flame-resistant conveyor belts.

(2) *Air Quality, Chemical Substances, and Respiratory Protection*

This proposed omnibus rule was published in 1989 and withdrawn from the regulatory agenda on September 26, 2002. The proposed rule had not been actively worked on for many years prior to the decision to withdraw it. The decision to withdraw this proposed rule was based on adverse case law, the staleness of the rulemaking record, and the quantity of resources that would have to be redirected from higher priority rulemakings, including diesel particulate matter, respirable coal mine dust, and asbestos, if the agency were to restart the proposed rule process (which would be necessary). While the agency withdrawal was challenged by the

UMWA in Federal court on procedural grounds, the final statement of withdrawal was not challenged and therefore went into effect.

QUESTIONS OF SENATOR KENNEDY

Question 1. Since President Bush took office in 2001, MSHA has removed at least 17 mine safety items from its regulatory agenda, including items on mine rescue teams, breathing devices, escape routes, miner training, belt flammability, and investigation and hearing procedures. MSHA is charged with protecting the health and safety of the Nation's miners and the industry remains extremely dangerous, with 30 to 40 miners killed each year. For the years 2006, 2007, and 2008, please list: (1) the mine safety and health standards for which MSHA expects to issue a notice of proposed rulemaking; and (2) the mine safety and health standards for which MSHA expects to issue a final rule. Also, please indicate which of these standards is economically significant (i.e., having a cost impact of more than $100 million a year).

Answer 1. The following chart indicates MSHA's projected rulemakings for 2006–2008. None of these standards is projected to be economically significant. In addition to the anticipated rules in the chart, several new rulemakings are typically added each year in response to newly identified problems, emerging technologies, etc. Thus, the actual number of proposed and final rules may increase in 2007 and 2008.

	Proposed Rule	Final Rule
2006	Emergency Temporary Standard, Emergency Mine Evacuation	Emergency Mine Evacuation
		Asbestos Exposure Limit
	Civil Penalties*	Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners
	Underground Mine Rescue Equipment and Technology	Fire Extinguishers at Temporary Electrical Installations
	Use of or Impairment from Alcohol and Other Drugs on Mine Property	
	High-Voltage Continuous Mining Machine Standards for Underground Coal Mines	
	Field Modifications of Permissible Mobile Diesel-Powered Equipment	
	Proximity Detectors	
	Approval of Personal Dust Monitor (PDMs)	
	Definition of Respirable Dust for PDMs	

	Mine Rescue Teams	
2007	Personal Dust Monitor Use in Underground Coal Mines Sealing Abandoned Areas	Sealing Abandoned Areas Civil Penalties* Underground Mine Rescue Equipment and Technology Use of or Impairment from Alcohol and Other Drugs on Mine Property High-Voltage Continuous Mining Machine Standards for Underground Coal Mines Field Modifications of Permissible Mobile Diesel-Powered Equipment Proximity Detectors Approval of Personal Dust Monitor (PDMs) Definition of Respirable Dust for PDMs Mine Rescue Teams
2008	To be determined	Personal Dust Monitor Use in Underground Coal Mines

***Includes both MSHA-initiated changes and MINER Act requirements.**

Question 2. For the period of 1990–2005, please provide a list of final safety and health standards issued by MSHA, and indicate the year of issuance and whether the rule was designated as an economically significant rule.

Answer 2. The chart below provides a list of MSHA's final safety and health rules for the period 1990–2005. None of the rules was economically significant. (DFR stands for Direct Final Rule; TA stands for Technical Amendment; IFR stands for Interim Final Rule; ETS stands for Emergency Temporary Standard.)

MSHA Final Rules Published Between 1990 and 2005

RIN 1219-	Rule	Date	FR Cite	Type of Rule	Economically Significant?
AA88	Low- and Medium-Voltage Diesel-Powered Electrical Generators	12/30/2005	70 FR 77728	Final	N
AB35	Training Standards for Shaft and Slope Construction Workers at Mines	12/30/2005	70 FR 77716	Final	N
AB38	Fees for Testing and Evaluation, and Approval of Mining Products	9/9/2005	70 FR 46336	DFR	N
AB29	Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners	6/6/2005	70 FR 32868	Final	N
	Definitions for Surface Metal and Nonmetal Mines	6/29/2004	70 FR 38837	Final, TA	N
	Administrative Changes	5/13/2004	69 FR 26499	DFR	N
AA76	Underground Coal Mine Ventilation - Safety Standards for the Use of Belt Entry Air	4/2/2004	69 FR 17480	Final	N
AB33	Emergency Evacuations	9/9/2003	68 FR 53037	Final	N
AA98 (5)	Improving and Eliminating Regulations, Phase 5, Miscellaneous Technology Improvements (Methane Testing)	7/7/2003	68 FR 40132	Final	N
AA98 (10)	Alternate Locking Devices for Plug and Receptacle-Type Connectors on Mobile Battery-Powered Machines	6/23/2003	68 FR 37077	Final	N
AA98 (9)	Standards for Sanitary Toilets in Coal Mines	6/23/2003	68 FR 37082	Final	N
AA87	Testing and Evaluation by Independent Laboratories and Non-MSHA Product Safety Standards	6/17/2003	68 FR 36408	Final	N
AA98 (6)	Seat Belts for Off-Road Work Machines and Wheeled Agricultural Tractors at Metal and Nonmetal Mines	4/21/2003	68 FR 19344	DFR	N
AA98 (9)	Standards for Sanitary Toilets in Coal Mines	4/21/2003	68 FR 19347	DFR	N
AB32	Criteria and Procedures for Assessment of Civil Penalties	2/10/2003	68 FR 6609	DFR	N
AA98 (10)	Alternate Locking Devices for Plug and Receptacle-Type Connectors on Mobile Battery-Powered Machines	1/22/2003	68 FR 2879	DFR	N
AB33	Emergency Evacuations	12/12/2002	67 FR 76658	ETS	N
AA47	Hazard Communication	6/21/2002	67 FR 42314	Final	N
	MSHA HQ Address Change	6/4/2002	67 FR38384	Final	N
AA75	Electric Motor-Driven Mine Equipment, Accessories, High-Voltage Longwall Equipment Standards for Underground Coal Mines	3/11/2002	67 FR 10972	Final	N
AB28	Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners	2/27/2002	67 FR 9180	Final	N
AA74	Diesel Particulate Matter Exposure of Underground Coal Miners	1/19/2001	66 FR 5526	Final	N

AB11	Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners	1/19/2001	66 FR 5706	Final	N
AA47	Hazard Communication	10/3/2000	65 FR 59048	IFR	N
AB17	Training and Retraining of Miners Engaged in Shell Dredging or Employed at Sand, Gravel, Surface Stone, Surface Clay, Colloidal Phosphate, or Surface Limestone Mines	9/30/1999	64 FR 53080	Final	N
AA53	Health Standards for Occupational Noise Exposure in Coal, Metal and Nonmetal Mines - Notice of No Significant Environmental Impact	9/13/1999	64 FR 49548	Final	N
AB10	Safety Standards for Preshift Examinations in Underground Coal Mines	8/19/1999	64 FR 45165	Final	N
	Improving and Eliminating Regulations; Lighting Equipment, Coal Dust/Rock Dust Analyzers, and Methane Detectors	8/10/1999	64 FR43280	Final,TA	N
	Improving and Eliminating Regulations; Approved Books and Records	8/10/1999	64 FR 43286	Final,TA	N
	Improving and Eliminating Regulations; Calibration and Maintenance Procedures for Coal Mine Respirable Dust Samplers	8/10/1999	64 FR 43283	Final, TA	N
AB13	Experienced Miner and Supervisor Training	10/6/1998	63 FR 53750	Final	N
AA98	Improving and Eliminating Regulations; Flame Safety Lamps and Single-Shot Blasting Units	9/3/1998	63 FR 47118	Final	N
AA49	Criteria and Procedures for Assessment of Civil Penalties	4/22/1998	63 FR 20032	Final	N
AB00	Safety Standards for Roof Bolts in Metal and Nonmetal Mines and Underground Coal Mines	4/22/1998	63 FR 20026	Final	N
AB04	National Mine Health and Safety Academy	11/13/1997	62 FR 60984	DFR	N
AA27	Approval, Exhaust Gas Monitoring, Safety Requirements for Use of Diesel-Powered Equipment in Underground Coal Mines	10/25/1996	61 FR 55412	Final	N
AA97	Safety Standards for First Aid at Metal and Nonmetal Mines	9/26/1996	61 FR 50432	Final	N
AA84	Safety Standards for Explosives at Metal and Nonmetal Mines	7/12/1996	61 FR 36790	Final	N
AA11	Safety Standards for Underground Coal Mine Ventilation	3/11/1996	61 FR 9764	Final	N
	Fee Adjustments for Testing, Evaluation, and Approval of Mining Products	1/22/1996	61 FR 1686	Final	N
AA85	Respiratory Protective Devices	6/8/1995	60 FR 30398	Final	N
AA48	Air Quality: Health Standards for Abrasive Blasting and Drill Dust Control	2/18/1994	59 FR 8318	Final	N
AA17	Safety Standards for Explosives at Metal and Nonmetal Mines	12/30/1993	58 FR 69596	Final	N
	Notification, Investigation, Preservation of Evidence; Immediate Notification	12/2/1993	58 FR 63528	DFR	N

	Respirable Dust Samples; Transmission by Operator	12/2/1993	58 FR 63528	DFR	N
AA61	Electric Motor Assemblies	12/23/1992	57 FR 61182	Final	N
AA57	Electric Cables, Signaling Cables and Cable Splice Kits	12/23/1992	57 FR 61210	Final	N
AA11	Safety Standards for Underground Coal Mine Ventilation	5/15/1992	57 FR 20868	Final	N
AA49	Safety Standards for Refuse Piles and Waste Impoundment Dams at Surface Coal Mines and Surface Work Areas of Underground Coal Mines	3/2/1992	57 FR 7468	Final	N
AA16	Safety Standards for Explosives and Blasting in Underground Coal Mines	10/11/1991	56 FR 51610	Final	N
AA17	Safety Standards for Explosives at Metal and Nonmetal Mines	1/18/1991	56 FR 2070	Final	N
AA67	Information Collection Requirements for Mine Rescue, Self-Rescuer, Fire Drill, and First-Aid Tracking for Supervisory Employees	1/14/1991	56 FR 1476	Final	N
AA45	Rules of Practice for Petitions for Modification of Mandatory Safety Standards	12/28/1990	56 FR 53430	Final	N
AA56	Safety Standards for Berms or Guardrails at Metal and Nonmetal Mines	9/7/1990	55 FR 37216	Final	N
AA04	Pattern of Violations	7/31/1990	55 FR 31128	Final	N
AA58	Safety Standards for Roof, Face and Rib Support	4/16/1990	55 FR 14228	Final	N
AA63	Safety Standards for Roof, Face, and Rib Support	2/8/1990	55 FR 4592	Final	N

Question 3. The Alma Mine fire has focused attention on the use of conveyor belt air to ventilate working areas of mines. In 2004, MSHA issued a regulation permitting the widespread use of belt air to ventilate working areas of the mine. West Virginia Governor Manchin has called for a prohibition on this practice. Do you intend to rescind the rule that permits the use of belt air in mine ventilation plans? When? If not, why not?

Answer 3. The investigation at the Alma No. 1 mine is ongoing, and we cannot be certain of its complete findings. However, from our preliminary investigation it is clear that the use of belt air as specified in Federal safety standards did not contribute to the severity of the accident.

The Aracoma Alma No. 1 belt air petition for modification was approved by the Agency in 2000 and contained routine requirements. The final belt air rule actually increased miner protection at Alma No.1 by including various requirements that were *not* included in the granted petition. For example, all sensors used must be listed by a Nationally Recognized Testing Laboratory, such as Underwriter's Lab; the trunk lines for the communication system and the AMS must be installed in separate entries; CO sensors must be installed in the intake escapeways; point-feeds must be monitored; and all outby (away from fire) sensors must automatically notify sections of alarms.

The Belt Air Standard was adopted after years of experience using belt air via petitions for modifications in many underground mines. Given that history and what we know of the Alma Mine Fire, there is no basis to conclude that the final rule needs to be rescinded or in some way restricted. The safe use of belt air has been established over more than 25 years of experience granting petitions for modification allowing mines to use belt air safely to ventilate places where miners work as long as appropriate safety requirements are followed. The rulemaking itself started in 1983 and was finalized in 2004. There was appropriate notice and comment throughout the history of this rulemaking. The United Mine Workers of America contested the safety of the belt air rule in *International Union, United Mine Workers of America* v. *Mine Safety and Health Administration*, 407 F.3d 1250 (D.C. Cir. 2005). The decision by the U.S. Court of Appeals for the D.C. Circuit affirmed our position that MSHA did not violate section 101(a)(9) of the Mine Act, which states that "No mandatory health or safety standard promulgated under this title [Title 30] shall reduce the protection afforded miners by an existing mandatory health or safety standard."

The use of belt air helps ventilate places where miners work, reducing dangerous methane concentrations. There are also certain ground control advantages realized by being able to limit the number of development entries. These include reducing

the probability of roof falls and rib outbursts. A recent analysis of accident and injury data under the prior case-by-case-approvals and MSHA's rule reveals that there has never been a fatality attributed to fire or air contaminants being carried by belt air to the face of a coal mine.

Question 4. MSHA under President Bush withdrew a proposed rule on flame-resistant conveyor belts that followed years of research on the belt flammability and the spread of belt fires. As the Alma Mine fire is believed to have started on its conveyor belt, does MSHA plan on reinstituting rulemaking on flame-resistant conveyor belts? What is MSHA's timetable for such a rule?

Answer 4. This proposed rule was published in 1992 and was initially withdrawn from the regulatory agenda in March of 1994. It was reinstated on the regulatory agenda in the fall of 1994 and removed a second time in 2002. Improved technology associated with atmospheric monitoring systems and fire suppression systems has greatly reduced the need for increasing the flame-resistance of conveyor belt material beyond the current requirements for flame-retardants. Further, in the last 25 years all miners have been able to escape from fires that started in the conveyor belt entry. We are implementing the provision in the MINER Act related to flame-resistant conveyor belts.

As noted earlier, our preliminary investigation of the Alma mine accident has found that the use of belt air as specified in Federal safety standards did not cause or contribute to the severity of the accident. Unless specific findings of the Alma Mine accident investigation or other investigatory findings indicate that belt flammability either caused or increased the severity of the accident, it is unlikely that the agency would elect to change the Belt Air rule. However, please note that even with flame-resistant belting, fires can still spread along the belt line. For example, fires can break out at transfer points along the belt line, at drives and take-ups, from belt misalignment where friction is created, and from accumulation of combustible material along the belt line. It is critically important to provide an atmospheric monitoring system along the belt line, as required both by the Belt Air rule and by petitions to use belt air granted before the Belt Air rule to provide early warning of these fires so they can be adequately controlled. It is also important for the mine operator to maintain adequate housekeeping procedures to reduce accumulation of combustible material along the belt line.

Question 5. At a February 4, 2003 public hearing in Lexington, Kentucky on MSHA's Emergency Temporary Standard on emergency evacuation procedures issued in response to the September 2001 Jim Walter Resources disaster, an Agency representative remarked, "MSHA gave this rule its best . . . We feel like this is a very strong rule. One of the strongest the agency has ever produced." Is the new emergency regulation regarding hands-on evacuation training and the use of directional lifelines going to be MSHA's only new rulemaking to address emergency evacuation procedures or, in light of the Sago and Alma Mine disasters, and recent evacuation problems at the Shoal Creek Mine in Alabama, does MSHA plan to initiate new additional rulemaking on evacuation procedures? If so, will MSHA revisit concerns raised during the public comment period in 2003?

Answer 5. In addition to items currently on the regulatory agenda, MSHA is implementing the requirement in the MINER Act that each underground coal mine have an approved mine emergency response plan. The recent mine accidents revealed several inadequacies in the organization of the response of mine operators during a mine emergency. An approved plan would address the need for mine operators and other responders to consistently respond to emergencies in a logical and well-thought-out way, in a climate where tensions are high and pressure for immediate action is great. By dealing with topics such as lines of authority, internal and external communication, mine rescue team interaction, etc., MSHA expects that rescues will be improved and lives saved. In undertaking this new initiative, MSHA will pay particular attention to the findings of the Sago, Alma, and Shoal Creek accident investigations and to the concerns raised in public comments on the 2002 ETS following the Jim Walter Resources disaster. The approved plan would also address the specific requirements in the MINER Act.

Question 6. Diesel fume exposure greatly increases the risk of heart disease, lung cancer and other serious illnesses. MSHA has suggested that it may delay full implementation of a final regulation limiting miners' exposure to diesel fumes, which was scheduled to take effect in January 2006, for as much as another 5 years. Does MSHA plan to require full compliance with its regulation on diesel particulate matter? What date will be set as the deadline for full compliance?

Answer 6. On May 18, 2006, MSHA published a final rule, "Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners." The final rule

phased in the DPM final limit of 160 micrograms of total carbon (TC) per cubic meter of air (160_{TC} ug/m^3) over a 2-year period, based on technological feasibility information in the rulemaking record. On May 20, 2006, the initial final limit of 308 micrograms of elemental carbon (EC) (308_{EC} ug/m^3) became effective. On January 20, 2007, the DPM limit will be reduced to a TC limit of 350_{TC} ug/m3. The final limit of 160_{TC} ug/m^3 will become effective on May 20, 2008. Mine operators must continue to use engineering and administrative controls, supplemented by respiratory protection when needed, to reduce miners' exposures to the prescribed limits. The DPM final rule includes new requirements for medical evaluation of miners who must wear respirators and the transfer of miners with no loss of pay who are medically unable to wear respirators. As with the existing DPM limit, MSHA will enforce the final limits as permissible exposure limits (PEL).

Question 7. The Sago and Alma Mine tragedies raised concerns about the procedures used in the investigation of mine accidents. The Mine Safety Act and MSHA regulations do not provide for the participation of victims' family members in mine accident investigations. Will MSHA institute policies or rulemakings to ensure the full participation from the outset of victim family members in mine safety investigation? Will MSHA propose a rule to ensure that witnesses feel free to speak candidly to investigators? What will MSHA do to protect witnesses to accident investigations and miners who report safety hazards from retaliation?

Answer 7. MSHA and the State of West Virginia are conducting a thorough and professional investigation that includes the public hearing in Buckhannon, West Virginia, held on May 2–4, 2006. We recognize that the families, the mining community, and the public need to know the progress and direction of the Sago Mine Accident Investigation and the public hearing helped to fulfill that purpose. To ensure that all parties have their participation rights protected in the course of this investigation, the Department of Labor took the extraordinary step of securing an injunction to permit the United Mine Workers of America (UMWA) to participate in the underground, physical inspection of the mine after the UMWA recently filed as a representative of miners on behalf of two anonymous miners at the Sago Mine.

MSHA and the State are interviewing witnesses in a closed-door interview setting. Experience has shown that this interview process produces the best possible record. Conducting interviews in private, rather than in a public hearing, has served the investigative process well throughout the agency's history. Indeed, the only time MSHA invoked its public hearing authority was in a 1999 accident investigation involving a Kaiser Alumina Plant in Louisiana. MSHA found that the public hearing process inhibited testimony as many management witnesses declined to testify, citing their 5th Amendment right to avoid self-incrimination.

That is why we feel it is important to complete our interviews before the public hearing takes place.

Interview participants are contacted prior to the interviews and are apprised of their rights to have a confidential interview (which would treat the miner as a government informant and the government would not disclose his name or information until required by law to do so), or participate in the standard closed interview and their right to be accompanied by a personal representative. The company is not participating in the interviews.

The interviews are conducted in a private closed session, but are not kept secret indefinitely. At the conclusion of all the interviews, transcripts of the interviews will be made public and copies will be delivered to the families. We released the transcripts of the Sago accident investigation interviews before the public hearing, which began on May 2. In addition, the MSHA investigators have met and will continue to meet with the families to explain the status of the investigation and what will happen next in the investigation process. MSHA also solicits any information the families may have that could assist the investigators.

Family members do not participate in the onsite investigation or the witness interviews. The State agency, the company and representative of miners at the mine do participate in the onsite investigation but the Federal and State investigators have conducted questioning alone. The goal of the accident investigation is to determine the causes and contributing factors to the accident and to determine what violations contributed to the cause or severity of the accident. This is important and vital work, and it is sensitive work. We believe the families and the rest of the mining community will benefit from the best professional accident investigation report we can produce.

MSHA has a cadre of professional accident investigators who follow the agency Accident Investigation Handbook in the conduct of accident investigations. We have several avenues to assemble information. We often find that the on-scene findings greatly assist in determining which witness accounts are accurate. Any person who

wishes may request to make a confidential statement. If MSHA determines that a confidential statement is appropriate, that person will be interviewed solely by MSHA at an off-site location such as his or her home and the statement will not be released with the other statements at the close of the investigation. Any person who believes he or she has been discharged or discriminated against because he or she cooperated with an MSHA investigation of any type is entitled to file a complaint of discrimination with the Secretary within 90 days of the offending conduct under Section 105(c) of the Act.

Question 8. The Sago Mine inspection reports posted on MSHA's Web site reveal that in the majority of instances, the inspector determined that only one person was endangered by a safety violation. Isn't this a narrow interpretation of the breadth of the danger caused by these violations? Doesn't this narrow interpretation dramatically reduce the fines assessed against coal operators? Don't violations for obstructions to escape paths and the accumulation of combustible materials necessarily affect more than one miner?

Answer 8. MSHA, as part of every major accident investigation, conducts an internal review to determine if agency performance was up to par and looks at ways to improve performance. The internal review will examine that issue and present its findings and it would be inappropriate to comment specifically until the investigation is completed. It can be said that determinations of the number of miners most likely to be affected is a subjective evaluation of the issuing inspector based on the totality of the circumstances present for that violation. Review of the Sago Mine's past accidents indicates a large number of slip and fall hazards attributed to excess accumulations on the mine floor and such accidents would typically most likely involve one person. Again, the answer to your question will be a specific area of inquiry in the Sago Internal Review.

Question 9. MSHA's penalty structure factors the ability of a company to remain in business into its fine assessments. Isn't the purpose of the Mine Act and MSHA Regulations, first and foremost, to protect the health and safety of miners? Shouldn't business concerns be wholly separate from the standards for safety in our mines? Isn't the effect of this policy to allow unsafe mines to remain in operation because of financial hardship? It seems clear that the assessment at Sago of fines that were less than one-thousandth of the company's yearly profits did not provide a disincentive for the company to continue violating the Mine Act. If business interests are incorporated into the safety standards, shouldn't MSHA also factor into the penalty structure the level of penalty necessary to influence the behavior of a financially healthy mine?

Answer 9. The Mine Act provides the six *statutory* criteria for penalty assessments, one of which is the ability of the operator to continue in business. MSHA has never taken the position that one criterion—such as the ability to pay and continue in business—is more important than consideration of the other five criteria. Sago did not receive any penalty reductions based on ability to continue in business. In fact, MSHA procedural rules assume that the operator can pay the proposed civil penalty and place the burden on the operator to raise the issue of ability to continue in business and to present evidence of that claim for MSHA to review. MSHA developed and on September 8, 2006 issued a proposed rule to update and improve the civil penalty assessment process. The proposal implements civil penalty provisions in the MINER Act, increases penalties, and streamlines assessment procedures.

Question 10. MSHA fined the Jim Walter Resources (JWR) Mine in Alabama $435,000 for infractions associated with the explosion and fire that killed 13 miners but an administrative judge reduced these fines to $3,000. Are you concerned about the ability and frequency with which the Review Commission (Commission) reduces MSHA fines? Do you believe that the Assistant Secretary for Mine Safety should have the authority to set these fines and make them stick?

Answer 10. We were concerned about the decision in this case, and where legally possible have appealed the legal rulings. We recently received a decision on appeal remanding the case back to the Administrative Law Judge for further proceedings. We hope to prevail on those issues, but if necessary, may take an additional appeal after the Administrative Law Judge issues his additional rulings.

The Agency vigorously pursued its case against JWR. We alleged that certain violations existed and we sought an order imposing a civil penalty. The law entitles the operator to his day in court and to demand the Secretary prove her allegations. In the JWR case, the ALJ held that we did not meet our burden and dismissed the violations and with them the proposed penalty. The case was difficult to establish in that MSHA's burden was to show that the conditions we found after the investigation, in fact, existed prior to the first of two explosions and were not impacted

by the eventual flooding of the mine to extinguish any potential fire. The ALJ held that we did not meet our burden of showing that volative conditions pre-existed the first explosion. Again, where legally possible, this decision has been appealed.

Question 11. The Mine Act requires that "mine rescue teams shall be available for rescue and recovery work to each underground coal or other mine in the event of an emergency." MSHA regulations permit rescue teams to be within 2 hours travel time and to be secured by contract. Does MSHA plan to require onsite mine rescue teams?

Answer 11. MSHA is implementing the requirements for mine rescue teams in the Miner Act.

Question 12. For the calendar year 2001 through the present, please provide copies of all original inspection reports, including any notes, draft inspection reports, or amendments to the report that reflect changes to or reconsideration of the inspectors assessments for the Alma Aracoma Mine.

Answer 12. We are providing CD's of the requested information for calendar years 2003 through 2005, and including the period January 9 to February 24, 2006. Information from 2001 and 2002 is located in the National Archives. We will transmit this information as soon as it is available.

Question 13. Australia and some U.S. metal and non-metal mines use Personal Emergency Devices (PEDs) that allow people outside the mine to send messages to miners deep underground. Even though these devices helped save the lives of 46 miners trapped by fire at the Willow Creek Mine in Utah in 1998, only a handful of U.S. mines use them. Would you recommend that we require these devices in America's mines?

Answer 13. The PED system could potentially improve the state of communications currently available underground. In some cases, however, we believe that there are technological improvements on the near-term horizon that would provide greater benefits in an emergency. For example, MSHA is currently investigating and field testing several two-way wireless communication technologies. We anticipate that state-of-the-art systems will soon be developed and available for America's mines, expanding beyond but still inclusive of the PED technology. MSHA is also implementing requirements in the MINER Act related to communication systems.

MSHA has investigated PED installations in both the U.S. and Australia, and identified limitations to the potential performance of the system in an emergency. Based on these findings, we believe that making use of this specific device mandatory would be problematic at this time. The system's performance is predicated on the installation of a large loop antenna. For the system to operate during an emergency, the loop antenna must be installed on the surface. Some mines may have too much overburden or not own the property rights, making surface installation impractical. If the loop antenna is installed underground, it most likely would be damaged in a fire or explosion, rendering the system inoperable. Our evaluation of the PED has also revealed performance concerns regarding "shadow zones." We have found that there are certain places in underground mines where there is no signal received by the PED. We found that the system does not receive a signal inside of transport vehicles, near large metal objects or in remote areas of the mine. Additionally, the PED is a one-way paging system meaning that there is no way the message sender can receive confirmation that the message has been received.

Question 14. Some mines use tracking systems where each miner wears a device that sends signals to computerized beacons placed throughout the mine. Such a device is reported to have saved the life of a Polish miner who was recently trapped for over 100 hours. Do you think we should require the use of such devices in mines?

Answer 14. There is only one such device that is currently MSHA-approved—meaning safe to bring into a mine—and that is the Mine Site Technologies Tracker IV Tracking System. In Australia, the system has successfully been used for personnel and vehicle monitoring in a number of metal mines, and it has just been installed into one underground coal mine. There are no current installations of the Tracker IV system at underground mines in the United States. If proposed for use in emergencies, the Tracker IV and the majority of other commercially available tracking systems have significant limitations regarding reliability and range that should be considered carefully prior to mandating the use of such technology. The operation of these devices depends on the installation of a wire antenna underground to provide the signal to the mine surface. That wire backbone would likely be compromised in a fire or explosion rendering tracking of the miners after such an event impossible.

In addition, these tracking systems depend on the installation of readers (also called "beacons") underground. The range of these beacons is 500 ft. or less, and they are typically spaced in the mine at 3000 ft. intervals. Miners wear individual transmitters, so their position is known when their transmitter passes beacon A, but then not again until it passes beacon B. Therefore, tracking of personnel is limited to identifying their location within the "zone" between two beacons. If the system is disrupted in an emergency and personnel need to be located, this limitation would create a potential search window of over ½ mile. The system can only register which beacon last recorded the wearer of the device. It could not precisely locate that person. As currently designed, the only benefit of the system in an emergency is that it could provide the last known recorded location of a miner prior to any fire or explosion.

Because of these limitations, MSHA does not feel that mandating the Tracker IV is advisable; there are other real-time tracking technologies we are currently evaluating that can locate based on signal strength, and could provide a far closer approximation of a trapped miner's location. MSHA is also implementing requirements in the MINER Act related to tracking technology.

Question 15. At the hearing, you expressed concern about the effectiveness of the communications and tracking technology currently available. In light of the fact that the failure to use these technologies poses serious obstacles to the safe rescue of miners in the case of an accident, do you think that we should require the use of such devices in mines, even if they are not 100 percent effective?

Answer 15. MSHA does not believe that mandating the use of these products is the right approach to improving mine emergency response because of the aforementioned limitations. MSHA is currently working with manufacturers of other more promising and state-of-the-art emergency communication and tracking technologies to evaluate their capabilities and to expedite those proven to function underground into the mining industry. To that end, MSHA solicited proposals for solutions to the emergency communication and tracking technology deficiency in the mining industry and in response to that solicitation has received more than 80 proposals. We have evaluated those proposals and selected 7 that represented the most advanced technologies and have initiated underground field testing of these systems. The selected systems have the capability of providing two-way voice communications and/or precision tracking capability. These systems do not rely on a wire installed underground for their operation. Upon completion of the field testing, MSHA will assist the manufacturers in obtaining MSHA approval for such systems, as appropriate. MSHA is implementing MINER Act requirements related to these technologies.

Question 16. Do you have a process in place to regularly confer with mine safety regulators in other countries, particularly in Canada and Australia, about their health and safety standards and technological innovations?

Answer 16. MSHA regularly maintains contact with mine safety and health professionals worldwide, primarily by participation on voluntary consensus standard committees, interactions at conferences, and though affiliations with professional technical organizations. Maintaining this network of professional contacts is one important way that MSHA's Technical Support both monitors technological changes in mining and mining equipment and learns of innovations that may have applications in the mining sector. Activities that have had the most benefit in this regard include:

- MSHA Technical Support personnel are active in international and domestic professional societies, such as AIHA, ASA, IEEE, ISRP, NFPA, and SME; in conformance with the NTTA Act, MSHA also participates on committees to develop voluntary consensus standards, including ANSI, ASME, ASTM and others.
- MSHA engineers are currently evaluating the International Electrotechnical Commission's (IEC) standards for Electrical Apparatus for Explosive Gas Atmospheres to determine whether they are (or modifiable to be) equivalent to MSHA product approval requirements. The IEC is a worldwide organization for standardization comprising all national electrotechnical committees.
- Technical Support engineers also collaborated with an Australian manufacturer who converted a jet engine that operated on diesel fuel for use to extinguish mine fires. With the onsite assistance of the Australian team, MSHA used this technology successfully to help recover an underground U.S. coal miner during a mine fire.
- MSHA actively participates in the quadrennial International Mine Ventilation Conference held in various countries including Canada and Australia. MSHA submits technical papers and provides conference-planning guidance.
- MSHA also actively participates in the biennial International Mine Rescue Conference that has been held in different countries including Poland, South Africa and

Australia. MSHA recently sent technical experts in response to requests for mine rescue and recovery aid and assistance by the Chilean and Mexican governments.

• MSHA attends and participates in technical conferences where the international mining community regularly discusses issues regarding ground control, longwall mining, health concerns, and other mining topics.

• MSHA personnel have hosted many international delegations involved in mining from China, Australia, the United Kingdom, and many others, and have assisted in providing specialized training. Regulations, policies, procedures, and technical ideas are discussed during these meetings.

Question 17. The Sago Mine had an injury rate nearly three times the national average and was cited for over 200 safety violations in 2005, yet 89 of these fines were for the minimum amount of $60, the fines averaged only $156, and the largest paid fine was $440. During the first 5 years of the Bush Administration, MSHA has imposed the maximum fine less than one-third as often as during the last 5 years of the Clinton Administration. Does MSHA support mandatory minimum penalties for egregious and repeat violations, like those in Senator Specter's proposed legislation? Does MSHA support mandatory minimum penalties for violations that result in death or serious bodily injury? Using the Specter bill as a guideline, how would MSHA recommend these fines be set?

Answer 17. MSHA supports higher penalties. On September 8, 2006, MSHA issued a proposed rule that will make appropriate revisions to the penalty schedule in 30 CFR Part 100 and implement penalty provisions in the MINER Act. MSHA believes that these actions will result in appropriate civil penalties for all violations, including flagrant violations.

Where appropriate, MSHA would invoke the provision in the MINER Act, which allows the Secretary to close a mine when the operator fails to pay a civil penalty within 30 days of the date on which the penalty became a final order of the Federal Mine Safety and Health Review Commission until that civil penalty has been paid.

MSHA wishes to clarify the status of the fines levied against the Sago Mine for violations cited in calendar year 2005. MSHA proposed civil penalties totaling over $130,000 for these violations, an average of $657 each. The fines ranged from a low of $60 for violations that automatically qualify for the minimum single penalty to a high of $9,600.

There are several reasons why the frequency with which MSHA proposes the maximum civil penalty has declined. The factor contributing most importantly to the decline is the concurrent reduction in fatal accidents.

The maximum civil penalty allowed is generally reserved for the most egregious violations that often are cited as a result of fatal accidents. The number of fatalities declined 28 percent between the 5-year period ending in 2000 and the 5-year period ending in 2005.

Question 18. For each calendar year 1990–2005, for coal and MINM enforcement, please provide:

• The number of citations that were significant and substantial, the total initial penalties assessed for significant and substantial citations, the total final penalties assessed for significant and substantial citations, and the total amount of penalties collected for these significant and substantial violations.

Answer. See Table A below.

• The number of citations that were for non-significant and substantial violations, the total initial penalties assessed for these citations, the total final penalties assessed for these citations, and the total amount of penalties collected for these citations.

Answer. See Table A below.

• The number of incidents resulting in one or more coal or M/NM fatalities, the number of coal and M/NM fatalities, the total initial penalties assessed for citations issued as a result of investigations into these fatalities, the total final penalties assessed for these citations, and the total amount of penalties collected for these citations.

Answer. See Table B below.

• The number of orders of withdrawal issued by Coal and M/NM.

Answer. See Table C below.

• The number of violations resulting from an unwarrantable failure issued by Coal and M/NM.

Answer. See Table C below.

• The number of cases referred to the Department of Justice for criminal prosecution under the Mine Safety and Health Act, and the number of these cases subsequently prosecuted by the Department of Justice.

Answer. See Table D below.

• The number of discrimination complaints filed under section 105(c), the number of these complaints investigated by MSHA, and the number of such complaints where MSHA filed a complaint with the Mine Safety and Health Review Commission.

Answer. See Table D below.

• The number of FTE's for coal and M/NM inspectors, and the number of these positions that were filled or occupied.

Answer.

	Coal Inspectors*	M/NM Inspectors
1990	806	354
1991	847	341
1992	865	345
1993	848	352
1994	797	343
1995	756	318
1996	690	289
1997	634	272
1998	615	287
1999	631	318
2000	660	305
2001	653	326
2002	605	339
2003	621	365
2004	579	371
2005	584	357

* It is noteworthy that the coal mine inspector's average workload has declined. The number of coal mines has decreased 26 percent over the last 10 years but the number of coal mine inspectors declined only 15 percent during that time. In the late nineties, there were 3.8 coal mines for each inspector. Since 2000, that workload has been reduced to 3.4 coal mines for each inspector.

In addition, the M/NM mine inspector's average workload has also declined. The number of M/NM mines has increased 16 percent over the last 10 years while the number of M/NM mine inspectors increased by 24 percent during that time. In the late nineties, there were 39 M/NM mines for each inspector. Since 2000, that workload has declined to 36 M/NM mines for each inspector. This change has allowed MSHA to complete a higher percentage of its required inspections.

Number and Penalty Amounts for Assessed Violations - CY 1995-2005

		Coal Mines				Metal/Nonmetal Mines			
Year Assessed	S&S	Number of Assessed Violations	Proposed Penalty Amount	Final (or Current) Assessment Amount	Paid Penalty Amount	Number of Assessed Violations	Proposed Penalty Amount	Final (or Current) Assessment Amount	Paid Penalty Amount
1995	N	39,787	$4,076,956	$3,197,670	$2,510,737	29,518	$1,880,497	$1,845,524	$1,789,740
1995	Y	38,707	$14,341,772	$12,094,918	$8,836,319	12,017	$4,705,428	$3,885,893	$3,595,260
1996	N	41,186	$3,116,192	$2,703,942	$2,208,299	26,572	$1,657,538	$1,599,732	$1,560,336
1996	Y	30,716	$9,411,066	$8,404,240	$6,761,172	10,453	$3,082,253	$2,730,962	$2,614,019
1997	N	30,603	$2,510,892	$2,301,668	$1,695,819	27,947	$1,807,317	$1,702,697	$1,658,241
1997	Y	25,247	$7,904,751	$7,348,081	$5,915,524	12,723	$4,267,984	$3,694,915	$3,568,929
1998	N	36,607	$2,566,733	$2,300,784	$1,912,634	39,812	$3,074,220	$2,659,522	$2,536,806
1998	Y	26,116	$10,699,585	$8,998,899	$7,034,519	20,513	$11,879,754	$8,222,201	$7,814,303
1999	N	29,268	$2,503,381	$2,228,527	$1,828,387	36,390	$2,941,028	$2,677,494	$2,559,319
1999	Y	21,448	$9,280,205	$8,089,889	$6,134,361	15,964	$7,492,565	$6,002,638	$5,669,428
2000	N	35,793	$2,685,479	$2,469,259	$2,181,611	41,887	$3,407,341	$3,063,368	$2,876,528
2000	Y	24,930	$9,562,405	$8,089,255	$6,716,418	18,362	$9,491,461	$6,756,061	$6,305,090
2001	N	39,417	$2,804,160	$2,613,270	$2,258,373	39,640	$3,159,696	$2,943,987	$2,735,862
2001	Y	26,962	$9,641,693	$8,645,858	$7,239,951	15,892	$7,728,108	$5,857,886	$5,300,133
2002	N	35,567	$2,887,588	$2,601,106	$2,089,454	38,976	$3,313,779	$3,042,290	$2,801,360
2002	Y	23,132	$12,002,426	$9,951,755	$8,064,456	14,630	$6,700,326	$5,698,341	$4,932,964
2003	N	34,351	$2,603,392	$2,448,484	$1,986,023	40,214	$3,287,852	$3,016,697	$2,768,581
2003	Y	21,780	$9,118,691	$7,854,399	$6,245,196	12,805	$4,955,997	$4,376,274	$3,861,623
2004	N	37,004	$3,244,188	$2,983,096	$2,312,390	43,889	$3,544,311	$3,400,611	$3,030,401
2004	Y	25,753	$14,384,261	$12,830,408	$8,364,299	14,065	$6,564,677	$5,805,416	$4,752,211
2005	N	39,029	$3,267,075	$3,140,114	$2,365,102	39,275	$3,145,858	$3,036,624	$2,514,512
2005	Y	25,716	$12,129,944	$11,337,438	$7,679,614	12,607	$6,330,693	$5,764,510	$3,721,636

Note: Data are based on year assessed. Data as of 7/25/2006.

TABLE A

Number and Penalty Amounts for Assessed Violations - Fatal Accident Investigations - CY 1995-2005

		Coal				Metal/Nonmetal			
Year Assessed	S&S	Number of Violations	Proposed Penalty Amount	Final or Current Assessment	Paid Amount	Number of Violations	Proposed Penalty Amount	Final or Current Assessment	Paid Amount
1995	N	10	$ 4,050.00	$ 1,550.00	$ 1,527.05	11	$ 18,750.00	$ 10,290.00	$ 10,290.00
1995	Y	92	$ 1,221,714.00	$ 859,855.00	$ 367,196.10	97	$ 1,220,144.00	$ 678,004.00	$ 678,004.00
1996	N	6	$ 9,650.00	$ 6,250.00	$ 5,750.00	9	$ 5,400.00	$ 3,800.00	$ 3,800.00
1996	Y	45	$ 465,529.00	$ 304,585.00	$ 181,585.00	82	$ 646,768.00	$ 431,923.00	$ 390,071.61
1997	N	9	$ 40,850.00	$ 40,750.00	$ 700.00	16	$ 15,500.00	$ 1,631.90	$ 1,631.90
1997	Y	37	$ 663,664.00	$ 561,497.00	$ 327,108.23	81	$ 1,122,564.00	$ 751,534.10	$ 749,076.00
1998	N	6	$ 53,300.00	$ 15,800.00	$ 7,600.00	19	$ 31,628.00	$ 10,888.00	$ 9,220.00
1998	Y	70	$ 1,928,256.00	$ 957,698.00	$ 505,998.00	196	$ 4,256,762.00	$ 2,238,333.90	$ 2,088,939.70
1999	N	4	$ 710.00	$ 600.00	$ 600.00	16	$ 18,490.00	$ 5,585.00	$ 5,485.00
1999	Y	48	$ 1,508,376.00	$ 1,010,556.00	$ 471,556.00	57	$ 1,892,073.00	$ 1,025,000.00	$ 1,012,099.30
2000	N	0	$ -	$ -	$ -	1	$ 2,500.00	$ 2,000.00	$ 2,000.00
2000	Y	55	$ 1,937,079.00	$ 1,089,859.00	$ 594,809.00	71	$ 2,974,500.00	$ 1,052,353.00	$ 1,029,174.80
2001	N	3	$ 21,300.00	$ 1,550.00	$ 550.00	3	$ 1,555.00	$ 1,555.00	$ 555.00
2001	Y	47	$ 1,008,253.00	$ 665,451.20	$ 270,338.20	78	$ 1,993,529.00	$ 971,560.00	$ 786,871.00
2002	N	3	$ 105,000.00	$ 15,500.00	$ 15,500.00	2	$ 20,000.00	$ 3,000.00	$ 3,000.00
2002	Y	89	$ 1,992,174.00	$ 930,109.00	$ 682,540.00	65	$ 1,248,288.00	$ 792,238.00	$ 632,367.00
2003	N	0	$ -	$ -	$ -	0	$ -	$ -	$ -
2003	Y	45	$ 1,200,313.00	$ 691,546.00	$ 163,046.00	37	$ 767,798.00	$ 569,009.00	$ 424,009.00
2004	N	2	$ 52,500.00	$ 27,560.00	$ 60.00	0	$ -	$ -	$ -
2004	Y	87	$ 2,341,535.00	$ 1,097,114.00	$ 427,924.50	63	$ 1,270,735.00	$ 963,635.00	$ 552,325.00
2005	N	1	$ 60.00	$ 60.00	$ -	0	$ -	$ -	$ -
2005	Y	35	$ 353,335.00	$ 314,346.00	$ 31,618.00	60	$ 1,212,867.00	$ 1,080,887.00	$ 211,804.03

Note: Data is based on year assessed. Data is as of 3/24/2006.

TABLE B

Table C

Table C	Coal			Metal and Nonmetal	
Calendar Year	Total Withdrawal Orders Issued	Total Unwarrantable Failure Withdrawal Orders Issued		Total Withdrawal Orders Issued	Total Unwarrantable Failure Withdrawal Orders Issued
1990	4907	2869		1293	542
1991	5434	3384		1251	632
1992	4219	2055		1357	593
1993	4448	2384		1047	698
1994	3962	2173		1061	660
1995	2515	1133		872	511
1996	2118	694		787	347
1997	1539	519		1453	892
1998	1531	636		1713	948
1999	1474	636		1492	824
2000	1363	627		1725	850
2001	1767	752		1390	551
2002	1628	650		1403	447
2003	1677	727		1766	599
2004	2149	1012		2164	944
2005	2156	848		2156	827

*** Data from MSHA's computer system as of 3/22/2005**

Table D

Criminal Referrals							
CY	Referred Coal	Referred MNM	Declined Coal	Declined MNM	Criminal Dispositions Coal	Criminal Dispositions MNM	Cases Opened
1990	15	0	6	0	9	0	0
1991	19	0	10	0	9	0	0
1992	29	0	21	0	8	0	0
1993	20	4	4	4	16	0	0
1994	29	0	12	0	17	0	0
1995	16	2	4	1	12	1	0
1996	11	0	4	0	7	0	0
1997	13	2	5	0	8	2	0
1998	8	0	4	0	4	0	0
1999	18	0	13	0	5	0	0
2000	18	0	8	0	10	0	0
2001	9	0	4	0	5	0	0
2002	8	0	2	0	4	0	2
2003	3	0	1	0	1	0	1
2004	3	0	1	0	1	0	1
2005	4	0	0	0	1	0	3

Discrimination Complaints				
CY	Compaints Received by Coal	Compaints Received by MNM	Referred to Commission Coal	Referred to Commission MNM
1990	153	*	11	*
1991	129	*	11	*
1992	199	*	33	*
1993	136	*	30	*
1994	123	50	21	*
1995	103	92	13	*
1996	110	72	17	*
1997	124	74	35	*
1998	114	78	23	*
1999	94	88	32	*
2000	94	129	17	14
2001	81	79	9	15
2002	109	89	8	8
2003	66	83	3	16
2004	52	65	12	12
2005	61	70	8	6

*MNM did not track this data in their database prior to 2000 and the data was therefore unavailable for importation into the TCIO database when it was developed in 2003.

QUESTIONS OF SENATOR HATCH

Question 1. Legislation has been introduced to prohibit the use of belt air for ventilation. In my home State of Utah, many underground mines utilize belt conveyors for ventilation purposes. What are the safety benefits of using belt air ventilation in underground coal mines?

• The use of air in the belt entry to ventilate the working face, with appropriate conditions attached, provides a safe mining environment that facilitates and promotes the use of technologically advanced, early-warning fire-detection systems.

• Since the MSHA belt air regulations mandate the use of an atmospheric monitoring system with belt air, mines that use belt air have improved fire detection capabilities relative to those mines using point-type heat sensors. Total ventilation capacity increases. The increased ventilation can lower dangerous methane concentrations (as well as dilute respirable coal mine dust), thereby increasing safety.

• There are also certain ground control advantages realized by being able to limit the number of development entries. This reduces the probability of roof falls and rib outbursts.

• The use of belt air is an alternative for mine operators who choose to implement it. Before the regulation was in place, the use of belt air was permitted only after MSHA granted a petition for modification requesting the use of belt air.

• MSHA began granting petitions for modification to permit the use of belt air for this purpose in 1980. Sixty-seven petitions were approved between 1993 and 2001, each with a specific finding that the practice was safe. An additional 27 were approved between 2001 and the publication of the Belt Air rule in 2004, which included the major stipulations of previously granted petitions and rendered those petitions invalid with the application of a nationwide rule.

• The final belt air rule increased miner protection by including various requirements that were NOT included in all the petitions. For example, all sensors used must be listed by a Nationally Recognized Testing Laboratory, such as Underwriter's Lab; the trunk lines for the communication system and the AMS must be installed in separate entries; CO sensors must be installed in the intake escapeways; sensor spacing must be reduced to 1,000 ft. (versus older petition requirements of 2,000 ft. for some mines); alert and alarm levels for many mines were reduced from 10 and 15 ppm to 5 and 10 ppm; point-feeds have increased protection by requiring monitoring of the point-feeds; notification of sections has been improved by requiring all outby (away from fire) sensors to automatically notify sections of alarms; and lifelines are required when returns are used as alternate escapeways.

Question 1 (continued). If belt air ventilation systems were prohibited, how many mines would have to cease operating?

Answer 1 (continued). The prohibition of belt air ventilation systems would impact all 41 mines that are currently using belt air to ventilate a working section of the mine. It is difficult to quantify the number of mines that would cease operations. Mines that are heavily gassy (such as those in Virginia and Alabama), or are operating with low profit margins, would be most impacted. Mines that have begun operations since the promulgation of the belt air regulation would also be heavily impacted.

The impact in the most severe cases could require development of new entries that are extremely costly. Other cases would require very costly increases in ventilation capacity. In some cases, the mine operator may choose to absorb the impact of additional costs and continue operations, albeit in less safe conditions, without the use of belt air for ventilation. In other cases, the mine operator may choose to operate at reduced capacity or productivity, or cease operations altogether. Both coal production and employment would be affected. Mines designed to use belt air would need to be redesigned in order to decrease the hazards associated with high methane liberation and respirable coal mine dust or those miners would face increased risk from those hazards. MSHA does not support such an unwarranted overall decrease in mine safety. The Belt Air Rule has been determined to be properly promulgated as a safe rule, which increases mine safety. In conjunction with the National Institute for Occupational Safety and Health, MSHA will implement provisions in the MINER Act related to the use of belt air in underground coal mines.

Question 2. There has been a lot of discussion of wireless communication technology for use in underground mines. What are the limitations of this technology?

Answer 2. In simple terms, the high frequency radio waves used in readily available above ground communication systems, such as walkie-talkies, broadcast radio and TV, and cellular phone service, are blocked, absorbed, or reflected by rock strata and soil. In a mine, radio frequency communications are essentially line of sight

down an entry with limited range due to absorption and reflections of the signals. The radio waves have very limited ability to propagate around a coal pillar. Communication range is also restricted by the need for low transmitting power levels to meet MSHA permissibility requirements for use in potentially explosive atmospheres. MSHA will implement requirements in the MINER Act related to communication systems.

Question 3. I understand that there has been some concern about evacuation practices in the event of accidents like the two in West Virginia in January. Has the Mine Safety and Health Administration acted to address that problem?

Answer 3.

• On January 25, 2006, MSHA published a Request for Information (RFI) on issues relevant to underground mine-rescue equipment and technology and is actively testing communication systems for use in underground coal mines. The record closed March 27.

• On March 9, 2006, MSHA published an Emergency Temporary Standard (ETS) that includes requirements for immediate accident notification applicable to all underground and surface mines; additional self-contained self-rescuer storage and training; additional evacuation training; and the installation and maintenance of lifelines in underground coal mines. Specifically, drills and hands-on training are now required to assure that miners are familiar with evacuation procedures as well as self-contained self-rescuers (SCSRs) donning and transferring procedures. This will also assure that miners are familiar with escape routes and locations of additional SCSRs that may be located in caches along the escapeways.

• On March 13, 2006, MSHA held a public meeting to receive comments on two specific topics covered in the RFI: technology used for underground communications and tracking of underground miners.

• MSHA held a joint MSHA/NIOSH workshop on mine escape planning and emergency shelters in Washington, D.C. on April 18, 2006.

• On April 20–21, 2006, MSHA cosponsored an International Mining Safety and Health Symposium in Wheeling, West Virginia, to develop strategies for mine safety, with a focus on state-of-the-art technologies.

• In addition, MSHA and others are still conducting a formal investigation to determine the causes of the two West Virginia mining accidents at the Sago and the Aracoma Alma No. 1 Mine. MSHA has also initiated internal reviews covering MSHA's actions at the Sago Mine and Aracoma Alma No. 1 Mine. MSHA and the State of West Virginia held a public hearing on the Sago accident May 2–4 in Buckhannon, WV.

• MSHA is implementing the requirement in the MINER Act that each underground coal mine operator have an approved emergency response plan.

Question 4. Since the mining disasters in West Virginia, much has been written and said about mine safety. The Salt Lake Tribune, a major newspaper in Utah, recently reported that in 2004 and 2005, Utah mines received more than 2,600 citations, 936 of them classified as serious, and they paid close to $300,000 in fines. I've met with coal operators in Utah and I know that safety is their top concern. In fact, David Litvin, president of the Utah Mining Association states, "The number one value in mining is to be safe." Do you think we need to evaluate the method for determining what is a significant and substantial (S&S) violation? For example, I've heard a mine that received an S&S violation for having toilet paper on the bathroom floor.

Answer 4. Since 1984, the Federal Mine Safety and Health Review Commission has used the current legal test for determining whether a violation is significant and substantial. Under that test, a violation is S&S if the hazard contributed to by the violation is reasonably likely to result in serious injury or death. MSHA trains its inspectors to know when to apply the criteria to determine when a violation is S&S. Your question uses the example of a violation based on having toilet paper on the bathhouse floor. A violation based solely on that situation would not be S&S because the hazard contributed to by the violation would not be reasonably likely to result in injury.

Under the Mine Act, the seriousness of a violation is one factor that must be considered in assessing a penalty. Other factors that must be considered are the operator's history of previous violations, the size of the operator, whether the operator was negligent in committing the violation, the effect of the penalty on the operator's ability to continue in business, and the good faith of the operator in abating the violation. A penalty for a violation that was not serious or reasonably likely to result in injury would not be increased based on the seriousness criterion. It might, however, be increased because of other criteria such as the operator's high negligence

in committing the violation or the operator's large history of previous violations. In this way, operators who have tended to disregard miner safety are more likely to be deterred from committing future violations.

QUESTIONS OF SENATOR BYRD

Question 1. Why did 21 coal miners have to die this year before MSHA took these steps?

Answer 1. MSHA has always acted and will continue to act in a way that would protect the safety and health of our Nation's miners so that every miner returns home safely every day. While the events of this year are deeply regrettable, the lowering of the fatality and accident rates over the last 5 years is evidence of the industry's progress in meeting that goal. When a fatal accident occurs, MSHA fully investigates the incident to identify the root causes and prevent any other fatalities. Although the exact causes of the accidents in January have not yet been fully determined, MSHA has already taken action to prevent any future occurrences of similar tragedies. Under an emergency temporary standard, issued March 9, 2006, MSHA will require repetitive evacuation drills in the mine environment to familiarize miners with the routes needed to be followed in order to safely evacuate underground coal mines. Along those evacuation routes, called escapeways, MSHA will require lifelines and storage areas holding enough Self-Contained Self-Rescuer (SCSR) devices for each person underground to successfully evacuate the mine. Furthermore, each miner must have an additional SCSR available nearby on the mantrip and in the working area. After the investigations are complete, MSHA will assess whether any further actions may be needed.

Question 1a. Why were rules, such as those addressing belt-air ventilation in 2004, addressed before these critical initiatives?

Answer 1a. The safe use of belt air was established independently of the use of additional communications equipment and emergency rules. MSHA, through several Administrations, has more than 20 years of experience granting petitions for modification allowing mines to use belt air safely to ventilate places where miners work.

MSHA began granting petitions for modification to permit the use of belt air for this purpose in 1980. Sixty-seven petitions were approved between 1993 and 2001, each with a specific finding that the practice was safe. An additional 27 were approved between 2001 and the publication of the Belt Air rule in 2004, which included the major stipulations of previously granted petitions and rendered those petitions invalid with the application of a nationwide rule.

The advantages of using belt air to help ventilate places where miners work include reducing dangerous methane concentrations, the dilution of respirable coal mine dust, and providing increased protection through the use of Atmospheric Monitoring Systems that detect incipient fires before they ignite. There are also certain ground control advantages realized by being able to limit the number of development entries.

The Arcoma Alma No. 1 belt air petition was approved by the Agency in 2000 and contained routine requirements. After the final ventilation rule in 1992, such petitions became fairly standardized. The final Belt Air Rule actually increased miner protection by including various requirements that were not included in the Arcoma Alma No. 1 petition. For example, all sensors used must be listed by a Nationally Recognized Testing Laboratory, such as Underwriter's Lab; the trunk lines for the communication system and the AMS must be installed in separate entries; CO sensors must be installed in the intake escapeways; point-feeds have increased protection by requiring monitoring of the point-feeds; and notification of sections has been improved by requiring all outby (away from fire) sensors to automatically notify sections of alarms.

Question 2. When will MSHA publish its emergency standard on mine rescue training, accident notification, self-contained, self-rescuers, and lifelines?

Answer 2. The Emergency Temporary Standard (ETS) was published on March 9, 2006.

Question 2a. This emergency standard was announced 3 weeks ago. Why has it not yet been published?

Answer 2a. The ETS was published on March 9, 2006.

Question 2b. Today's Charleston Gazette reports that the White House is delaying the rule for emergency oxygen. Why is that?

Answer 2b. The White House did not "delay" the rule. MSHA started work on this rule in late January and published it in early March.

Question 2c. Why did MSHA not update these rules before the Sago and Alma tragedies?

Answer 2c. Each mine accident is in its own way unique. Writing regulations for the entire industry requires careful consideration of common elements that are identified through objective investigation. A regulation must be specific to address either a safety or health hazard. For example, after the Jim Walters No. 5 accident in September 2001, the Agency took action to address issues identified in the official accident report that appeared to be universal to underground coal mines: basically that one responsible party at each mine needed to be identified as being responsible for evacuating the mine in case of an accident, that only those persons identified as emergency personnel could reenter the mine, and that miners practice evacuation through drills. The recent accidents in West Virginia indicate that the Agency needs to go further to assure that miners receive the necessary evacuation training, have additional SCSR training under realistic conditions, and have additional equipment available (SCSRs and lifelines). Mine operators are also required to report accidents within 15 minutes to the Agency.

Question 3. When will MSHA publish new requirements for emergency communications and locating equipment?

Answer 3. MSHA will publish new requirements for emergency communications and locating equipment when it identifies equipment (1) suitable for all, or a definable subset, of mines; (2) that can reasonably be expected to function and assist in a mine evacuation or mine rescue after a mine fire, explosion, or inundation; (3) that is acceptably reliable, accurate, provides coverage throughout the mine, and does not interfere with other communications systems; and (4) preferably has other desirable properties such as being two-way and capable of verifying receipt of message. MSHA's Directorate of Technical Support has, as part of its responsibilities, identified, evaluated, and approved suitable emergency communications and locating equipment—including the Personal Emergency Device (PED) and the Tracker Tagging System, both manufactured by Mine Site Technologies.

The Technical Support Directorate is currently involved in an intensive search and evaluation of emergency communications and locating equipment capable of assisting in a mine evacuation or mine rescue. MSHA will implement provisions in the MINER Act related to emergency communications and locating equipment.

Question 3a. MSHA announced 4 weeks ago that it was reassessing these requirements. Why has it not yet issued anything?

Answer 3a. It takes time to reassess requirements for emergency communications and locating equipment. Candidate equipment must be identified, its properties must be evaluated and field-tested, and it must be shown to perform safely and effectively, or be modified to perform safely and effectively, in a mine environment. Because of the difficulties posed by an underground mine environment, most communications and locating equipment are not safe and effective in a mine environment, particularly after a fire, explosion, or inundation. Requiring unsuitable emergency communications and locating equipment could actually reduce miner protection. MSHA's Technical Support Directorate is currently engaged in a variety of activities to locate suitable emergency communications and tracking equipment. These include the following:

On January 25, 2006, MSHA issued a Request for Information (RFI) on issues related to mine rescue equipment and technology. Included were emergency communications and tracking equipment. MSHA's Technical Support Directorate is reviewing comments and proposals arising from the RFI.

On March 13, 2006, a public meeting was held at the National Press Club in Washington, D.C. MSHA specifically solicited technical presentations or written comments that discussed the following key issues raised in the recent Request for Information (RFI): "Underground Communications and Tracking of Underground Miners" which was published in the Federal Register on January 25, 2006.

A Mine Communications Partnership was formed, of which MSHA is a member. Other members are the BCOA, NIOSH, NMA, UMWA, USWA and the West Virginia Office of Miners' Health, Safety & Training. The primary goals of this Partnership are to establish general performance expectations for mine emergency communications systems; establish uniform and fair criteria for testing and evaluating systems; conduct in-mine tests on systems; and report the findings. A secondary goal is to identify gap areas that should be addressed through research. The first meeting was held on March 3, 2006.

On April 18, 2006, MSHA and the National Institute for Occupational Safety and Health (NIOSH) co-hosted a workshop on "Mine Escape Planning and Emergency Shelters" at the National Academy of Sciences Auditorium in Washington, DC. Rep-

resentatives from NIOSH and MSHA discussed issues involving escape planning with emphasis on evacuation as the first priority.

On April 20–21, 2006, MSHA, NIOSH and the State of West Virginia cosponsored the International Mining and Health Safety Symposium. The Symposium was held at the Robert C. Byrd National Technology Transfer Center and the Civic Center in Wheeling, WV. The Symposium brought together technology developers, equipment manufacturers, the Federal Government, the State Government of West Virginia, organizations representing the mining industry and community, and other countries (e.g. Canada and Australia) to discuss the development, approval, and adoption of state-of-the-art technologies and mining methods.

Question 3b. Why did MSHA not update these requirements before the Sago and Alma tragedies?

Answer 3b. Long before the Sago and Alma Mine tragedies, MSHA's Directorate of Technical Support had been identifying, evaluating, and approving suitable emergency communications and locating equipment. At the time of the Sago and Alma Mine tragedies, safe and effective emergency communications and locating equipment, capable of functioning after a mine fire, explosion, or inundation, had not been identified for purposes of updating requirements.

Question 4. According to a data analysis in today's New York Times, the Bush Administration has decreased major fines for safety violations since 2001. In nearly half of the cases, it has not collected the fines. The Times also reports that MSHA has failed in the last 2 years to hand over any delinquent cases to the Treasury Department for further collection efforts.

a. Why are major fines for safety violations decreasing?

b. Of the total amount of fines assessed by MSHA last year, how much has been collected?

c. How many uncollected fines have been referred to the Treasury Department?

d. How many uncollected fines have been referred to the Justice Department?

e. How many uncollected fines have been reported to the IRS?

Answer 4. The following table is useful for putting the number of penalties assessed at $10,000 or higher in perspective.

a. During the period between 1993 and 2005, the number fluctuated widely from year-to-year, from a low of 21 in 1996 to a high of 158 in 1998. The decline from 2004 to 2005 is more a reflection of the relatively large number of penalties assessed at the $10,000 or greater level in 2004. In 2004, MSHA proposed 156 penalties of $10,000 or more. The only other year in which more were proposed at this level was 1998 with two additional $10,000+ cases.

Penalties Assessed at $10,000 or More

CY Assessed	Number Assessed	Current Penalty Totals
1993	93	$1,707,500
1994	75	1,445,790
1995	48	1,103,255
1996	21	448,750
1997	53	1,241, 544
1998	158	3,314,300
1999	93	2,344,450
2000	121	2,730,333
2001	103	1,735,970
2002	120	1,976,300
2003	65	1,830,170
2004	156	3,872,880
2005	97	2,262,200

b. In 2005, MSHA proposed $24.8 million in civil penalties. As of July 25, 2006: these proposed assessments were reduced to $23.3 million through litigation; MSHA had received $16.3 million in payment; $4.2 million was pending payment; and $2.8 million was still pending litigation.

c. MSHA records indicate that, as of September 30, 2006, MSHA had referred $13.5 million of delinquent debt to the Treasury Department for collection. MSHA experienced problems with referring delinquent civil penalties to the Treasury Department after deploying a new computer system and operating procedures in 2003. This resulted in the manual referral of only a very few unpaid penalties to Treasury for collection in 2004 and 2005. MSHA and Treasury completed testing the elec-

tronic referral process on March 16, 2006, and MSHA resumed electronic delinquent debt referral to Treasury. The first electronic transfer since 2003 was sent to Treasury on March 17, 2006, and we intend to eliminate the backlog of Treasury referrals by the end of fiscal year 2006. We implemented new procedures to expedite ongoing delinquent debt referrals to Treasury so that all available delinquencies are referred within the timeframes stipulated in the Debt Collection Improvement Act of 1996. By the end of fiscal year 2006 MSHA had referred 96 percent of all delinquent civil penalty debt over 180 days old to Treasury. To help streamline the civil penalty payment process, MSHA plans to develop an electronic payment/contest option for use by mine operators. This approach will reduce the overall time for payments to reach MSHA and also shorten the time to process contested cases.

d. MSHA does not refer delinquent debt directly to the Justice Department. The Treasury Department directly refers debt to the Justice Department after the debt meets certain thresholds. MSHA began an initiative in 2005 to identify operators who routinely fail to pay their civil penalties. In February 2006, MSHA filed two precedent-setting lawsuits in the U.S. District Court for the Eastern District of Kentucky seeking injunctions against mine operators who have chronically failed to pay assessed civil money penalties for violations of the Mine Act. On June 23rd, the District Court judge ruled that these cases can move forward.

e. As a participant in Treasury's Cross Servicing/Offset Program, MSHA requests that Treasury submit the appropriate authorization (Form 1099-C) for the IRS to treat uncollectible debt as income. Treasury reported approximately $250,000 of uncollectible debt in this category.

Question 5. You have proposed that the Congress raise the maximum statutory penalty from $60,000 to $220,000.

In 2005, how many times did MSHA assess the maximum statutory penalty at the Sago and Alma Mines?

a. Why then is raising the statutory penalty a significant response to those disasters?

b. The Sago Mine was a habitual violator, and never paid a fine higher than $400 in 2005. Why not impose minimum penalties for egregious violations to ensure that habitual violators do not get away with merely token penalties?

Answer 5. MSHA did not issue any civil penalties at the maximum statutory level at either the Sago Mine or Alma Mine in 2005.

The Secretary's request to raise the maximum statutory penalty from $60,000 to $220,000 was not a direct response to the Sago and Alma accidents. In fact, the Secretary proposed this increase well before the accidents. The President's 2004, 2005, 2006, and 2007 Budgets for the Department of Labor proposed raising MSHA's civil monetary penalties. A draft legislative proposal was developed in early 2005, which would amend Section 110 of the Mine Safety and Health Act to permit MSHA to assess a maximum civil penalty of $220,000 for certain "flagrant" violations that ". . . substantially and proximately caused, or reasonably could have been expected to cause, death or serious bodily injury." The bill is intended to enhance MSHA's ability to impose appropriate penalties in situations where mine workers' safety or health is endangered by flagrant violations of mine safety and health laws. The MINER Act, which was enacted on June 15, 2006, included a provision for civil penalties for flagrant violations similar to that proposed by the Secretary.

MSHA is revising the civil penalty assessment procedures. This effort will implement civil penalty requirements in the MINER Act, and will increase penalties, and streamline the process.

RESPONSE TO QUESTIONS OF SENATOR ENZI AND SENATOR BYRD BY CECIL ROBERTS

QUESTIONS OF SENATOR ENZI

Question 1. One thing we all seem to agree on is that miners in this country need to have better communications technology available to them. At the subcommittee roundtable that Senator Isakson and Murray hosted last week, it was apparent that while there is some technology commercially available that may allow miners in some mines to receive text messages, however, for the most part the communications technology we all dream of is not yet on the market for mining applications. Do you have any thoughts on what we can do to parlay the expertise and resources of NIOSH and MSHA and private industry to create and manufacture this technology?

Answer 1. MSHA and NIOSH only recently focused on these compelling needs, and this constitutes a critical first step in achieving success. Establishing these objectives (two-way communications) as an immediate research goal of both MSHA and NIOSH will expedite a successful outcome. Awarding a specific Federal grant

for this R&D may be warranted. From the subcommittee roundtable, we learned about a variety of technology which may have good application within the mining industry. In late April, there will be another opportunity to see equipment and technology that may be of interest to these Agencies in a forum that the State of West Virginia Office of Miners' Health, Safety and Training has organized. Also, these Government Agencies must learn from research performed and technology developed in and for other purposes. In particular, the Navy, NASA, and the Aviation industry face many challenges similar to those confronting the mining industry; NIOSH and MSHA should solicit information from those groups to see if they can shed light on technologies that can help make mining safer and mine emergency procedures safer and more effective.

Question 2. Your organization has devoted resources to the issue of mine safety and we appreciate your efforts. We are also aware that NIOSH has functioned as a focal point for mine safety research. What has your experience with NIOSH been, and do you believe there are ways to enhance the research being done today?

Answer 2. NIOSH has been a strong partner in researching and developing health and safety equipment and protections. However, because of its limited budget, NIOSH has not been able to pursue research on many needed improvements to miners' health and safety. Further, and too often, MSHA has failed to respond appropriately when NIOSH has made recommendations for improved protections based on its research. For example, NIOSH recommended reducing respirable dust exposures, but MSHA has not promulgated a rule to accomplish this (nor does it include such a rule among its rulemaking priorities). Likewise, MSHA has not required operators to use an electromagnetic tracking device that was approved for use by the Bureau of Mines in the 1970's. When NIOSH research leads to findings about ways to improve miners' health and safety, MSHA must quickly implement rules that would make use of NIOSH's work.

Question 3. During your testimony you mentioned two technologies currently available that would assist in locating and communicating with miners in a postaccident setting. Which two technologies were you referencing?

Answer 3. In addition to the electromagnetic tracking device from the 1970's, we know about the Personal Emergency Device (PED) which permits one-way text messaging, as well as more-limited signaling back by the miner who wears a PED unit. This equipment is in use in about a dozen underground mines in the United States, as well as in Australia. For tracking there is the "Tracker IV" system: for this the miner wears a transmitter that emits a unique signal that strategically-located beacons can receive. This system has been used successfully in Australia. Miners in Poland also use tracking devices as we know their use lead to the successful rescue of a trapped miner about 2 weeks ago. We are also learning about other technology that is either available already or under development; some of this technology was discussed and demonstrated at a hearing MSHA conducted on Monday, March 13, 2006.

QUESTIONS OF SENATOR BYRD

Question 1. What is your response to those who argue that we ought to delay passage of the West Virginia Delegation mine safety bill?

Answer 1. Delay would be inexcusable. It has already been too long for these safety measures to be implemented. To the extent manufacturers may need time to produce the extra self-rescuers that will be needed to satisfy what the legislation requires, orders should be placed to encourage the speedy implementation.

Question 2. What is happening with MSHA's interview process in regard to miners and family members being allowed to have representatives present?

Answer 2. No miners' representatives or family members have been permitted to attend any of the MSHA/State investigative interviews; this is despite specific requests by both to attend and participate.

RESPONSE TO QUESTIONS OF SENATOR ENZI AND SENATOR KENNEDY BY TOM NOVAK

QUESTIONS OF SENATOR ENZI

Question 1. As I am sure you are aware, much of overall regulation of workplace safety focuses on the elimination of potentially dangerous conditions. Some have criticized this approach because it does not adequately address the issue of human error or behavior that is often an element in workplace accidents. Do you have any suggestions as to how we might address this issue more directly, or completely?

Answer 1. Human error or behavior results in the vast majority of workplace accidents. Even the most stringent safety regulations fall short of preventing these

types of mishaps. Miners closely interact with machines in confined, unpredictable environments. Thus, workers, including supervisory personnel, must be well trained, constantly aware of their surroundings, and ever cognizant of the fact that their safety, as well as that of their coworkers, depends on their job performance and safety awareness. Human error can result from many sources, some of which include—inadequate training, complacency, low morale, impaired judgment from substance abuse, and poor work ethic.

Modifying human attitudes and behavior is difficult; nonetheless, if success is to be achieved in this area of accident prevention, a safety-oriented culture must be constantly reinforced in all mine employees, not just the safety department. The entire workforce must be fully engaged in safety management. This safety-conscious mindset must originate at the highest levels of management, and *safety first* must become company policy, not just a slogan. Management must demonstrate that it will not tolerate unsafe work practices. On the other hand, management should provide incentives to reward employees for improving the safety of job functions and procedures for which they have direct control or responsibility, not only incentives based solely on statistics, such as lost time accidents. Mine workers must assume responsibility for their actions and behavior with respect to safety. At the same time, management must strive to provide the safest possible environment in which to work. New-miner training, annual retraining, task training, and safety meetings must not simply be formalities. Mine operators have the obligation to provide the best possible training, while mine workers should have to demonstrate their competency before being assigned to, or continuing in, their job functions.

Question 2. One thing we all seem to agree on is that miners in this country need to have better communications technology available to them. At the subcommittee roundtable that Senator Isakson and Murray hosted last week, it was apparent that while there is some technology commercially available that may allow miners in some mines to receive text messages, however, for the most part the communications technology we all dream of is not yet on the market for mining applications. Do you have any thoughts on what we can do to parlay the expertise and resources of NIOSH and MSHA and private industry to create and manufacture this technology?

Answer 2. The ideal mine communication system—one that offers two-way, through-the-earth communications; a method for tracking the location of mine workers; safe operation in a potentially explosive environment; and robust construction to withstand a catastrophic event, such as a fire or explosion—unfortunately does not exist. However, there are some systems that meet various parts of these requirements. For the short term, I propose that an objective research study be initiated as soon as possible to evaluate the effectiveness, practicality, reliability, and limitations of existing products identified from a world-wide search. As part of this study, definitive recommendations would be made with respect to the application of these products for the various conditions found in U.S. mining operations. If necessary, MSHA would need to streamline its approval process for devices not already approved for use in U.S. mines. This would give a mining company the ability to select a system that best meets its specific conditions. The final outcome of the study would define realistic and achievable specifications for the development of an optimum communication system(s).

In the 1970s and 1980s, the U.S. Bureau of Mines funded an extensive research program on mine communications and laid the scientific foundation for in-mine and through-the-earth communications. Numerous demonstration systems were successfully installed and evaluated during this period. However, only a few of these systems are still in use, and several of the hardware-producing companies are no longer in the mine communications business. The underlying physics necessary to develop communication systems has not changed in the ensuing years, but the technology to implement it has changed dramatically in methods, efficiency, cost, and size. For the long-term, I would suggest that NIOSH be given a budget to reestablish its communications research group and to fund external research contracts to develop the optimum mine communications system(s) defined in the preliminary study. This technology would then be transferred to any interested manufacturer for commercialization.

Question 3. As you may know there has been some discussion regarding the use of so-called "belt air" for ventilation purposes. Could you give us your views on this practice, and, in particular its use in mines with "high cover?"

Answer 3. Belt conveyors in coal mines have been traditionally located in *neutral airways*. A *neutral airway* is an airway that must be isolated from *intake* and *return airways* by means of *stoppings*, which are walls constructed in the crosscuts connecting parallel airways. A *neutral airway* must be vented to a *return airway*, and

its air quantity is regulated so that only a small quantity of air flows along the beltline, but this quantity must be sufficient to maintain oxygen concentrations above 19.5 percent and methane concentrations below 1.0 percent. The purpose for keeping the belt entry isolated is to prevent *intake air* from being contaminated from smoke and/or carbon monoxide in the event of a fire along the belt conveyor. It should be pointed out that ventilation control devices, such as *stoppings*, are not airtight and that significant leakage occurs in coal-mine ventilation systems. Thus, the belt airways are not truly isolated.

Keeping belt conveyors in *isolated air splits* worked well, and continues to work well, for many mining operations. However, in the early 1980's, the utilization of longwall mining matured in the U.S., and many mining operations moved to deeper coal seams with higher methane contents. These operations require significant increases in ventilation quantities in order to dilute methane concentrations to safe levels. The only way to achieve the increased requirement in *intake air* is through the development of an additional airway or through the use of the existing belt entry as an *intake airway*. The development of an additional, parallel airway is often impractical when developing longwall gate entries. With some longwall mines in the western U.S., the use of an additional gate entry creates a safety hazard because of the inability to maintain stable roof conditions caused by extreme rock pressures associated with the deep cover in mountainous terrain. As a result of these safety concerns, mining companies submitted Petitions for Modifications to MSHA to permit the use of belt entries as *intake airways*. These petitions require the mine operators to demonstrate that the proposed method provides the same, or greater, level of safety than afforded by the existing standard. Therefore, very stringent prerequisites for monitoring carbon monoxide concentrations in the belt airway were required before MSHA would approve the petitions. Many petitions were granted through the years, which allowed MSHA to evaluate the safety and effectiveness of using belt entries as *intake airways* for more than 2 decades. The positive safety record associated with this practice throughout the past 2 decades has resulted in petition requirements evolving into the present-day regulations. An atmospheric monitoring system (AMS), which monitors smoke and carbon monoxide concentrations, is required if *belt air* is used to ventilate working sections. This system is capable of detecting smoke and CO even before a fire occurs. A sampling of the regulations includes the following:

- An operator, located on the surface, must constantly monitor and promptly respond to all AMS signals.
- Two-way voice communications must be maintained between the AMS operator and each working section, with other areas designated in the approved emergency evacuation and firefighting program.
- The AMS must automatically provide visual and audible signals at the designated surface location for any interruption of circuit continuity and any electrical malfunction of the system.
- The AMS must automatically provide visual and audible signals at all affected working sections when the detection level at any sensor reaches the alarm level.

The regulations further specify the locations of sensors, maintenance, examination, testing, calibration, detection levels, and training of personnel.

In contrast to these stringent requirements, mines that maintain *belt entries* as *neutral splits* are not required to use atmospheric monitoring systems. I feel that mines that utilize *belt air* as *intake air* in conjunction with atmospheric monitoring systems are actually as safe as, if not safer than, mines that isolate the belt without a monitoring system.

QUESTIONS OF SENATOR KENNEDY

Question 1. How can we address this shortage of people graduating with degrees in mining? Do you recommend requiring degrees and for our mine supervisors and managers like those in Australia? If so, how can we go about making sure that we have enough candidates who meet these requirements?

Answer 1. In my testimony before the Senate Committee on Health, Education, Labor, and Pensions, I stated that only half of the mining-engineering programs that existed 20 years ago exists today. There are two reasons for this dramatic decline—low enrollments and lack of research funding. Dramatic declines in enrollment coincided with the downturn in the U.S. mining industry, which began in the early 1980s. Unfortunately, a downward spiral in research funding also occurred during this same period. Colleges and universities do not tolerate low enrollments for extended periods, and research universities expect mining-engineering departments to maintain research programs that are comparable with other engineering departments. Thus, during the past 20 years, foundering mining programs were con-

tinually closed. Even if existing mining programs remain open, their outlook remains dismal without strong research funding, which is required to produce the Ph.D.'s necessary to fill future professorships. The major issue is the sustainability of mining engineering programs.

The bright spot is that the mining industry has recently experienced a remarkable turnaround, which has caused an incredible demand for mining engineers. All indicators signify that this demand will remain strong for at least the next 10 years. As a result, enrollments should significantly grow over the next few years. I am hopeful that this increase in enrollment will provide the engineers needed to safely design, supervise, and manage our country's mines. However, the lack of research funding has not changed, and mining-engineering departments remain at risk even with strong enrollments.

The committee cannot really address issues of enrollment, which is dictated by market conditions. However, the committee can help ensure the future of mining engineering education by supporting mine-safety research funding for universities. This support will contribute to mine safety in two separate ways. First, the support will provide the research necessary to find solutions to the complex issues of mine safety. Second, research funding will sustain the viability of mining engineering programs that will produce highly-trained future engineers to design and operate our mines safely.

I recommend that this research be administered through NIOSH's Office of Mine Safety and Health Research, or a newly created institute based on this Office. The newly formed Mine Safety Technology and Training Commission (discussed in the response to the following question), with representatives from NIOSH, UMWA, industry, and academia, could be used to determine and prioritize the research needs of the industry.

In response to the second part of your question, I am not willing to suggest that mine managers and supervisors have mining engineering degrees. Even though many mine managers have degrees, this requirement would preclude other qualified individuals from holding these positions. Individual States presently certify section foremen, general mine foremen, and chief electricians through a combination of work experience and written examinations. The length of experience is typically reduced if an applicant has a mining engineering degree. Therefore, at present time, I would not recommend that a degree requirement be implemented.

Question 2. What recommendations would you have to improve the collaboration between NIOSH, academia, industry, and the UMWA on appropriate avenues for health and safety research?

Answer 2. The most effective method to improve collaborations between NIOSH, academia, industry, and the UMWA is through the formation of a multifaceted committee where all stakeholders are represented. This has already occurred through the formation of the Mine Safety Technology and Training Commission. This commission consists of the following members:

- NIOSH—Dr. Jeffrey Kohler, Associate Director for Mining and Construction.
- Academia (Mining Engineering)—Dr. Larry Grayson, Professor and Chair, University of Missouri—Rolla and Dr. Thomas Novak, Professor and Department Head, Virginia Tech.
- Academia (Public Policy)—Dr. Amy Donahue, Assistant Professor, University of Connecticut.
- Industry (Management)—Brett Harvey, president and CEO, CONSOL Energy, Inc. and Anthony Bumbico, Corporate Safety Director, Arch Coal, Inc.
- Industry (Mine Rescue Training)—Mark Beauchamp, Twentymile Coal Co. and H.F. Webb, Waste Isolation Pilot Plant.
- UMWA—Cecil Roberts, president, UMWA
- Consultant—Stanley Cohn, executive vice president, Concepts to Operation, Inc.

This commission will study existing and new technologies, as used in various industries, to determine which can improve the protection of underground coal miners. Through information-gathering meetings, the commission will examine the conditions under which various technologies and training procedures can significantly increase the odds of survival for miners in emergency situations. The commission held its first meeting on March 2, 2006 in Washington, DC., and its second meeting is scheduled for April 27, 2007 at NIOSH's Pittsburgh Research Laboratory. The commission plans to have a report prepared by June 30, 2006.

Question 3. What do you expect in the future for mine communications? New communications systems like the PED are widely used in other countries like Australia, where can the United States look to find the most modern, effective and versatile communications systems?

Answer 3. The ideal mine communication system—one that offers two-way, through-the-earth communications; a method of tracking the location of mine workers; safe operation in a potentially explosive environment; and robust construction to withstand a catastrophic event, such as a fire or explosion—unfortunately does not exist. However, there are some systems that meet various parts of these requirements. For the short term, I propose that an objective research study be initiated as soon as possible to evaluate the effectiveness, practicality, reliability, and limitations of existing products identified from a world-wide search. As part of this study, definitive recommendations would be made with respect to the application of these products for the various conditions found in U.S. mining operations. If necessary, MSHA would need to streamline its approval process for devices not already approved for use in U.S. mines. This would give a mining company the ability to select a system that best meets its specific conditions. The final outcome of the study would define realistic and achievable specifications for the development of an optimum communication system(s).

In the 1970s and 1980s, the U.S. Bureau of Mines funded an extensive research program on mine communications and laid the scientific foundation for in-mine and through-the-earth communications. Numerous demonstration systems were successfully installed and evaluated during this period. However, only a few of these systems are still in use, and several of the hardware-producing companies are no longer in the mine communications business. The underlying physics necessary to develop communication systems has not changed in the ensuing years, but the technology to implement it has changed dramatically in methods, efficiency, cost, and size. For the long-term, I would suggest that NIOSH be given a budget to reestablish its communications research group and to fund external research contracts to develop the optimum mine communications system(s) defined in the preliminary study. This technology would then be transferred to any interested manufacturer for commercialization.

Question 4. What recommendations would you have to improve the ventilation of underground coal mines? Should the industry heed the call of West Virginia Governor Joe Manchin and abandon the practice of ventilating mines with conveyor belt air?

Answer 4. I applaud Governor Manchin's quick response to the mine disasters that recently occurred in his State of West Virginia. When a disaster occurs, human nature dictates the desire to take immediate actions in an attempt to prevent the reoccurrence of a similar disaster. In a rush to implement new and well-meaning initiatives, however, we must be mindful not to unintentionally neglect the true effectiveness and associated repercussions of these initiatives. I feel that Governor Manchin has overreacted by calling for the abandonment of the practice of ventilating working sections with *belt air*.

Belt conveyors in coal mines have been traditionally located in neutral airways, which are airways isolated from *intake* and *return airways* by means of *stoppings* constructed in the crosscuts connecting parallel airways. The purpose for keeping the belt entry isolated is to prevent *intake air* from being contaminated from smoke and/or carbon monoxide in the event of a fire along the belt conveyor. However, it should be noted that ventilation control devices, such as *stoppings*, are not airtight and that significant leakage occurs in coal-mine ventilation systems. Thus, belt airways are not truly isolated.

Keeping belt conveyors in *isolated air splits* worked well, and continues to work well, for many mining operations. However, in the early 1980s, the utilization of longwall mining matured in the United States, and many mining operations moved to deeper coal seams with higher methane contents. These operations require significant increases in ventilation quantities in order to dilute methane concentrations to safe levels. The only way to accommodate the increased requirement in *intake air* is through the development of an additional airway or through the use of the existing belt entry as an *intake airway*. The development of an additional, parallel airway is often impractical when developing longwall gate entries. With some longwall mines in the western United States, the use of an additional gate entry creates a safety hazard because of the inability to maintain stable roof conditions caused by extreme rock pressures associated with the deep cover in mountainous terrain. As a result of these safety concerns, mining companies submitted Petitions for Modifications to MSHA to permit the use of belt entries as *intake airways*. These petitions require the mine operators to demonstrate that the proposed method provides the same, or a greater, level of safety than afforded by the existing standard. Therefore, very stringent prerequisites for monitoring carbon monoxide and smoke concentrations in the belt airway were required before MSHA would approve a petition. Many petitions were granted through the subsequent years, which allowed

MSHA to evaluate the safety and effectiveness of using belt entries as *intake airways* for more than 2 decades. The positive safety record associated with this practice throughout the past 2 decades has resulted in petition requirements evolving into the present-day regulations. An atmospheric monitoring system (AMS), which monitors smoke and carbon monoxide concentrations, is required if *belt air* is used to ventilate working sections. This system is capable of detecting smoke and CO even before a fire occurs. A sampling of the regulations includes the following:

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The regulations further specify sensor locations, maintenance, examination, testing, calibration, detection levels, and training of personnel.

In contrast to these stringent requirements, mines that maintain the *belt entries* as *neutral splits* are not required to use atmospheric monitoring systems. I feel that mines that utilize *belt air* as *intake air* in conjunction with atmospheric monitoring systems are as safe, if not safer, than mines that isolate the belt without a monitoring system.

Question 5. Is there a way to improve the way that inactive areas of mines are sealed off, so methane explosions and oxygen contamination are minimized?

Answer 5. The construction of a practical seal that is guaranteed to be airtight with changes in barometric pressure over an extended period is unlikely. One method to help ensure a safe environment is to continuously monitor the air behind the seal. However, even this method has its limitations since only the area in the immediate vicinity of the sampling point would be monitored.

Present regulations require seals to withstand a static pressure of 20 pounds per square inch. Preliminary information reported from International Coal Group's investigation of the Sago Mine explosion reveals that the explosion pressures greatly exceeded the 20-psi value. It is obvious that research into the construction and the strength of seals is necessary. In addition to evaluating different materials, various construction techniques, such as a horizontal-arch configuration (similar to a dam), need to be investigated to improve the strength of a seal. The concept of buffer zones between sealed areas and active workings should also be investigated, along with methods for keeping sealed areas inert.

RESPONSE TO QUESTIONS OF SENATOR ENZI AND SENATOR KENNEDY
BY MICHAEL NEASON

QUESTIONS OF SENATOR ENZI

AMERICAN SOCIETY OF SAFETY ENGINEERS,
DES PLAINES, ILLINOIS,
March 17, 2006.

Hon. MICHAEL B. ENZI, *Chairman*,
Hon. EDWARD M. KENNEDY,
Ranking Minority Member,
Committee on Health, Education, Labor, and Pensions,
U.S. Senate,
Washington, DC.

DEAR CHAIRMAN ENZI AND SENATOR KENNEDY: On behalf of Michael Neason, who testified for the American Society of Safety Engineers (ASSE) at the Committee on Health, Education, Labor, and Pension's March 2, 2006 hearing on the State of Mine Safety and Health, please find below his direct answers to the separate questions provided by you. Your interest in Mr. Neason's views is greatly appreciated by ASSE as well as Mr. Neason, as is the overall leadership your committee is providing in finding better directions to making this Nation's mines safer workplaces.

If Mr. Neason or ASSE can provide any additional assistance or further clarification, we hope that you will not hesitate to ask. Below, please find Mr. Neason's responses to your questions.

Question 1. As I am sure you are aware, much of overall regulation of workplace safety focuses on the elimination of potentially dangerous conditions. Some have criticized this approach because it does not adequately address the issue of human error or behavior that is often an element in workplace accidents. Do you have any suggestions as to how we might address this issue more directly, or completely?

Answer 1. Our internal trend analysis studies would certainly support your concern that behavior issues are often behind many of the injuries in mines. Nearly 80 percent of our injuries happen during unscheduled (or "breakdown") maintenance, and practically all of those injuries are the result of an employee taking an unnecessary risk.

It has taken a great deal of work over the years to advance our program to the point where physical hazards are routinely identified and corrected before they can cause an accident. As a result of these efforts, our facilities are more efficient, more profitable and we are better able to retain good employees.

In other words, our health and safety program has advanced considerably since 1977. MSHA's has not kept pace with this advancement. While the MSHA inspectors I have walked with seem to understand this reality, their responsibilities under the Mine Act limit their ability to focus adequately on the areas that truly need attention. As such, MSHA's compliance activity routinely fails to consider either accident trends or risk assessments. For the most part, the citations that are issued do not correlate with fundamental controls commonly acknowledged as the primary causes of most injuries.

To address the issue, MSHA should de-emphasize the "gotcha" enforcement of broad standards in favor of emphasizing positive initiatives such as their "Small Mines Office," "Educational Field Services" and "S.L.A.M." programs. With the current focus, operators are encouraged to dedicate resources to satisfying regulators as opposed to protecting their employees.

Question 2. How often does MSHA come to the mines you supervise? What is your evaluation of the efficacy of MSHA's inspection policy?

Answer 2. In 2005, MSHA inspected the 21 mines I supervise 45 times. We were issued a total of 38 citations with all but 5 being marked as "not significant or substantial." Each inspection took 2 to 3 days to complete. Essentially, MSHA dedicated over 100 inspection days to a solidly performing operator who maintains an incident rate less than half of the national average.

The difficulty with MSHA's inspection program is that it denies them the flexibility to allocate resources where they are truly needed. There should be some means for an operator to earn a "good performer" status that would allow MSHA to inspect the facility less often or possibly to conduct an abbreviated inspection. This would improve miner safety in two ways. First, MSHA would free up resources enabling them to focus on operators who could benefit from greater oversight. Second, it would provide an incentive for well-meaning operators to tighten safety standards in an effort to earn their "good performer" status.

There is something fundamentally wrong when a safely run quarry is constantly scrutinized by one Federal Agency (MSHA) while a shoddily maintained asphalt plant on a neighboring property has never even seen an OSHA inspector. While the Mine Act demonstrates that the Government values a quarryman's life above that of a construction worker, it is a tremendous disincentive to the conscientious quarry manager to bear the brunt of multiple annual inspections that do not correspond to saving lives or preventing injuries.

Question 3. One thing we all seem to agree on is that miners in this country need to have better communications technology available to them. At the subcommittee roundtable that Senator Isakson and Murray hosted last week, it was apparent that while there is some technology commercially available that may allow miners in some mines to receive text messages, however, for the most part the communications technology we all dream of is not yet on the market for mining applications. Do you have any thoughts on what we can do to parlay the expertise and resources of NIOSH and MSHA and private industry to create and manufacture this technology?

Answer 3. I would like to believe that this issue is somewhat more complicated than a simple matter of "supply and demand," but it most likely is not. With all of the pressure to have instant and effective communications equipment for all miners in all mines, we have to prudently determine the most appropriate way to create the demand for technology that will actually improve safety in each application.

In this era when communications products are actively being developed, it makes the most sense to provide a positive incentive for mines to experiment with technology, or perhaps a highly managed set of pilot projects through a cooperative effort between NIOSH and MSHA. I am afraid that the effect of a regulatory standard

mandating the use of advanced communication equipment would be to encourage operators to adopt the cheapest system that would meet the minimum requirements. This would stifle the development process and leave the miners to rely on sub-standard equipment. Better to first encourage experimentation. Then, once this practical experimentation yields a pool of options that have proven successful in a variety of applications, we could consider mandating systems with specific elements of functionality.

QUESTIONS OF SENATOR KENNEDY

Question 1. Since your testimony acknowledges that some mines have inadequate breathing protections and obsolete communications systems, while other mines go beyond what is required, shouldn't we require all mines to aim high and meet a high standard for safety?

Answer 1. As a safety professional, I wholeheartedly agree that all employers should be required to meet a high standard for safety. The trouble with this particular problem is that there is no existing technology that can fundamentally perform to the degree necessary to satisfy any meaningful standard that would be written.

As I indicated above, I fear that a regulatory standard at this point might actually be counter-productive. If we require operators to implement underdeveloped communications technology, they will be inclined to select the most cost effective option that meets the broadest interpretation of the standard. At that point, the demand for the technology drops off and development will stall. It might be more prudent to begin with positive incentives for operators to implement advanced communications systems. This will have the effect of driving the demand for such systems, which will, in turn, encourage both competition and technological advancement. Once proven systems are identified, a more effective standard can be written that will provide a higher level of protection to miners.

Question 2. With regard to your suggestion that onsite rescue team and 15-minute accident notification requirements may be unachievable for small mines, wouldn't you agree that the life of a miner is equally valuable, whether he works in a small mine or a large mine? Do you have suggestions about how we can help small mines comply with strong safety protections without exposing their miners to greater risk?

Answer 2. As many of the mining operations I oversee employ less than 12 people, I appreciate your sentiment that miners deserve the same level of protection whatever the size of their mine.

The 15-minute notification requirement, however, is unworkable no matter the size of the operation. MSHA is not a first responder and the first critical moments after an accident should not become even more complicated than it already is with a reporting requirement that detracts from immediate response and care or miners.

In regard to onsite mine rescue teams, it is important to recognize the key element that makes these teams so special. That is the fact that every team member is a dedicated volunteer who willingly risks his personal safety to rescue another miner in a very hazardous environment. Small operations may not have six able-bodied employees who are willing to accept such a risk, much less endure the harsh physical requirements of the job.

As such, the current consortium option actually offers the best possible response in the event of an emergency. To improve the response, however, I would suggest a provision that mandates any group exercising this option to hold practical rescue training exercises in each mine they will cover. Further, I support the idea of reducing the current requirement of locating teams within 2 hours ground travel to require teams to locate within 1 hour of the mine to which they are responding.

Question 3. In countries such as Australia, mine operators are required to perform a detailed and rigorous risk analysis before they begin operations. Is this kind of risk analysis done in any of the mines you are familiar with? Should this kind of comprehensive and continuing risk analysis be required in American mines?

Answer 3. I am admittedly not familiar with the Australian requirement referred to in the question. In the United States, however, MSHA enforces several different standards that require the examination of working places, ground conditions, tools and mobile equipment each shift and again as conditions warrant.

Risk assessments themselves are very detailed and structured exercises that give tremendous insight on the best allocation of resources to provide the highest level of protection for an organization's employees, the public and the environment. Progressive companies employ this technique at measured intervals to ensure that their controls are still appropriate. My company, Hanson Aggregates, employs a formalized risk assessment program for our mining operations.

The Job Safety Analysis (JSA) may be a more appropriate tool to use in addition to the examinations already required. This is a technique for identifying each step of a job and addressing the potential hazard of each step. MSHA is currently promoting a form of this in their "S.L.A.M." campaign, which encourages miners to Stop, Look, Analyze & Manage hazards.

Question 4. With regard to your concern that different mines and industries face different health and safety risks, wouldn't you agree that in an accident in any underground mine, in order to ensure the safety of the miners, miners must be able to communicate with rescuers, be located, have sufficient oxygen, and have access to either an area of refuge or an escape route?

Answer 4. More importantly, it is critical to first have a warning system to alert miners that they should evacuate the mine or implement the proper emergency response plan. Beyond that step, all mines will have very different needs that will be primarily dictated by their ventilation and egress.

While it is true that the safety assurances presented in the question are important in some entrapment scenarios, the degree to which they would be needed and the means by which they should be provided are still very different. Miners in a 36-inch coal seam will have an immediate need for breathable air that miners in a 36-foot high stone mine will most likely not have. Those who work in single leveled horizontal mines will not have the complex escape issues that miners in a vertical shafted multiple level facility will. Mandating controls that do not fit individual applications will have a negative impact on safety.

Again, thank you for including Mr. Neason in the March 2 hearing. If there is anything ASSE can do to support the committee's efforts, we trust your staff will not hesitate to ask.

Sincerely,

DAVID L. HEIDORN, JD,
Manager of Government Affairs and Policy.

RESPONSE TO QUESTIONS OF SENATOR ENZI AND SENATOR KENNEDY
BY MICHAEL PEELISH

QUESTIONS OF SENATOR ENZI

Question 1. As I am sure you are aware, much of overall regulation of workplace safety focuses on the elimination of potentially dangerous conditions. Some have criticized this approach because it does not adequately address the issue of human error or behavior that is often an element in workplace accidents. Do you have any suggestions as to how we might address this issue more directly, or completely?

Answer 1. While MSHA and the industry cannot abdicate their responsibility to control potentially hazardous conditions, a strong focus must be paid to development of the individual employee's safety consciousness and individual accountability for workplace safety. Research has shown that changing behaviors will reduce serious injuries and fatalities. DuPont, a world leader in safety, estimates that 90 percent of all accidents are caused by unsafe acts. With the dynamic and changing face of this industry's workforce, instilling these basic principles in our newer employees is especially critical at this juncture.

To change behaviors requires a more systematic approach to workplace safety and health. For instance, management must install a methodical approach to reviewing the mechanisms of injuries in planning work tasks. For any task, there will be risks. If a plan is developed to address those risks before the job is started, then the probability of injury is reduced. The mechanism of injury can be eliminated or barriers constructed to prohibit the mechanism from causing injury. How can this be done? For some operators, systematic approaches are already incorporated in the work tasks. However, this is not true for many operators because they do not have the skills or competencies to address these issues. Requiring operators to have a more behavioral-based safety program is paramount versus the current reactive programs concerned with compliance. Current Part 48 safety training does not address behavioral-based safety training. Part 48 could be revised to eliminate repetitive and wasteful training to require operators to train its miners in behavioral-based safety training. For instance:

- Redefine what should be required for hazard training;
- Revamp annual refresher training to be performance based versus the current mundane prescriptive training;
- Revise task training to address more of the behavioral safety performance and less of the "paper chase" safety training required for each task or piece of equip-

ment. Now, task training is a regulation used to second-guess an operator during a postaccident review;

• Revamp how contractors are hazard trained at a mine based on the tasks a contractor is performing such as mine laborer, specialized skill sets for specific jobs performed such as seal construction or roof gluing, and/or work functions such as tire maintenance or drilling and blasting.

Each of these tasks requires a different type of training versus the one-size fits all training currently mandated by the regulation.

The other aspect to improving behaviors is accountability at the miner, management, and MSHA levels. The accountability of miners and management is management's prerogative. The accountability of MSHA can only be achieved based on the improved incidence rates at mines.

In the mid-1990's, Foundation Coal's predecessor was involved in a MSHA and industry "informal partnership" effort to reduce surface haulage accidents. The approach taken by a small team was to create best practices. In all, the team developed 20 or so best practice cards involving large truck blind spots, lighting on waste dumps, seat belt use, and dumping on waste dumps. These laminated cards were shared primarily with small operators who did not have the resources to create such programs on their own. In some cases, better technology was part of the solution. The bottom line was that valuable information was available to operators.

Another approach is the SLAM (Stop-Look-Analyze-Manage) program initiated by MSHA last year which was developed in a mine formerly owned by Foundation Coal's parent in Australia and which focuses on individual's taking responsibility and accountability for risks assessments. Similar programs are in place elsewhere in the industry. The SLAM program was well-intended, however, this program has not taken off because MSHA's approach is to focus on the mine not on the miner. Intuitively, many folks within MSHA believe in behavioral safety training, however, the Mine Act does not permit MSHA to effectively follow through on this concept. For instance, MSHA is obligated to inspect every roof bolting machine for compliance but it is not obligated to observe any roof bolter for safe work performance. If prevention of injuries is the Agency's objective, it must be allowed to direct its resources and attention to innovative approaches that increase the likelihood of reducing accidents rather than remaining wedded to the conventional inspection regime.

Question 2. You are a lawyer as well as a mining engineer. One of the proposals that have been put before this committee would prohibit the Mine Safety and Health Review Commission from "decreasing" any civil penalties for "flagrant" or "habitual" violations. Does this provision raise any concerns with regard to the Constitutional right to due process in your mind?

Answer 2. Such a proposal strikes me as at odds with fundamental notions of fairness and due process. It removes any opportunity for operators to a fair and meaningful hearing on whether the proposed penalty is supported by the underlying facts of a citation issued by MSHA. In short, operators would have no right to a hearing on matters related to the proposed sanction associated with an alleged citation, *i.e.*, the civil penalty. Such an approach would make civil penalties, in certain cases, "unreviewable" at the request of the operator, yet remain subject to increase at MSHA's request or upon the commission's own initiative.

The very notion that sanctions proposed by an Agency are insulated from review by an independent tribunal is, as far as we are aware, unprecedented. For all practical purposes, this approach simply deprives a charged party with the right to be heard and present evidence on whether the alleged conduct ever took place and whether, even if it did, the conduct amounted to a violation of the Mine Act. Although we have grave doubts that it would pass constitutional muster, proponents of this approach would be hard pressed in justifying that such an unusually harsh and unfair administrative review process should only apply to safety and health laws or the mining industry.

Question 3. One thing we all seem to agree on is that miners in this country need to have better communications technology available to them. At the subcommittee roundtable that Senator Isakson and Murray hosted last week, it was apparent that while there is some technology commercially available that may allow miners in some mines to receive text messages, however, for the most part the communications technology we all dream of is not yet on the market for mining applications. Do you have any thoughts on what we can do to parlay the expertise and resources of NIOSH and MSHA and private industry to create and manufacture this technology?

Answer 3. There may be many methods with the potential to be further developed into systems which may someday enhance communications systems for miners. In

all practical day to day communication systems presently available, both power for the system and the system backbone must be inside the mine. These systems work well for daily activities and for all but the most catastrophic incidents such as occurred at Sago. To work on a system that will provide some type of communications capability in that type of event is a technological challenge. Let us not forget the Paredo concept and basic risk assessment. We may be able to develop a system that will provide communications to most miners in most emergencies, whereas, it may be totally impractical to develop a system that provides communications to all miners in all emergencies.

This process of reviewing emergencies communications has started through the NIOSH sponsored Mine Emergency Communication partnership. This partnership has the governmental, industry and labor expertise to move forward. However, what it needs are the resources to evaluate possible technologies currently offered by commercial companies and/or maintained by other agencies such as the Department of Defense and NASA. Then because the market place is so small, the concepts of incentives or subsidies must be considered. To develop new technologies is not in the best interests of manufacturers if the market place is less than several thousand underground mines.

Question 4. During today's hearing we discussed a number of existing and adaptable technologies and equipment which would aid in postaccident rescue, but we did not discuss the cost of this technology. Can you estimate how much it would cost to install these respective technologies and equipment, including communication devices, locator devices, additional oxygen equipment and refuge chambers?

Answer 4. This is a difficult question at this stage of the process. Foundation Coal has done a quick assessment based on the West Virginia law considering additional self-contained-self-rescuers and safety chambers for 3 large mines and 5 small mines and the estimated cost is approaching $9.0 million. This does not include communications or tracking systems which will most likely exceed this cost figure. Because the West Virginia law is so prescriptive, the mine operator is not allowed to innovate on how it provides, for instance, additional supplies of air. Rather, it has been told what it shall provide and how to provide it. Again, prescriptive regulation increases costs unnecessarily.

Congress was told that a communications system such as the PED system could be installed for as little as $25,000. This system for a moderate size mine is more likely to exceed $400,000 in equipment, installation costs and maintenance upkeep.

Further, tracking devices were stated to be $25 per device. The costs associated with the backbone needed to operate these trackers, transponders power suppliers, etc., will approach the levels mentioned for the PED systems and will not meet the goals of full mine coverage that are being discussed by various groups—locating all miners at all times.

QUESTIONS OF SENATOR KENNEDY

Question 1. As Foundation Coal has mines that use the PED communications systems, doesn't it make sense to require the use of PED messaging in all mines as part of an array of overlapping communications devices while we await the development of better and more versatile systems?

Answer 1. As noted in National Mining Association's written testimony, Foundation Coal used the PED system effectively in Utah in 1998 for initial one-way communication which was lost within minutes after the initial text message was sent. Since then, Foundation Coal has installed the PED system in two mines in West Virginia but because it was unreliable in those mines, it was removed from the mines. As Dr. Novak stated in his testimony before the committee, to place a technology in a mine that does not work is not sound safety practice. I would agree.

There is another practical issue that needs consideration. That is mines with a PED system have an in-mine antenna that has the same issues in an explosion as any other in-mine system. While certain manufacturers promote systems without underground communications relays, these systems are unproven in underground coal mine environments and were not promoted by these suppliers for U.S. underground mining applications until the recent tragic events. Other manufacturers have a history of failing to support their systems or, in the case of PED, advised operators that a surface antenna was not recommended for their underground mining operations.

Redundant communications systems are found in most mining complexes. Foundation Coal operates mines with two communication systems—a phone system and an in-mine "Leaky Feeder" antenna that provide two-way communications via hand held radios. To mandate Foundation Coal mines add a PED system would in all likelihood result in the decision to limit support of the leaky feeder system.

I believe that there may be more effective ways to provide sound day-to-day communications in mines that will provide communications for all but the most catastrophic event. That is why the industry is participating in the NIOSH-sponsored partnership formed to review mine emergency communications.

The National Mining Association member companies applaud Congress' interest in improved mine communication. We encourage the Congress to provide incentives to manufacturers, operators, and the agencies to develop better communication devices. We caution, however, against providing a monopoly through the mandate of one technology, however artfully marketed, that will not provide an answer to the issue of paramount importance at this time—improved "emergency" mine communications.

Question 2. Do you agree that mine companies should be required to repeatedly update their oxygen, safety training, and communications equipment and procedures used in mines so they reflect the newest available technology? If we fail to require continuing updates, don't we run the risk of finding ourselves where we are now with mine safety technology that has failed to keep pace with changes in the industry and increased production?

Answer 2. There is an assumption in your question that the industry had not been updating its technology, equipment, and procedures. A variety of effective, mine worthy communications systems are utilized in the United States, which have served us well. Many mines have caches of oxygen self-rescuer units available in caches underground in excess of legal requirements. Acting in a proactive manner, mines have installed early warning fire detection systems on conveyor belts and other key locations and mines continue to install the latest PLC systems that provide more reliable "fault" detection for systems including conveyor belt systems. Also, many mines have installed the proximity shutdown devices on continuous miners to eliminate crushing accidents. And the list goes on. Safety training and safety systems have also been continually improved. Many mines have been implementing more rigorous fire fighting training. Also, many operators have implemented safety processes including Safe Behavior Reinforcement programs.

Can we do more? Yes, there is always new technology or ideas that when proven reliable the industry will willingly implement. The NIOSH/Industry partnership leading the development of the personal dust monitor is an excellent example.

We assert, however, that safety training will play a key role in the improvement of mine safety in this decade. Nationwide we see a dynamic change in our workforce as a new generation of miners enters and the stable pool of experienced miners retires. The agencies should be encouraged to devote their efforts to this key area and adequate resources should be provided by the Congress to assure this new generation of miners is provided with the necessary safety training before entering the workplace.

Question 3. In countries such as Australia, mine operators are required to perform a detailed and rigorous risk analysis before they begin operations. Does Foundation Coal do something similar in its mines? Should this kind of comprehensive and continuing risk analysis be required in American mines?

Answer 3. Foundation Coal does perform risk assessments to varying degrees at its mining operations depending on the nature of the operations, e.g., continuous miner versus longwall or thick seam versus thin seam. This process is a sound safety practice and should be implemented at all mines. These assessments can range from an in-depth review of ventilation, respirable dust control, roof control systems and shield sizing before making a longwall system change, to a more basic assessment of machine design and modifications to provide a work platform for a dozer. Many of the risk assessments that are completed do not follow a planned risk assessment program.

Also, Australia has essentially eliminated its in-mine inspection program in deference to the risk assessment approach. The Australian culture is built on the risk assessment process and miners are familiar with how it works. The current United States regulatory scheme however, does not give credit to the mine operator for doing risk assessments. If MSHA were to require such a rigorous risk assessment, then its mission must change from being a compliance only Agency to a risk assessment Agency. Too much time is wasted by operators trying to deal with deminimis issues rather than doing what is suggested by your question.

RESPONSE TO QUESTIONS OF SENATOR ENZI, SENATOR KENNEDY, SENATOR HATCH, AND SENATOR BYRD BY JOHN HOWARD

QUESTIONS OF SENATOR ENZI

Question 1. In addition to conducting research, I understand that NIOSH often functions as the focal point for the exchange of ideas on mine safety among the many stakeholders. Could you give us an idea of how that process works, and if you believe there are ways that it can be strengthened or improved even more?

Answer 1. The underlying causes of mining safety and health problems may be well understood, but developing practical and effective solutions can be quite difficult. Sometimes the solution to one problem may actually exacerbate another problem, and so trade-offs must be determined and acceptable solutions crafted. Mine workers and mine operators bring unique expertise into the nature of the problems and the efficacy of solutions. Often manufacturers and others can contribute as well. When combined with NIOSH's scientific and engineering expertise, this group of customers, stakeholders, and researchers brings a critical collection of knowledge and experience to bear on mining safety and health problems. Often times, these groups are called together to examine very specific parts of a problem or proposed solution, and afterwards there is no continuing collaboration. In some cases, however, the problem is so large or widespread, complex, and perhaps controversial, that a more formal and longer term collaboration is indicated. We refer to these as "Partnerships."

Partnerships are integral to the NIOSH Mining Program. They facilitate advances in the safety and health of U.S. mine workers. Input from customers and stakeholder groups, which have inherent knowledge and concern about the health and safety of miners, helps in framing the problem and the possible solutions for which NIOSH research is required. Collaborative research with our partners provides in-kind contributions, such as equipment and test mine sites, to conduct research. As mentioned previously, the partners often add expertise or specialized experience to the research team, which is beneficial to the research experiments and analysis and interpretation of the results. This added expertise increases the likelihood that workable solutions will be developed more quickly. Once solutions are demonstrated, the existing Partnership then facilitates a more rapid and complete transfer of knowledge and products to the mines. Some of the partners that provide input are:

Labor

- United Mine Workers of America (UMWA);
- United Steelworkers of America (USWA);
- International Union of Operating Engineers (IUOE).

Industry

- Bituminous Coal Operators' Association (BCOA);
- National Mining Association (NMA);
- National Stone, Sand and Gravel Association (NSSGA);
- Industrial Minerals Association-North America (IMA-NA);
- Northwest Mining Association (NWMA).

In addition, a number of State organizations, universities, manufacturers, and Government Agencies participate in research partnerships.

Overall we are pleased with the use of partnerships. Partnerships, though, to be truly effective are like business relationships—they need to be nurtured.

For additional examples of our research partners, please visit the mining evidence package for the NAS (National Academy of Sciences) review at (http:www.cdc.gov/niosh/nas/mining/whatdoes-partnerships.htm).

Question 2. Currently, NIOSH exchanges research data through professional and academic channels already; however, I would be interested in whether you believe this kind of valuable information exchange might benefit from an additional formal or structured process?

Answer 2. NIOSH researchers participate actively in professional society meetings, publish in cross-disciplinary journals, and take other steps to become knowledgeable about problems and solutions in related applications. In some cases, practices or technologies from a nonmining application are adopted or modified to meet a mining need. In other cases, mining developed practices are transferred to other sectors where they are adopted or utilized in a similar fashion. Overall, this process has worked satisfactorily. Nonetheless, the recent focus on mine-disaster issues, including the roundtable discussion conducted by the Senate subcommittee, has revealed opportunities to improve this process.

QUESTIONS OF SENATOR KENNEDY

Question 1. Provide a breakdown of overall NIOSH (or predecessor Agency) funding levels from 1990 through the present, including a breakdown of the funds specifically designated for the Institute's mine safety program.

Answer 1. The mine safety and health functions of the former Bureau of Mines transferred to NIOSH in 1997. $31,913,000 transferred to NIOSH to support the mining operations in Pittsburgh, Pennsylvania, Spokane, Washington and Lake Lynn, West Virginia. Congress appropriated an additional $5 million to support these operations in 2005.

The following table outlines total dollars spent by NIOSH on mining-related research since 1997. In addition to funding appropriated to NIOSH specifically for these activities, NIOSH also invests other occupational safety and health dollars into high priority mining research. NIOSH does not hold the official budget records for the mining program prior to its transfer from the Bureau of Mines in 1996.

NIOSH Mining Earmark Fiscal Year 1999–Fiscal Year 2006

Fiscal Year	Funding ($ in thousands)
2006	$37,948
2005	$37,960
2004	$33,863
2003	$36,111
2002	$39,886
2001	$39,354
2000	$36,678
1999	$35,620
1998	$33,934
1997	$32,063

Question 2. Describe how funding levels have affected the Institute's ability to conduct studies, research, and testing of mine safety equipment and processes, including a list of any specific initiatives that the Institute has canceled, curtailed or abandoned because of insufficient funding over the last 10 years.

Answer 2. NIOSH has had to target its mine safety and health research activities toward the most urgent research needs identified in collaboration with our customers and stakeholders.

Examples of specific areas that were not fully funded include:

1. Explosion prevention research.
2. Research to develop technology to remotely install mine seals during mine fires.
3. Blasting and explosives safety research.
4. Technology development of promising concepts.
5. Investigation of Methane Control Issues in Underground Mines.

Question 3. Describe any equipment or facilities that the Institute has failed to maintain or modernize because of funding shortages. Is it true that the Institute operates a mobile chest x-ray van but can only afford to use it for 2 weeks out of the year?

Answer 3. The Mine Roof Simulator, which is used to test mine support systems, has not had a major overhaul and upgrading of its computer systems since it was constructed almost 30 years ago. It is the only facility in the United States capable of conducting test of new and innovative roof support technology.

Large-scale fire and explosion prevention and mine rescue research is conducted at the Lake Lynn Laboratory and Experimental Mines, which is a leased facility. Efforts to maintain and modernize have been limited because the lease is set to expire in September 2008. This is the only facility in the United States for conducting explosion prevention research.

Other facilities that have been identified as needing maintenance and modernization include the Coal Face Methane Control Laboratory, the Longwall Dust Gallery, and the Pittsburgh facility.

As far as the mobile chest x-ray unit, we are able to use the van more than 2 weeks out of a year. In 2006, NIOSH received funding to operate a mobile chest x-ray unit that will visit a minimum of two regional areas per year (time spent at a location will vary based upon the number workers to be screened, etc.). These regions have been designated through surveillance data as areas of high prevalence for coal workers' pneumoconiosis. This project builds upon the mandates set forth

by The Federal Coal Mine Health and Safety Act, which directed NIOSH to study the causes and consequences of the coal-related respiratory disease. In cooperation with the Mine Safety and Health Administration (MSHA), CDC-NIOSH is carrying out a program for early detection and prevention of coal workers' pneumoconiosis (CWP) that exceeds mandated requirements—the Enhanced Coal Workers' Health Surveillance Program (ECWHSP).

MSHA initiated a pilot x-ray screening program (Miners' Choice Health Screening) in fiscal year 2000. It extended screening to surface coal miners and covered all costs of chest x-rays obtained under the program. NIOSH supported the program by evaluating chest x-rays and mailing results to miners. The Miner's Choice Health Screening program detected pneumoconiosis in previously unscreened surface miners and increased overall participation in mandated screening of underground coal miners. MSHA's Miner's Choice program ended several years ago, but its goals of increasing the availability of health screening and participation by both underground and surface coal miners will now be addressed by the ECWHSP, which is based in NIOSH and being conducted in collaboration with MSHA.

The Enhanced program has the following goals: (1) implement an outreach program to increase awareness and knowledge of CWP; (2) survey health and mining conditions in areas with reports of CWP among young or short tenure miners and/or rapidly progressive disease; (3) evaluate the representativeness of the prior participants in the CWHSP, and implement a statistical sampling strategy that will provide valid estimates, including confidence limits, of the health and economic burden of dust-related disease from the U.S. coal mining industry; (4) investigate potentially remediable causative or contributing factors for lung disease in current underground coal mines.

Question 4a. Has NIOSH done studies on the effectiveness of different types of mine seals?

Answer 4a. The Bureau of Mines in the 1990's and now NIOSH have conducted studies on the effectiveness of mine seals. The primary purpose was to determine whether they met the 20 psi standard of 30 CFR 75.335 so that MSHA could determine their suitability for underground coal mine use. In some cases, tests were conducted at higher pressures to determine the ultimate strength of the seals. Upon request by MSHA, NIOSH tests each new mine seal design subject to the requirements of 30 CFR 75.335 before MSHA can deem the design suitable for underground coal mine use. In addition to the standard explosion test, NIOSH has developed alternative testing methods for mine seals under hydrostatic loading.

Question 4b. Does NIOSH have an opinion about the increased use of foam—like Omega blocks, rather than traditional concrete, to seal inactive areas of mines?

Answer 4b. Seal manufacturers design mine seals to meet the requirements of 30 CFR 75.335. Before seal designs can be approved as part of a mine ventilation plan, NIOSH tests these designs subject to the static load requirements of 30 CFR 75.335. NIOSH does not form an opinion about the suitability of different materials that manufacturers use to construct various types of seals.

Question 4c. Do you believe that a 20 psi standard is sufficient to withstand a major force explosion?

Answer 4c. The 20 psi standard proposed by MSHA is discussed in the Federal Register, vol. 57, no. 95, p. 20887, May 15, 1992. The 20 psi standard refers to U.S. Bureau of Mines Report of Investigations No. 7581 (1971). This report states that "bulkheads may be considered "explosion proof" when they withstand a static load of 20 psig provided that the area to be sealed contains sufficient incombustible to abate the explosion hazard . . ." It also states that "gas-air exchanges between sealed and open portions of a mine must be controlled . . ." The object of these requirements is to limit the possible volume of flammable gases that can participate in an explosion. The 20-psi standard may not be sufficient if these requirements are not met. Given a mounting body of evidence, mines may not be able to satisfy all of the requirements on which the 20 psi standard was established. Therefore, we believe it is prudent to prepare research experiments to reexamine the 20 psi standard.

Question 4d. Has NIOSH done any studies regarding the effectiveness of the 20 psi standard since adopting it in 1992?

Answer 4d. NIOSH has examined all MSHA reports about major mine explosions including the cases in which seals have been destroyed. NIOSH Technology News No. 489 (2001) states that, "if a large flammable gas volume exists in the mined-out area, the resulting explosion pressure can be greater than 20 psi." This finding was based on MSHA Accident Investigation Report, Non-Injury explosion, Oak

Grove Mine, July 9, 1997, which states that "the propagating forces of the explosion that destroyed the No. 29 seal were estimated to be greater than 20 psi."

References

Weiss E.S., Cashdollar K.L., Mutton I.V.S., Kohli D.R., Slivensky W.A. 1999. Evaluation of reinforced cementitious seals. Pittsburgh, PA: U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, Pittsburgh Research Laboratory, RI 9647, 35 pp.

Sapko M.J., Weiss E.S., Cashdollar K.L., Greninger N.B. 1999. Overview of NIOSH's Mine Seal Research. Paper in Proceedings of the 28th International Conference of Safety in Mines Research Institutes, (Sinaia, Romania, June 7–11, 1999), v. 1, pp. 71–85.

Weiss E.S., Cashdollar K.L., and Sapko M.J. 2002. Evaluation of Explosion Resistant Seals, Stoppings, and Overcast for Ventilation Control in Underground Coal Mining. NIOSH, Pittsburgh Research Laboratory, RI 9659, 48 pp.

Sapko M.J., Weiss E.S., Trackemas J.D., Stephan C.R. 2003. Designs for rapid in-situ sealing. In: Proceedings of the 2003 SME Annual Meeting, Cincinnati, OH, February 24–28.

Sapko M.J., Weiss E.S., and Harteis S.P. 2005. Methods for evaluating explosion resistant ventilation structures. In: Proceedings of the Eighth International Mine Ventilation Congress, The Australasian Institute of Mining and Metallurgy, Brisbane, Australia, July 6–8, 2005, pp. 211–219.

Scott, D.S. and Stephan, C.R., MSHA Accident Investigation Report, Non-Injury explosion, Oak Grove Mine, July 9, 1997.

NIOSH Technology News No. 489 (2001), Reducing the Danger of Explosions in Sealed Areas (Gobs) in Mines.

Stephan, C.R., Construction of Seals in Underground Coal Mines, MSHA Report No. 06–213–90 (1990).

Mitchell, D.W., US Bureau of Mines Report of Investigations No. 7581, Explosion-Proof Bulkheads (1971).

Question 5a. Describe the role of NIOSH in past proposals to redesign the standard for emergency breathing devices, or SCSRs?

Answer 5a. Although MSHA and NIOSH are co-approvers for respirators used in mining, NIOSH is responsible for maintaining or revising those parts of 42 C.F.R. 84 which apply to emergency breathing apparatus, including SCSRs.

Question 5b. What, if any, recommendations did NIOSH make during the MSHA rulemaking process, or at any other time?

Answer 5b. In response to a MSHA request for information, RIN 1219–AB44 dated January 20th 2006, NIOSH provided information proposing that MSHA maintain the requirement that SCSRs rated for 1 hour duration be maintained and that MSHA consider the number of 1 hour SCSRs that are required to be provided for each miner. Both of these recommendations are in the MSHA emergency standard.

In the NIOSH response to the MSHA request for information NIOSH recommended that MSHA implement a mandatory registration program for SCSRs. In the emergency rule MSHA did not implement registration but solicited information on the appropriateness of collecting certain information concerning the inventory of SCSRs in mines.

In another comment to the MSHA request for information NIOSH suggested that more emphasis should be placed on inspection of SCSRs. In the emergency rule MSHA does provide for more frequent training on the use, care and maintenance of SCSRs.

SCSR Draft Standard

Also, since 2001, NIOSH has been working on draft standards for Closed-Circuit Emergency Respirators (CCERs), a class of respirators that includes SCSRs.

In 2005, as part of that process, NIOSH met twice with MSHA to review and discuss the new standard.

SCSR Research

In the MSHA request for information, MSHA asked whether there are more effective technology to protect miners than the SCSRs currently available?

NIOSH responded potentially yes and described two technologies worthy of further research. These are:

• Hybrid System—a combination of an SCSR with an air purifying respirator. Prototypes of this type of respirator were discussed at NIOSH/MSHA sponsored Self-Contained Self-Rescuers Breathing System Workshops (June and December

2005) held in conjunctions with the National Technology Transfer Center (NTTC) of Wheeling Jesuit University.

• Dockable (piggyback) SCSR—Additional units would be connected (snapped) to the initial SCSR thus eliminating the need to make multiple donnings and would have similar benefits as a hybrid system. This type of units is allowable under interpretations of current MSHA regulations (30 C.F.R. Part 75.1714) which permits a 10/60 respirator.

Question 5c. How did MSHA respond to any recommendations made by NIOSH?

Answer 5c. See comments to question 2 above. In response to the NIOSH comments to the MSHA request for information, MSHA adopted two NIOSH recommendations:

A. NIOSH recommended that the requirement for 1 hour rated SCSRs be retained. MSHA retained the 1-hour rated SCSRs as recommended.

B. NIOSH recommended that MSHA determine the number of 1 hour SCSRs that are provided for each miner. MSHA supported this recommendation.

MSHA is working with NIOSH on the proposed CCER standard.

Question 6. Provide any studies, opinions, or recommendations that NIOSH has made with respect to mine conveyor belt flammability. Describe if and how any recommendations were conveyed to MSHA and how MSHA responded to the Institute's recommendations.

Answer 6. In the late 1980s, the U.S. Bureau of Mines, now NIOSH, conducted a study, in cooperation with the MSHA Approval and Certification Center, Triadelphia, WV, on the flammability of conveyor belting. The study assessed the flammability behavior of conveyor belting in a large-scale gallery test. The large-scale test results were utilized to develop an improved laboratory-scale ventilated tunnel fire test for flame-resistant belting (Belt Evaluation Laboratory Test).[1 2] The Bureau also prepared and submitted to MSHA fire testing procedures and construction drawings for the Belt Evaluation Laboratory Test in March, 1989.[3]

The Bureau of Mines presented the study findings at a public meeting on MSHA's Conveyor Belt Flammability Program held on March 15, 1989, at the MSHA Approval and Certification Center.[4] MSHA also initiated a voluntary program by which belt manufacturers could submit conveyor belt samples, free of charge, to be tested by the Bureau with the new procedure.[5] The Bureau constructed a test apparatus for MSHA that was installed at its Approval and Certification Center and the majority of the submitted samples under this interim testing program were tested there by MSHA personnel.

MSHA published a proposed rule "Requirements for Approval of Flame-Resistant Conveyor Belts" in the Federal Register on December 24, 1992.[6] The proposed rule would have replaced the current small-scale test procedure for approval of flame-resistant conveyor belting used in underground coal mines with the more stringent Belt Evaluation Laboratory Test. A public Hearing on "Requirements for Approval of Flame-Resistant Conveyor Belts" was conducted by MSHA in Washington, PA, on May 2, 1995. At this hearing, the Bureau of Mines presented a statement[7] that included the following:

"Conveyor belts that pass the proposed new test have improved fire resistance and are much less likely to spread flame, which also reduces the potential for a serious toxic hazard. The use of the improved fire-resistant conveyor belts in mines would significantly reduce the risk of severe belt fires. Based on these findings, the Bureau of Mines recommends that the proposed new laboratory-scale test procedure for approval of flame-resistant conveyor belts be adopted."

The rule making process continued for several years and the proposed rule reached the final rulemaking stage. On July 15, 2002, MSHA announced in the Federal Register that the proposed rule "Requirements for Approval of Flame Resistant Conveyor Belts" was withdrawn and presented its reasons for withdrawal.[8]

References

1. Lazzara, C.P. and F.J. Perzak, Conveyor Belt Flammability Studies, Proceedings of the 21st Annual Institute on Coal Mining Health, Safety, and Research, 1990, pp 119–129.

2. New Flammability Test for Conveyor Belting. Bureau of Mines Technology News 377, March 1991.

3. Fire Testing Procedures and Construction Drawings for the Belt Evaluation Laboratory Test, Bureau of Mines, March 1989.

4. Minutes of Public Meeting on MSHA's Conveyor Belt Flammability Program, Mine Safety and Health Administration, Approval and Certification Center, Triadelphia, WV, March 15, 1989.

5. MSHA letter dated February 9, 1989.

6. Requirements for Approval of Flame-Resistant Conveyor Belts, Federal Register, Vol. 57, No. 248, Thursday, December 24, 1992, Proposed Rules, 61524–61535.
7. U.S. Bureau of Mines Statement at the MSHA Public Hearing on "Requirements for Approval of Flame-Resistant Conveyor Belts", May 2, 1995, Washington PA.
8. Requirements for Approval of Flame-Resistant Conveyor Belts, Federal Register, Vol. 67, No 135, Monday, July 15, 2002, Proposed Rules, 46431–46432.

QUESTIONS OF SENATOR HATCH

Question 1. What is the annual budget for mining research at the National Institute of Occupational Safety and Health (NIOSH)? Does this program have its own line item in the budget?

Answer 1. The total budget for mine safety and health research at NIOSH is $38 million. Of this amount, $31 million is used to support research at the Pittsburgh and Spokane Research Laboratories where the safety and health programs from the former Bureau of Mines are located. The remainder of these funds supports health-related research in respiratory disease studies, a component of the NIOSH program focused on mining exposures causing occupational diseases, and the facility costs for the Pittsburgh and Spokane operations. In the CDC budget, occupational safety and health has its own line item, of which mining is a component.

Question 2. It is my understanding that NIOSH inherited mining research programs when the Bureau of Mines was eliminated in 1995. Do you recall what annual budget for the Bureau of Mines was before it was eliminated? How has the decrease in funding affected mine safety research?

Answer 2. In 1994, the last full year of operation before closure preparation was underway, the Bureau of Mines' spent $54.9 million, excluding facility operating costs, on mining safety and health research. In 1997, when the program was transferred to NIOSH, NIOSH received $32 million, to continue the Bureau's mining safety and health program, including facility costs associated with this program. In fiscal year 2006, the budget is $38 million and the request for fiscal year 2007 remains level.

With this funding level, NIOSH has targeted its mine safety and health research activities toward the most urgent research needs identified in collaboration with our customers and stakeholders.

QUESTIONS OF SENATOR BYRD

Question 1. What has NIOSH done with its $31 million annual budget for mine safety?

Answer 1. Note: $32 million transferred from DOE to NIOSH to support the mine safety and health functions of the former Bureau of Mines. In fiscal year 2005, the total budget for mine safety and health research at NIOSH was $38 million.

NIOSH's research and prevention activities have contributed to a reduction in fatalities, injuries and occupational disease's in the Nation's miners. Examples to illustrate the breadth and the general types of NIOSH's contributions are:

Engineering Controls: NIOSH develops technology to reduce or eliminate a specific hazard in the mine. Specific examples include:

- Reducing the noise on continuous mining machines using coated flight bars;
- Improved seat design for low-seam shuttle cars;
- Mobile roof supports for retreat room and pillar mines;
- Control of horizontal stress in mine roofs to reduce rock fall injuries and fatalities;
- Ventilation technology for large-opening stone mines;
- Methods to manage methane gas in underground coal mines.

Monitoring/Measurement: NIOSH develops measurement or monitoring technology to satisfy a critical safety or health need: Specific examples include:

- A real-time wearable personal dust monitor to empower miners to reduce respirable dust exposure without having to wait for a laboratory to return measurement results to them.
- A coal dust explosibility meter to provide a direct assessment of the potential explosibility of a coal and rock dust mixture, to prevent dust explosions.

Training Miners: NIOSH develops training materials to allow miners to perform their tasks safely, and NIOSH training packages have been used by hundreds of thousands of miners. Specific examples include:

- Electrical safety training to reduce overhead power line injuries;
- Interactive problem solving stories;

• Mine training videos;
• Western Train-The-Trainer Forum.

Training Rescuers: We train mine rescue teams and fire brigades at our facilities, and also conduct onsite training for mine workers and mine operators. Examples include:

• Realistic training for mine emergency responders at our NIOSH experimental mines;
• Computer-based training simulation to prevent loss of life during mine emergencies.

Best Practices: NIOSH identifies effective practices for removing safety or health hazards, documents those practices, and then disseminates them throughout the mining industry. Specific examples include:

• Reducing work-related musculoskeletal disorders in mining in partnership with Bridger Coal Company;
• System safety best practices to reduce injuries due to malfunctioning computerized mining systems.

Engineering Guidelines: NIOSH develops design models and tools to help safety professionals design safer and healthier mines. Examples are:

• Guidelines for reducing the probability of carbon monoxide poisonings associated with trench blasting;
• Guidelines for the safe use of waste motor oil in ANFO;
• Guidance for applying proximity warning systems to surface mining equipment;
• Design guidelines for safe highwall mining systems;
• Guidelines for coal pillar recovery.

Test Criteria: NIOSH develops criteria for testing materials and products to ensure that they satisfy certain safety or health objectives. Specific examples are:

• Transfer of explosions and fire expertise and test procedures to industry;
• Testing of flammability of noise control materials;
• Testing of flammability of conveyor belt materials.

Testing: NIOSH conducts a limited amount of testing in those cases where it is uniquely able to do so. Examples include:

• Testing of roof support devices at our mine roof simulator facility;
• Testing of explosives at the request of MSHA for determination of the cause of accidents.

Scientific Foundation for Rulemaking: NIOSH conducts research to provide a basis for regulations that will protect the safety and health of miners, when requested by MSHA. Examples include:

• Revision of the final MSHA rule on the interim diesel particulate matter standard for underground metal/nonmetal mines;
• MSHA high-voltage longwall regulations;
• Proposed MSHA regulation to improve high-voltage continuous miner electrical safety.

We conduct extensive research in the mines, and have conducted onsite work at mines in nearly every State; we complement this in-mine research effort with a robust experimental program at our unique mining laboratories; and we have an aggressive program to transfer our research into practice. Since we do not operate the mines or manufacture the equipment used in the mines, our ability to transfer our research to practice depends on the cooperation of others. We depend upon the private sector to commercialize certain technologies, the mining companies to employ our best practices, guidelines and control technologies, and MSHA to adapt our findings into regulations or to disseminate our findings in their compliance assistance activities. We do not leave this transfer to chance. We form partnerships with labor, industry, and Government organizations and take other steps to improve the implementation of our work at the mine level.

Question 2. What new equipment has been introduced into the mines because of the work of NIOSH?

Answer 2. Evidence of NIOSH's impact is present throughout the mines, as illustrated in the previous paragraphs. The introduction of new equipment as an outcome of our research activities is one of several mechanisms NIOSH has to impact safety and health in the mines. Specific examples for underground coal would include: the mobile roof supports used in nearly every coal mine pillaring operation; the innovative roof supports that reduce roof falls; improved mine rescue technology including directional lifelines, inflatable seals, and rescue team communication systems; dust suppression sprays of the shearer and the flooded bed scrubber on contin-

uous miners that reduce exposure to respirable dust, as well as a wide range of other dust suppression technologies; the shuttle car seat that reduces lower back injuries; and the quieter continuous miner conveyor chain that reduces noise levels. Two recent equipment innovations that are ready to begin transfer to the mine are the real-time personal dust monitor and the coal dust explosibility meter. A more detailed description of the impact of NIOSH's mining program is given in Chapter 3 of the mining evidence package for the NAS review at (http://www.cdc.gov/niosh/nas/mining/).

[Whereupon, at 12:40 p.m., the committee was adjourned.]

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