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S. HRG. 110–471

UTAH MINE DISASTER AND PREVENTING FUTURE TRAGEDIES

HEARING

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

SPECIAL HEARING

SEPTEMBER 5, 2007—WASHINGTON, DC

Printed for the use of the Committee on Appropriations

Available via the World Wide Web: http://www.gpoaccess.gov/congress/index.html

U.S. GOVERNMENT PRINTING OFFICE

43–788 PDF WASHINGTON : 2008

For sale by the Superintendent of Documents, U.S. Government Printing Office
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UTAH MINE DISASTER AND PREVENTING FUTURE TRAGEDIES

WEDNESDAY, SEPTEMBER 5, 2007

U.S. SENATE,
SUBCOMMITTEE ON LABOR, HEALTH AND HUMAN SERVICES, AND EDUCATION, AND RELATED AGENCIES,
COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:32 a.m., in room SH–216, Hart Senate Office Building, Hon. Tom Harkin (chairman) presiding.

Present: Senators Harkin, Murray, Byrd, Specter, and Bennett.

Also present: Senator Hatch.

OPENING STATEMENT OF SENATOR TOM HARKIN

Senator HARKIN. Good morning. The Appropriations Subcommittee on Labor, Health and Human Services, and Education will come to order for this hearing on the Utah mine accident and improving mine safety.

As you all know, last month an underground collapse in the Crandall Canyon Mine in Utah trapped six miners. All of our hearts and prayers go out to the families of those six missing miners. Three rescue workers died trying to save the trapped miners. One of these brave men, Gary Jensen, was an MSHA employee.

Mr. Stickler, I understand how difficult this must for you personally, and I offer my condolences to you and all of the MSHA family for the loss of Mr. Jensen.

Our hearing today will address what we know so far about why the accident happened and what we can do to prevent similar accidents from occurring in the future. One thing that my chairman and I share is that we both come from coal-mining families. My father started mining coal in Iowa, oh, about 1910. A lot of people don't know that Iowa was one of the most prolific coal-mining/producing areas of the country at that time. He mined coal for over 20 years. I can—now, that was long before I was born, but I can remember, as a kid, growing up, my father telling me the stories about those years in the mines, when they would go down the shaft before the sunrise and come up after the sunset. They would go weeks without ever seeing the sun, air being pumped down by men that would operate the pumps and pump the air down into the mines, and how many people were always getting killed. Always getting killed.

I came across an interesting figure the other day. More than 104,000 people have died in our Nation's coal mines over the last century—104,000. Hundreds of thousands more, like my own fa-

ther, succumbed to black lung disease—hundreds of thousands more.

So, when this accident happened, I remembered the stories of my father, telling me about what happened to them. You wonder, with all of this wonderful technology we have today, with the Mine Health and Safety Act of 1952, which mandates inspections—you wonder why this continues to happen like this. This is what we want to look into.

As I said, a lot's changed since the days my father mined coal, but I am concerned and disappointed that MSHA's not been able to approve the use of better communications and tracking systems, and that mine operators are not employing the best technology currently available to protect their employees.

Our hearing today will focus on what this subcommittee and agencies under its jurisdiction—MSHA and NIOSH—are doing to make mining as safe as possible. We also need to understand MSHA's actions leading up to the accident in the Crandall Canyon.

I have one basic question, Mr. Stickler—I'll get to that one with our opening questions—What did MSHA know about the so-called "bounces" or "bumps"—they're called "bounces" in the East, and "bumps" in the West, I guess; I call 'em cave-ins, that's really what they are—what about the bounces that occurred in March before it approved the plan to mine in the area of the accidents, 900 feet away—900 feet away—what did MSHA know about that? Is the approval process for this type of mining rigorous enough—this type of retreat mining? Is the inspection process identifying everything it should when miners are pulling pillars of coal 2,000 feet beneath the earth?

I have the report of the engineering company. Well, I have it someplace here, reading it last night. The report of the engineering company that went out and—after the first bounce in March, and then recommended the subsequent bigger pillars 900 feet to the south. What did MSHA know about this? I want to find out the answer to that question.

We also need to know how the rescue operation was developed. Did we get the best thinking and technology available, to the table? What did we learn about what other countries are doing in effective mine rescue operations that can be adopted here? MSHA sponsored the Third Annual International Mine Rescue Conference, just last week. What are we learning? Most importantly, why do we continue to have these hearings? We had 'em under Senator Specter, when he was chair. We had one earlier this year. Here we are again. Eighteen months since the hearing after the Sago disaster in West Virginia, Senator Byrd's home.

This Congress has taken significant steps to give the administration the resources and tools it needs to work toward zero fatalities and serious injuries in underground coal mines. The 2006 emergency supplemental appropriations bills included $25 million to hire more mine inspectors. Well, what happened, Mr. Stickler? The 2007 appropriations bill included more than $300 million for MSHA, $14 million more than the President requested in his budget. What's happened?

The administration must respond by effectively spending these substantial resources in delivering the kind of results that mining families across the country expect and deserve.

Now, I'm told that—actually, it's the Salt Lake Tribune really has done, I think, a superb job in investigative reporting on this, and uncovered a memo revealing that there had been serious structural problems at the Crandall Canyon Mine in March, 900 feet away; pointed out there had been 324 violations attributed to this company and its subsidiary, of which 107 were considered, in the words of a Federal mine safety agency spokesman, quote, "significant and substantial." Yet I think the total amount of fines to that company was about $19,000. These are serious allegations. We need to know what MSHA's doing, and we need to get to the bottom of this, and quit having these kind of hearings every time we have a disaster.

PREPARED STATEMENT

I know mining's unsafe. I know it is a hazardous occupation. But new technologies, new procedures, inspections, should reduce, to the minimum possible, these kinds of accidents. I don't think that's happening right now.

[The statement follows:]

PREPARED STATEMENT OF SENATOR TOM HARKIN

Good morning, the Appropriations Subcommittee on Labor, Health and Human Services, and Education will now come to order for this hearing on the Utah mine accident and improving mine safety.

As we all know, last month, an underground collapse in the Crandall Canyon mine in Utah trapped 6 miners. My heart goes out to the families of the 6 missing miners.

Three rescue workers died trying to save the trapped miners. One of those brave men, Gary Jensen, was an MSHA employee. Mr. Stickler, I understand how difficult this must be for you personally and I offer my condolences to you for the loss of Mr. Jensen. Our hearing today will address what we know so far about why this accident happened and what we can do to prevent similar accidents from recurring in the future.

I come from a coal mining family, so I appreciate the risks involved in mining. My father was a coal miner, starting around 1910. Not many people are aware that Iowa was a coal producing State in the early 20th century. In fact, my father mined coal there for 23 years.

Not only was Iowa an active coal State, it also is home to the great labor leader, John L. Lewis. Lewis was born February 12, 1880, to Welsh immigrant parents, in the coal mining camp of Cleveland, Iowa—one mile east of Lucas. Now, Lucas is home to a museum in his honor.

Anyhow, I'll never forget the stories my dad told me about how they used to pump air down into the mines, and ride rickety old elevators down the mine before sunrise and come back up after the sun had set. He and his fellow miners would describe the cave-ins and other tragic losses of their friends. The bravery of these men really left an impression on me. It's also why I believe we need to do all we can to protect workers who operate in dangerous settings like these.

A lot has changed since my father started mining in Iowa, almost 100 years ago. That's why I continue to ask why we don't have better systems for communicating safely and effectively with miners underground after an accident, or at least knowing where they are through some tracking technology. I am disappointed that MSHA has not been able to approve the use of better communication and tracking systems and that mine operators are not employing the best technology currently available to protect their employees.

Our hearing today will focus on what this subcommittee and agencies under its jurisdiction—MSHA and NIOSH—are doing to make mining as safe as possible. We also need to understand MSHA's actions leading up to the accident in Crandall Canyon. What did MSHA know about the bounces that occurred in March before it ap-

proved the plan to mine in the area of the accident? Is the approval process for this type of mining rigorous enough? Is the inspection process identifying everything it should when miners are pulling pillars of coal 2,000 feet beneath the earth?

We also need to know how the rescue operation plan was developed. Did we get the best thinking and technology available to the table? I know MSHA sponsored the third annual International Mine Rescue Conference just last week. What did we learn about what other countries are doing in effective mine rescue operations that can be adopted here?

Most importantly, why do we continue to have these hearings? Its been more than 18 months since the hearing after the Sago disaster in West Virginia.

This Congress has taken significant steps to give the administration the resources and tools it needs to work toward zero fatalities and serious injuries in underground coal mines. The 2006 emergency supplemental appropriations bill included $25 million to hire more mine inspectors. The 2007 appropriations bill included more than $300 million for MSHA, almost $14 million more than the President requested in his budget. The administration must respond by effectively spending these substantial resources and delivering the kind of results that mining families across the country expect and deserve.

Before we hear from our witnesses, I would like to recognize Senator Byrd and Senator Specter for their vital role on mine safety issues. Senator Specter and I continue the seamless passing of the gavel for this subcommittee and both had a great interest in calling for this hearing. He is a true friend to miners in Pennsylvania and the United States. His legislation was crucial in forging the bipartisan MINER Act, which was passed last June.

Senator HATCH. With that, I would defer to Senator Specter, then Senator Byrd, for opening statements.

OPENING STATEMENT OF SENATOR ARLEN SPECTER

Senator SPECTER. Thank you, Mr. Chairman.

This subcommittee is convened, again, to look into another tragedy, a coal-mining disaster taking the lives of six miners, the lives of three rescue workers, another great tragedy. Again, the question is, Why? Beyond the generalized question of why, there are many specific questions, which this subcommittee will inquire into.

At the outset, let me note the presence of our two colleagues from Utah: Senator Hatch, who had been the chairman of the Committee on Labor, in years gone by, going back to the 97th Congress, and Senator Bennett, who is on the full committee; and to note that Secretary of Labor Chao has appointed an independent team of mine safety experts, and that Governor Jon Huntsman, of Utah, is very deeply involved in the inquiry. But this subcommittee has been especially vigilant in this area for my tenure in the Senate, which goes back to the 1980 election. As Senator Harkin noted, we have been on these matters, regardless of who chaired the subcommittee, and the special diligence of the chairman of the full committee, Senator Byrd, who has a very deep interest in these subjects from his experience in West Virginia, which is a big coal-mining State.

The questions begin with the sale of the Crandall Canyon Mine from—UtahAmerica, Incorporated, purchased the mine from Andalex Resources on August 9, 2006, because Andalex declined to do any further mining at Crandall Canyon, because it was too risky for worker safety. Well, if it's too risky for worker safety, why do the mine operations go on?

Then there was a bump, or bounce. That's an expression which is used to describe a situation where, as here, you have 1,500 to 2,000 feet of coal—of mountain on top of coal pillars. When the mountain settles, there's pressure on the coal pillars, and the coal

explodes and fills the mine and coal with debris. There, on March 12 of this year, you had this kind of an occurrence. So, how could Mine Safety, your department, Mr. Stickler, authorize mining only 900 feet away from the mine collapse? Our inquiries have raised a question as to whether it was even known to MSHA. Hard to see how that would not be known, but that's a matter we're going to be pursuing here.

Then you have the issue of violations, which Senator Harkin commented about, 67 citations issued at Crandall Canyon since Mr. Murray purchased the mine. Twenty-one were, "serious and substantial," only fines of $19,662. The proposed penalty for 10 of those "serious and substantial violations" was zero. My experience as an enforcer has been that it takes tough penalties to deter misconduct. The question here, that looms over the entire proceeding with these nine deaths, is whether there was criminal negligence involved here, knowing that these risks were involved. We've got to get into the details as to what occurred here.

Your predecessor, Assistant Secretary David Lauriski, initiated a "new compliance assistance," as opposed to the greater emphasis on penalties, leading the United Mine Workers' testimony, "chilled enforcement efforts at the mine level had allowed operators essentially to negotiate workplace health and safety matters". So, we're really looking at a situation as to whether we have a license to ignore the law. Those are all major matters, which we have to look into.

Then you have the rescue operations, where—the incident was on August 6. On August 11, there was a significant bump. On August 15, there were three significant bumps. Then another bump on August 16, resulting in the death—two miners and an inspector. Well, what was the quality of the safety precautions taken with all of these bumps lined up? You have the testimony of a group of experts, Robert Ferriter, director of the Colorado School of Mines, 27-year veteran of MHSA, highly critical of the decision to allow retreat mining of the southern tunnel because of—the weight of the mountain above would not have been sufficient from the weight in the northern tunnel, which collapsed only 900 feet away from the operations. Similar comments made by Dr. Larry Grayson, head of the Penn State University Mining and Engineering Program, and Tony Opachar, former MSHA inspector.

Then you have the activity of Mr. Robert Murray, the owner, taking over on the relations with the media and with the families, leading to a situation where you, Mr. Stickler, had to ask the sheriff to keep Robert Murray out of the meeting. Robert Murray said there was an earthquake, tried to represent that it was an act of God and no fault on the part of the mine owners, Mr. Murray being the mine owner. A little surprised to find out, yesterday, that Mr. Murray is not here today, was given adequate notice to come. First he said he was too busy, and now he says he's too sick, but he hasn't given us any doctor certification as to his problem. We had not issued a subpoena. Wherever he has a colorable reason, we would be inclined to honor it, but a little peremptory on his part just to tell us he's not coming. I've discussed with the chairman the issue of a subpoena, and I am personally convinced we need, and will issue, a subpoena here. We will not allow him to avoid answer-

ing questions from this subcommittee, which has jurisdiction over this very important matter.

So, we will be pursuing this matter with real intensity, Mr. Stickler, to find the answers to these questions, and to give assurances to the families of these nine men who lost their lives, and to give assurances to the miners who risk their lives, day in and day out, that this subcommittee and the Senate and the Congress will be vigilant finding the answers and moving to impose sanctions, where appropriate, and to do our best to ensure safety in the future.

Thank you, Mr. Chairman.

Senator HARKIN. Thank you, Senator Specter.

Senator Byrd.

OPENING STATEMENT OF SENATOR ROBERT C. BYRD

Senator BYRD. Thank you, Senator Harkin. Thank you, Senator Specter. Thank you for scheduling this hearing. Thank you for everything you do on behalf of America's coalminers.

When disaster struck at the Sago Mine last year, it was described by some as an anomaly. There were even suggestions that the 12 fatalities at that mine should not reflect upon the actual performance of MSHA, which, it was claimed, is improving now. In the short span of 12 days between August 4 and August 16, seven miners were killed, six more presumed dead. Two days ago, another miner was killed in Mingo County, West Virginia, bringing the total number of fatalities this year to 24, which more than doubled the total number of fatalities for 2007, compared to 1 month ago.

More worrisome is the article in today's Charleston Gazette, reporting that MSHA, this year, has not yet performed a regular full inspection of the Bronzite Mine in Mingo County, West Virginia, where the fatality occurred on Monday. It should be clear now—and I hope and pray that it is clear to the officials at the Department of Labor—that these tragedies are certainly not anomalies. To claim that they are is an insult to the families of the deceased. That claim is a shallow attempt to deny that something has gone terribly wrong within the agencies and offices charged with the safety and health of our Nation's coalminers.

Since the tragedy at Crandall Canyon, there has been a lot of talk about the dangers of retreat or secondary mining, and whether that practice ought to be prohibited. That is as it should be. But let us not obscure the larger questions about MSHA's role at Crandall Canyon. While there is enough blame to go around, MSHA clearly had the final responsibility for approving or disapproving the mining operation at the Crandall Mine. Why did MSHA approve such a dangerous method of mining in such an unstable location in the first place? MSHA was intended to be a strong Federal agency with the authority to investigate, penalize, and, when necessary, shut down a coal mine for safety violations.

It is infuriating to watch MSHA, even after the tragedy at Sago, continue a tepid, disjointed, and minimalist approach to mine safety. What the hell does it take to shake up that agency?

Mr. Stickler, you were appointed to head MSHA, last year. I like you very much. But the buck, as they say, stops with you. In the

aftermath of Sago last year, the Congress gave you the authorities you requested as part of the MINER Act. The Appropriations Committee gave you the funding to hire the additional safety inspectors. The Appropriations Committee increased the budget for coal enforcement so that you could expedite the implementation of the MINER Act. Yet, such tragedies are continuing to happen, claiming the lives of a dozen miners at a time. What is the problem at MSHA? What the hell is the problem at MSHA? It's no secret that I have a hold on your nomination, yeah, like that. I have a hold on your nomination. We have met several times to discuss your efforts at the agency, and I've enjoyed meeting with you, and I respect your sincerity. But, Mr. Stickler, it is past time—way past time—to take the gloves off, take charge of the agency you have been entrusted with managing, crack some heads—yes, crack some heads, get rid of the political deadweight now, and empower your inspectors to go after recalcitrant coal operators who are daily putting the lives of our miners at risk. These miners are brave men and women. They toil in the darkness of the earth and in danger. They have families, friends, lives they want to live. Show us that you're going to do whatever it takes to protect them.

Thank you.

Senator HARKIN. Thank you very much, Chairman Byrd.

Normally, I—we have always operated this way, that the chairman and ranking member makes opening statements. Of course, out of respect for the full chairman or full ranking member, if they're here, we let them making opening statements. But, since this did occur in the States represented by two of the Senators who are here, I would respectfully request any opening statements or remarks that they might have at this time, and I would go first to Senator Hatch the ranking Senator from Utah, if you had any opening remarks at all.

STATEMENT OF SENATOR ORRIN G. HATCH

Senator HATCH. Well, thank you, Mr. Chairman, it's so nice of you to do that. I hadn't planned on making any opening statement, but both Senator Bennett and I are very pleased that you and Senator Specter have invited us to participate in this hearing today, because we're very concerned.

Let me just, if I can, take a few moments, and congratulate those who tried to save the six trapped miners, and express my heartfelt gratitude to the three brave rescuers who gave their lives in an attempt to rescue the six trapped miners in the Crandall Canyon Mine. I am honored to serve the people of Utah—as is Senator Bennett—who are among the most selfless individuals in the country. Mr. Brandon Kimber, Mr. Dale Black, and Mr. Gary Jensen, the three rescuers that bravely gave the ultimate sacrifice in an attempt to free their six trapped colleagues, are all examples of the best Utah has to offer, and our thoughts and prayers continue to be with their families at this difficult time, as well as with the families of the six miners who were lost in the tragedy and others who have been injured. On behalf of all of our fellow Utahans, I'd like to say thank you to the thousands of people who have expressed kind words, thoughts, and prayers on behalf of these affected by the accident.

I also would like to extend some praise to the officials, who responded so aptly to the crisis immediately following the mine collapse. Like only Utahans can do, we came together as a community to respond as one, leaving aside title and agency designations. We had Federal, State, and local officials working seamlessly together to do all they could to rescue the six trapped miners.

Personally, I'd like to publicly thank Mr. Richard Stickler, who joins us today, for traveling to Utah almost immediately after the collapse, and remaining at the mine site for most of the days that this went on. Utah's able Governor, Jon Huntsman, was there every day, and his dedicated team of professionals. They deserve special recognition for their immediate response to the mine collapse. I'd also like to thank the mayor of Huntington, Mayor Hilary Gordon, as well as the mayor of Price, Joe Piccolo, and the hard work of Sheriff Lamar Guyman and his team of law enforcement officials, who continue to secure the mine site. These are people that are heroes, in my eyes.

Mr. Stickler, I was there with you a number of times, and all I can say is that what I saw from you was as much caring and consideration as I've ever seen in any of these situations, so I want to personally express my gratitude to you again.

Mr. Chairman, thank you for being so kind to us.

Senator HARKIN. Thank you, Senator Hatch.

Senator Bennett.

STATEMENT OF SENATOR ROBERT F. BENNETT

Senator BENNETT. Thank you very much, Mr. Chairman. Appreciate the opportunity of being here.

Like Senator Hatch, I want to express my condolences to the families who have lost loved ones in both the initial accident and the rescue operation. I have deep respect for the Utah miners and all those who toiled with respect to this tragic event. I've discovered again how tightly knit the mining communities in central Utah really are, and this is not just a tragedy for the families, it's a tragedy for all of those who are part of that particular culture in that part of our State. Coal mining is a dangerous operation.

We can take some comfort in the statistical fact that, if I might, Mr. Chairman, going back to your father's day, in the 1920s the annual fatality rate was 3.36 miners per 1,000 per year, and today it's .2 per 1,000 per year. So, as a Nation, we have made a great deal of progress from the days that you talk about.

But, as Senator Byrd has reminded us, the tragedies of the last 30 to 60 days indicate that we must continue to make progress and not be lulled into a sense of security by the progress that has been made.

Now, I'm looking forward to the testimony of Mr. Stickler. I was at the mine with him a day after the initial accident. Remember very clearly the briefing that we received and the assurances, that were very firm and across the board—from local officials, from the operator, and from MSHA officials—that there would be no further rescue operations until the seismic activity in the mountain had stopped. There had been initial rescue operations that stopped because of seismic activity, feeling that they were endangering those who were—those who were involved. There was some impatience,

on the part of people who don't understand mining, that the rescue operations had stopped. But it was clearly understood that we're not going to resume any rescue operations until the seismic activity within the mountain had ceased. So, it was with great pit—feeling in the pit of my stomach when I heard, later, that rescue operations had begun again, and that three more individuals were killed.

So, I would look forward to a discussion with Mr. Stickler on the question of why the rescue operations were resumed, what information they had with respect to the state of the mountain and with the state of security or protective measures that might have been taken. I think that's clearly something that we need to get into, in some greater detail.

Now, I'm pleased that Secretary Chao has initiated an independent investigation into the role of MSHA with respect to this disaster, along with the Governor of the State of Utah, who has his own investigation, going forward. I look forward to the time when we have the results of those investigations, so that we can then make whatever public policy decisions we need to make as to what needs to be done, further.

So, I look forward to a productive hearing. I welcome Mr. Stickler here, as I welcomed him to our State. We have unique topography, and it may be that solutions that are effective in other parts of the country are not effective in Utah. I hope we can use this tragedy as an opportunity to find out exactly what it is we need to do to make mining as safe as possible in the future, not only for my own State, but for all miners everywhere.

Thank you, Mr. Chairman, for convening the hearing and for allowing Senator Hatch and me to participate.

INTRODUCTION OF WITNESS

Senator HARKIN. Thank you very much, Senator Bennett. Senator Hatch, thank you for being here today.

Well, we'll turn now—Mr. Richard Stickler, our first panel—then we'll move on to our second panel—Assistant Secretary of Labor for Mine Safety and Health Administration. Prior to his appointment, director of the Pennsylvania Bureau of Deep Mine Safety, from 1997 to 2003. Mr. Stickler is a native of West Virginia, received his BA from Fairmont State University, and is certified as a mine safety professional by the International Society of Mine Safety Professionals.

Mr. Stickler, we welcome you, again, to the subcommittee. I have your statement; it'll be made a part of the record in its entirety. I'd ask you to summarize it within, well, 7 to 10 minutes, and then we'll get to questions.

STATEMENT OF HON. RICHARD E. STICKLER, ASSISTANT SECRETARY OF LABOR, MINE SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR, WASHINGTON, DC

Mr. STICKLER. Thank you. Good morning. Chairman Harkin, Chairman Byrd, ranking member Specter, Senator Hatch, Senator Bennett, and members of this subcommittee, I want to thank you for the invitation to appear here today.

The professionals that comprise the Mine Health and Safety Administration, many of whom are former miners, feel profound sadness over the accidents at Crandall Canyon Mine.

As a third-generation coalminer, I have worked in the mining industry nearly 40 years. I know firsthand that every fatality, serious injury, and occupational illness and disease is devastating for the miners, their families and the communities they live in. That is why I'm deeply saddened by the tragic accident at Crandall Canyon Mine that occurred on August 6 involving Manual Sanchez, Brandon Phillips, Alonso Hernandez, Don Erickson, Carlos Payan, and Kerry Allred, and the subsequent accident, during the rescue effort, that claimed the lives of the heroic rescue workers, Brandon Kimball, Dale Black, and Gary Jensen, who was one of MSHA's own safety professionals. These events underscore the importance of MSHA's mission to protect the health and safety of the Nation's miners.

In the wake of this accident, my resolve and MSHA's commitment to enforcing the mine safety and health laws have never been stronger. We will not know the cause of these tragedies until MSHA completes its accident investigation, but I assure you we'll expeditiously act on the findings to help prevent similar accidents in the future.

MSHA's accident investigation team will meet with the family members today and will begin their accident investigation onsite at the mine. In addition, Department of Labor has taken the unprecedented step of appointing an independent review team of outside mine safety experts to review the actions of MSHA relative to the Crandall Canyon Mine accident.

What we currently know is that, at approximately 2:50 a.m. mountain time on August 6, a mountain bump occurred at the Crandall Canyon Mine located near Huntington, Utah. The force of this bump registered 3.9 on the Richter scale. Seismologists with the U.S. Geological Survey National Earthquake Information Center have since stated that the seismic event was the result of a mine collapse. Inside the mine, the force of the bump was so intense that it blew out the ventilation walls more than a half a mile from the bump area. In my nearly 40 years of working in the mine industry, I have never seen a catastrophic mountain bump of this magnitude.

One of the most difficult and longstanding engineering problems associated with mining is the catastrophic failure of mine structures, known as "bumps." Coal and rock outbursts caused by bumps have presented serious mining problems for decades, in metal, nonmetal mines, and also coal mines, and have occurred as the result of all types of mining systems, including longwall mining, room-and-pillar developed mining, room-and-pillar retreat mining, and pillar splitting. While ground control experts have determined methods to minimize the results of—and the occurrence of—mountain bumps, they cannot always accurately predict when they will occur, nor can they design mining plans that will guarantee that they will not occur.

After we learned of the six miners who were missing, the rescue attempt within the mine moved very slowly, because we required the installation of rib supports, consisting of 40-ton water jacks,

chain-link fence, and heavy steel rope cables in front of the water jacks in order to protect the rescue workers from further mountain bumps. These safety precautions, which were recommended by experts from MSHA and outside the agency, proved to be inadequate to prevent the second bump from fatally injuring three rescue workers.

At that point, MSHA suspended the rescue attempts inside the mine, while continuing rescue work from the surface of the mine. In all, seven bore holes were drilled, but rescuers have not been able to determine the location of the miners. In every bore hole, the rescuers attempted to lower a microphone and a camera to see if they could hear or see the trapped miners. However, none of these communication efforts have been successful. Last week, we informed the families that we had exhausted all known rescue options and were forced to suspend the rescue operation.

MSHA has and continues to be responsive to the families. MSHA provided interpreters for the Spanish-speaking families and encouraged members of the clergy to participate in the family briefings.

I spent several hours every day with the families of the trapped miners, doing whatever I could to be responsive to their needs, to answer all the questions they had, and provide what information we could to them.

Our personnel continue to provide information through counseling and our family liaisons that MSHA has onsite, and will continue to do so throughout this accident investigation. We will work hard to make sure that the family members are communicated with, the lead investigator will update the family members, follow up on any questions and concerns that they have throughout the course of this accident investigation.

PREPARED STATEMENT

We, at MSHA, work hard every day to ensure that every miner returns home safely to his family after every shift, and the events of those—at Crandall Canyon affect us greatly, because our goal is to prevent all fatalities. I thank you for inviting me here today, and I look forward to answering your questions.

[The statement follows:]

PREPARED STATEMENT OF HON. RICHARD E. STICKLER

Chairman Harkin, Chairman Byrd, Senator Specter, members of the subcommittee, thank you for the invitation to appear before you today.

As a third-generation coal miner, I have worked in the coal mining industry for more than 40 years. My experience includes working shifts in underground coal mines, serving as the captain of a mine rescue team, and working in and around mine sites and mining communities every day. I know firsthand that every fatality, injury, and illness is devastating for miners, their families, and the communities they live in. That is why I am deeply saddened by the tragic accident resulting in 6 missing miners that occurred at the Crandall Canyon mine on August 6, 2007, and the subsequent accident during the rescue effort that claimed the lives of three rescue workers, including one Mine Safety and Health Administration (MSHA) employee on August 16, 2007.

These events underscore the importance of the agency's mission to protect the safety and health of the Nation's miners. In the wake of this accident, my resolve and MSHA's commitment to enforce the Nation's mine safety and health laws have never been stronger. We will not know the cause of these tragedies until MSHA completes its accident investigation. The Crandall Canyon mine accident investigation team is presently at the mine to conduct their onsite investigation activities.

The Department has named an independent review team to look at MSHA's actions at the Crandall Canyon Mine before August 6, 2007.

CRANDALL CANYON MINE ACCIDENT

On August 6, at approximately 2:50 a.m. Mountain Daylight Time, a mine bump occurred at the Crandall Canyon mine, located near Huntington, Utah. The force of this mine bump was registered by seismographs, and the U.S. Geological Survey National Earthquake Information Center initially reported that an earthquake with a magnitude of 3.9 on the Richter Scale occurred near the mine. Seismologists with the U.S. Geological Survey National Earthquake Information Center in Colorado and the University of Utah have since stated that the seismic event was a mine collapse, not an earthquake. Inside the mine, the force of this bump was so intense that it blew the ventilation stoppings out through cross-cut 95—more than a mile from the area where the miners were working. Since the event, six miners—Manuel Sanchez, Brandon Phillips, Alonso Hernandez, Don Erickson, Carlos Payan, and Kerry Allred—have been missing. The subsequent rescue attempt within the mine moved slowly, because safety dictated the installation of rib supports consisting of 40-ton rock props, chain-linked fence and steel cables to protect the rescue workers from further mine bumps. These safety precautions—which were recommended by experts from MSHA and outside the agency—proved to not be strong enough to prevent a second burst from fatally injuring three rescue workers, Brandon Kimber, Dale Black, and Gary Jensen, who worked for MSHA. At that point, MSHA halted the rescue attempts inside the mine, while continuing the rescue work from the surface.

In order to understand how we arrived at the events of August 6, I want to provide the committee with the background of the mine. Mining began at Crandall Canyon mine in 1981. According to MSHA records, Murray Energy Corp. became the mine's controller on August 9, 2006. Since Murray Energy took ownership of the operation last year, MSHA has issued 67 violations against the mine, plus the section 103(k) order issued immediately after the accident on August 6, 2007.

MSHA INSPECTION ACTIVITY AT CRANDALL CANYON

Under the Mine Safety and Health Act, MSHA is required to inspect all underground coal mines four times a year. Since the purchase of the Crandall Canyon mine by Murray Energy, MSHA has performed 5 regularly scheduled inspections, two spot inspections, responded to a complaint from a whistleblower, and performed a roof control technical inspection. One of the regularly scheduled inspections was occurring when Murray Energy Corp. purchased the mine. A total of 73 citations were issued during these inspections with proposed penalties of $19,662.

CRANDALL CANYON EMERGENCY RESPONSE PLAN

Under the MINER Act, all underground coal mines are required to develop and adopt a written emergency response plan (ERP) that provides for the safe evacuation of miners and the maintenance of miners trapped underground. The ERP for Crandall Canyon mine was approved on June 13, 2007. The Crandall Canyon mine was in compliance with the SCSR requirements, the lifeline requirements, the communications requirements, the tracking, training, post-accident logistics, and local coordination requirements. The mine had elected to use refuge shelters comprised of oxygen cylinders and pre-packaged soda lime cartridges to meet its breathable air requirement and had placed a purchase order but had not received the refuge shelter. Finally, the mine used personal emergency devices (PEDs)—which are not required under the ERP—in addition to its redundant communications systems.

RETREAT MINING AT CRANDALL CANYON MINE

MSHA's records indicate the first plan for retreat mining at Crandall Canyon Mines was approved on September 27, 1989. Prior to Murray Energy taking control, all longwall mining was completed and room and pillar mining was conducted at various locations. Since August 2006, MSHA has approved two amendments to the Crandall Canyon roof control plan that allowed for pillar extraction in both the North Barrier of Main West and in the South Barrier of Main West of the mine. The first plan for retreat mining under Murray Energy Corp.'s ownership was approved on February 2, 2007. The roof-control plan for the mine was amended to allow retreat mining of the North Barrier of the Main West and was signed by the District Manager. A second amendment to the roof control plan was approved on June 15, 2007, for retreat mining of the South Barrier of the Main West. The accident on August 6, 2007, occurred in the South Barrier of Main West.

As part of the operator's submission for roof control approval, two geotechnical reports by Agapito Associates, Inc. (Agapito) were provided to MSHA for review and consideration. Agapito concluded that retreat mining could be conducted safely in that area of the mine. Prior to the approval of the plan, a MSHA roof control supervisor and specialist visited Crandall Canyon to assess the conditions in the North Main Barrier and based on their observations in that area, required amendments to the roof control plan for additional roof supports. In addition, MSHA required Crandall Canyon to install additional roof support for retreat mining in the North Main Barrier.

Mining took place on the North Main Barrier until March 2007, when a mountain bump occurred. MSHA was not notified about this bump or the magnitude of the bump when it occurred. The accident investigation team will determine whether the incident was required to be reported to MSHA as part of its work. After the bump, mining was abandoned in that section and Crandall Canyon submitted another amendment to its roof control plan asking for permission to use retreat mining in the South Main Barrier. It again commissioned Agapito to evaluate the stability of that section of the mine. While Agapito again concluded that retreat mining could be conducted safely, it also suggested extending the remaining coal pillars that were left to support the roof from 80 by 92 feet to 80 by 129 feet. A MSHA roof control supervisor and a roof control specialist were underground in the South Barrier Section on May 22, 2007, to evaluate the operator's submitted plan to retreat mine. The retreat mining plan with the increased pillar dimensions was approved on June 15, 2007.

RETREAT MINING OF PILLARS

Much has been made in the media about retreat mining. Retreat mining is a common practice where coal is mined from coal pillars. When this coal is mined the roof normally falls in a structured manner to relieve the pressure placed on the underground mine workings. As of August 21, 2007, 223 underground coal mines had approved roof control plans that allow for pillar-removal. This represents 48 percent of all active underground coal mines. Retreat mining can be conducted safely, especially with today's technological advances that include mobile, remote controlled roof supports, if the roof control plans are adhered to. Overall, the roof fall fatality rate in U.S. underground mines has averaged 0.001 per 200,000 hours worked (or 1 per 100,000 full time miners) in recent years (prior to the Crandall Canyon incident), down significantly from its average in the past.

MINE BUMPS

One of the most difficult, longstanding engineering problems associated with mining is the catastrophic failure of mine structures known as bumps. Coal and rock outbursts caused by bumps or bounces have presented serious mining problems for decades in metal, non-mental, and coal mines. Fatalities and injuries have resulted when these destructive events occur.

Bumps have been categorized as either pressure or shock bumps. A pressure bump occurs when a pillar in a developed area is statically stressed past the failure strength of the pillar. A shock bump is caused by dynamic loading of the pillar through dramatic changes in stress distribution within the overlying strata as the result of breaking of thick, massive strata. In many cases bumps are the result of the combination of both pressure and shock forces. Bumps occur when complex arrangements of geology, topography, in situ stress and mining conditions interact to interfere with the orderly dissipation of stress. Strong, stiff roof and floor strata not prone to failing are also contributing factors when combined with deep overburden. Questions about the influence of individual factors and interaction among factors arise, but are difficult to answer owing to the limited experience at a given mine.

Bumps have occurred in all types of mining systems. A United States Bureau of Mines report that reviewed bumps that occurred between 1936 and 1993 found that pillar retreat mining accounted for 35 percent of the bumps, pillar splitting for 26 percent, long-wall mining for 25 percent, and development mining for 14 percent. Long-wall mining methods have increasingly replaced pillar retreat mining since the 1960's and would most likely account for a higher percentage of bumps today.

With more mining operations moving into reserves under deeper overburden and/or below previously-mined areas, there is a need to understand methods to prevent, and, in the event they do occur, to mitigate the consequences of, bumps in such new circumstances. For this reason, MSHA is already reviewing operators' ground control plans to ensure operators minimize the dangers associated with bumps. In addition, MSHA is in consultation with the National Institute for Occupational Safety

and Health (NIOSH), in the Department of Health and Human Services, about appropriate research focusing on the danger of bumps in those circumstances.

CRANDALL CANYON ACCIDENT OUTLINE

On the early morning of August 6, 2007, a ground failure occurred at the Crandall Canyon Mine in Huntington, Utah, that, according to the U.S. Geological Survey, registered 3.9 on the Richter Scale, and was initially reported by the Associated Press as an earthquake. MSHA's call center was subsequently notified and MSHA quickly dispatched an inspector to the mine site. Before arriving on site, MSHA issued a section 103(k) order over the phone which required workers to evacuate the mine and effectively secure the site.

Shortly after arriving on site, the MSHA inspector contacted the MSHA Field Office to report that a six-man crew was working in the South Barrier section (where the accident occurred) when a bounce occurred that extensively damaged the mine's ventilation controls. These individuals were unaccounted for, but they were believed to be working approximately four miles from the mine's entrance.

On the afternoon of August 6, 2007, with MSHA's approval, Murray Energy Corp. began mucking out the Number 4 entry at crosscut 120. Meanwhile, a mine rescue team had breached the Number 1 seal in Main West, hoping to be able to get behind that seal and clear an easier pathway to crosscuts 138 and 139 to more expeditiously reach the trapped miners. Unfortunately, the rescue team encountered significant amounts of coal blocking its pathway, and then had to withdraw altogether from the sealed area because another bounce occurred.

Mucking or clearing out the fallen coal from the main entry was a time-consuming process and Murray Energy and MSHA believed that we needed to more quickly reach the trapped miners to save their lives, if they survived the initial collapse. Thus, following the first day of the rescue operation, Murray Energy decided, with MSHA's consultation and approval, to drill bore holes into the mine from the surface in an attempt to establish contact with the miners and to assess the conditions in the area where they were believed to be.

By August 7, drilling had begun on the first borehole, which was a two-inch hole at crosscut 138. The mine operator selected all of the borehole locations with input and approval from MSHA. These locations were based upon the probable locations of the missing miners after the first bounce occurred on August 6. The first set of boreholes was drilled to intersect the mine at the location where the miners were last thought to be working at the time of the accident. Mine survey coordinates were used to pinpoint specific drilling locations.

In all, seven boreholes have been drilled (the rest being 8⅝ inches in diameter) but rescuers have not found the location of the miners. In every borehole, rescuers attempted to insert a microphone and camera to either hear or see the trapped miners. Rescue workers also tapped repeatedly on the drill steel to signal to the trapped miners; miners are trained to reply by tapping below the surface. However, none of these communication efforts have been fruitful.

As the rescuers continued to drill boreholes from the mine's surface, another group continued the mucking and clearing efforts in the mine's entry until another bounce occurred on August 16, which claimed the lives of three of the rescuers and injured six others. Since that bounce occurred, mucking efforts within the mine have been suspended indefinitely. Neither MSHA, nor the outside experts brought to the mine site to review the mining conditions and rescue plan could devise a way to stabilize and reenter the mine. MSHA believed the plan it approved for the rescue operations prior to August 16 provided the maximum amount of protection to the rescuers possible, but it was not enough.

Since August 16, Murray Energy—with MSHA's approval—has continued to drill boreholes. There is also a rescue capsule on the mine site if the trapped miners are found alive, but using the capsule would involve extraordinary risk. This risk cannot be taken if there are no signs of life because the danger is too great that more lives will be lost.

MSHA FULFILLED ITS MINER ACT RESPONSIBILITIES AT CRANDALL CANYON

Immediately after MSHA was notified of the Crandall Canyon accident, MSHA began fulfilling its responsibilities as the primary communicator with the families, policymakers, the public and the media a responsibility which MSHA takes very seriously after the Sago Mine accident.

On the morning of August 6, 2007, MSHA dispatched three family liaisons to the location where the family members were gathered to begin regularly updating them on the rescue operation. MSHA also provided interpreters for the Spanish speaking

families. Clergy and counselors were also available. MSHA's family liaisons continue to honor these responsibilities today.

On Wednesday, August 8, 2007, I began participating in these briefings and spent nearly 6 hours every day providing updates and answering family members' questions.

MSHA also acted as the primary communicator with the media. Although news outlets sometimes chose to broadcast parts of the briefings conducted by the mine operator instead of MSHA, the Agency never failed to be the primary communicator. During the first week of the rescue operation, MSHA held regular briefings every day for reporters off of the mine site at the sheriff's command center. During these briefings, we provided detailed updates regarding the rescue effort and answered reporters' questions. MSHA also provided regular updates on the Agency's website regarding the rescue effort and issued media advisories concerning our updates at the mine site.

In addition, MSHA personnel regularly updated Utah's governor and congressional delegation on the status of the rescue operations, both on and off-site. Kevin Stricklin, MSHA's Administrator for Coal Mine Safety and Health, also briefed the Utah Legislature at an open public forum on August 29, 2007, in Salt Lake City.

All of these actions underscore how seriously MSHA takes its responsibility to be responsive to the families and to be the primary communicator.

CONCLUSION

I cannot fully express my personal disappointment and the overwhelming sadness I feel regarding the Crandall Canyon accident and rescue efforts during this last month. I know that words alone cannot and will not provide comfort to the families, friends, and communities of the miners and rescue workers who lost their lives or were injured at Crandall Canyon mine. We commend the heroic efforts of these individuals who put their lives on the line in the effort to rescue the trapped miners.

Each and every individual at MSHA remains dedicated and focused on our core mission: to improve the safety and health of America's miners and to work toward the day when every miner goes home safe and healthy to family and friends, after every shift of every day. MSHA cannot do this alone. The entire mining community—mine operators, miners, and health and safety professionals included—must also do their part to improve mine health and safety. Working together, MSHA, mine operators and miners can achieve this important goal.

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

APPENDIX 1.—ACCIDENT TIMELINE

August 7, 2007

—In the early morning hours, repairs to damaged ventilation systems continued. MSHA's roof control personnel traveled into the mine to evaluate conditions to help determine whether or not clearing this entryway could resume safely.

—The drilling equipment used to drill the first 2 inch borehole was put in place at crosscut 138 approximately where the miners were believed to be the evening before and drilling began.

August 8, 2007

—In the morning, MSHA approved a new mine rescue plan presented by Murray Energy to allow clearing the Number 1 entry, but with extensive rib support.

—In the evening, drilling of the second borehole began. This borehole was drilled with an 8⅝ inch bit.

August 9, 2007

—In the evening, the drill for the first borehole broke through the mine cavity and a microphone was lowered in to determine whether or not any underground activity could be heard. No activity was detected and rescuers continued drilling the second borehole.

August 10, 2007

—An analysis of the atmosphere in the first borehole revealed low oxygen readings, but a 3.5 foot void was detected in the bored area in the mine.

—In addition, a two-man team tried to advance in the Number 1 entry but to no avail.

August 11, 2007

—Early in the morning, the second borehole (8⅝ inches) broke through the mine cavity, but no communication was detected from underground. A roof height of

eight feet was detected and a camera was lowered into the cavity but only wire mesh in the roof was detected.

August 12, 2007

—In the evening, another camera was lowered into the number 2 borehole and compressed air began to be pumped in. No response from the trapped miners was detected.

—In addition, a pad for a third borehole began to be constructed.

August 13, 2007

—Early in the morning a third camera was lowered into the second borehole, and again no sign of the miners was detected.

—In addition, the drilling equipment was moved from the second to the third borehole and drilling began in the evening.

August 14, 2007

—Drilling of the third borehole continued while a drill pad began to be constructed for a fourth borehole.

August 15, 2007

—Mid-morning, the third borehole broke through the mine cavity. A microphone was lowered into the hole but no communication with the trapped miners resulted. Seismic equipment, however, picked up an unidentified noise that was not heard again. A camera was subsequently lowered into the hole, but nothing of note was seen.

August 16, 2007

—In the early morning, the drilling equipment was moved to the site of the fourth borehole and drilling began.

—Later in the evening, a significant bounce occurred in the mine and several rescuers were covered up by coal. In the end, six rescuers were injured and three were killed, including one MSHA employee.

—As a result, rescue efforts proceeding inside of the mine were halted indefinitely after advancing over 900 feet. These have not resumed because no way to proceed safely has been identified by either MSHA or outside ground control experts.

August 18, 2007

—In the morning, the fourth borehole broke through the mine cavity. No response from the trapped miners was detected.

—In the evening a camera was lowered into the hole and nothing was detected. Nothing was detected with seismic equipment.

August 19, 2007

—In the evening, rescuers began drilling a fifth borehole.

August 22, 2007

—Drilling in the fifth borehole broke through the mine cavity. Rescuers could not, however, get a camera into the hole because the hole became blocked.

August 23, 2007

—Rescuers began drilling a sixth borehole in the evening.

August 25, 2007

—Drilling in the sixth borehole broke through the mine cavity. A camera was lowered into this hole in the early morning of August 26, but there was no sign of the trapped miners. On August 27, rescuers also attempted to lower a robot into this hole, but were unable to complete this task because there was too much debris in the area.

August 28, 2007

—In the early morning, rescuers began drilling a seventh borehole, which broke through the mine cavity on August 30, 2007.

APPENDIX 2.—MSHA ENFORCEMENT AND IMPLEMENTATION OF THE MINER ACT

Increased Enforcement

Enforcement of the Nation's mining laws is a key component to protecting the health and safety of miners, and continues to be a top priority at MSHA. In 2006, MSHA issued more citations and orders than in any year since 1995—and there were almost 3,000 coal operations in 1995 compared to just over 2,000 in 2006.

The number of unwarrantable failure citations and orders issued in 2006 was the highest since 1995. To date this year, MSHA has issued more unwarrantable failure citations and orders than in any full year between 1995 and 2005. The percentage of unwarrantable failure issuances in 2007 (to date) is the highest since 1994.

The total fines assessed against coal operators and contractors increased 46 percent in 2006 compared to the previous year and were the highest total dollar assessments since 1994. As of the 1-year anniversary of the MINER Act, MSHA issued 12 citations for flagrant violations, including three of the largest proposed penalties in the history of the agency. Year-to-date penalties have increased from $22.1 million in CY 2006 to $41.5 million in CY 2007. The average penalty for each violation increased by 29 percent in 2006 compared to 2005—and the average penalty for each violation has more than doubled so far in 2007—with the full impact of the increased penalties that became effective in April yet to be realized. The fatality rate has decreased 70 percent at coal mines and 45 percent overall from CY 2001 to CY 2007.

Implementing the MINER Act of 2006

MSHA's full commitment to protecting the health and safety of miners is further demonstrated by the timely and successful implementation of MINER Act provisions—often ahead of schedule. Moreover, MSHA has imposed requirements that go beyond the requirements of the Act. Significant accomplishments over the past 12 months include:

New Penalties for Late Accident Notification and Unwarrantable Failure Violations

Upon the signing of the MINER Act of 2006, MSHA immediately implemented new minimum penalties for late accident notification and "unwarrantable failure" violations.

New Penalties for Flagrant Violations

MSHA issued a Procedure Instruction Letter (I06–III–04) to implement the new "flagrant violation" maximum penalty of up to $220,000.

Secretarial Order to Improve Post-Accident Communication with Families

The Secretary of Labor signed an Order creating the Family Liaison and Primary Communicator positions that are filled by specially trained MSHA employees at emergency sites. MSHA, with the assistance of the National Transportation Safety Board and the American Red Cross, has trained 15 family liaisons to date. Four more MSHA employees are scheduled for family liaison training in November 2007.

Strengthening Evacuation Practices

MSHA issued a final rule to strengthen mine evacuation practices in underground coal mines. The rule included:

—*Self-Contained Self Rescue (SCSR) Devices*.—The rule requires coal mine operators to provide additional SCSRs for each miner underground in areas such as working places, mantrips, escapeways, and other areas where outby crews work or travel. The rule also requires that SCSRs be readily accessible in the event of an emergency.

—*Multi-Gas Detectors*.—The rule goes beyond the requirements of the MINER Act by requiring coal mine operators to provide multi-gas detectors to each group of underground miners and each miner working alone.

—*Lifelines*.—The rule requires coal mine operators to install directional lifelines in all primary and alternate escape routes out of the mine. Lifelines help guide miners in poor visibility conditions toward evacuation routes and SCSR storage locations. Lifelines must be flame-resistant by June 15, 2009.

—*Training*.—The rule requires coal mine operators to conduct quarterly training sessions instructing miners how to don SCSRs and, in particular, how to transfer from one SCSR to another. The training provisions in the mine emergency evacuation rule go beyond the requirements of the MINER Act by requiring "expectations training," providing miners with simulated conditions they would encounter using a SCSR during an emergency. SCSR training units to simulate breathing resistance and heat for annual expectations training have now been developed.

—*Accident Notification*.—The rule requires all mine operators to contact MSHA within 15 minutes of an accident. MSHA also implemented a nation-wide single call-in number (1–800–746–1553) for accidents and hazardous condition notifications to ensure an immediate, consistent and effective response by MSHA.

Requiring Breathable Air for Trapped Miners

MSHA issued a Program Information Bulletin (PIB) (No. P07–03) that gives mine operators a range of options, including boreholes and oxygen supplies, to provide breathable air to miners who are trapped underground. The use of state-approved refuge chambers is acceptable as a means of meeting the requirements of the PIB for breathable air.

New Civil Penalties for Safety and Health Violations

MSHA published a final rule to increase civil penalty amounts for mine safety and health violations. Issuance of this rule goes beyond the requirements of the MINER Act. The new rule provides for a general increase in civil penalties for violations and is applicable to all mines and contractors. The new penalty schedule:

—*Increases penalties*.—Increases civil penalties overall, targeting the more severe health and safety violations.

—*Addresses repeat violations*.—Adds a new provision to increase penalties for operators who repeatedly violate the same MSHA standards.

—*Eliminates single penalties*.—Non-significant and substantial (non-S&S) violations formerly processed as $60 single penalties are now processed as higher regular formula assessments.

Enforcing Safety Device Requirements

MSHA published a notice in the Federal Register notifying mine operators that SCSR training units were available. Mine operators were required to possess these training units, or provide a purchase order, by April 30, 2007, and conduct expectations training with them within 60 days of receipt of the units.

Tracking Inventory of Safety Devices

MSHA implemented a system for coal mine operators to electronically submit their inventories of SCSRs—a requirement of the emergency mine evacuation rule that went beyond the mandates of the MINER Act.

Protecting Miners Near Abandoned Areas

On May 22, 2007, MSHA published an Emergency Temporary Standard (ETS) that increased the protections for miners working near sealed areas in underground coal mines. This final rule was ahead of the December 2007 date required in the MINER Act. The ETS significantly increases the strength standard for mine seals from 20 pounds-per-square-inch (psi) set in 1992, to 50psi, 120psi, or more than 120psi when conditions exist that may create pressures in excess of 120psi. The ETS includes additional requirements not provided in the MINER Act: (1) approval of seal designs and mine-site installation designs; (2) provisions for sampling the atmosphere behind seals; (3) training for persons who sample, and construct and repair seals; (4) removal of insulated cables from areas to be sealed and metallic objects that enter the sealed area; and (5) prohibition of welding, cutting and soldering using arc or flame within 150 feet of a seal.

Developing New Communications Technologies

MSHA has conducted meetings with representatives of 58 communications and tracking system companies, observed the testing and/or demonstration of 23 post-accident communications and tracking systems, and approved 23 systems, including seven new devices.

Approval of Emergency Response Plans

MSHA has fully approved all of the Emergency Response Plans (ERPs) for active producing mines in this country with the exception of 2 partially approved plans. Full approval of these plans is pending review by MSHA of one recently submitted plan by a mine operator and the other entering into the dispute resolution process.

In addition, MSHA is using all available tools—enforcement, education and training, rulemaking, and evaluating/recognizing new technology, to achieve its goal of safer and healthier mines. For example, MSHA is using its statutory authority under the pattern of violations provision in the Mine Act of 1977 to identify mine operators who habitually violate MSHA standards and view penalties as the cost of doing business. In selecting potential pattern mines, MSHA developed a database to provide a more objective analysis of accident trends and enforcement results to better identify persistent repeat violators.

Proposed Rulemaking

MSHA has proposed revised and new standards for certification and availability of mine rescue teams for underground coal mines. MSHA has also proposed updated

standards for mine rescue team equipment at mine rescue stations. These standards would apply to all underground mines: metal and nonmetal mines and coal mines.

REPORT FROM AGAPITO ASSOCIATES

Senator HARKIN. Thank you very much, Mr. Stickler.

Start a round of questions now. I spoke, earlier, Mr. Stickler, about a letter, which I would ask to be inserted in the record in its entirely. It's a letter dated April 18, 2007. It's addressed to Mr. Lane Adair, the general manager of UtahAmerican Energy, Incorporated. It's from Agapito Associates, Incorporated, mining and civil engineers, and geologists of Grand Junction, Colorado.

[The information follows:]

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April 18, 2007 226-20

Mr. Laine Adair
General Manager
UtahAmerican Energy, Inc.
794 North C Canyon Road
Price, UT 84501

Re: **GENWAL Crandall Canyon Mine Main West South Barrier Mining Evaluation**

Dear Laine,

Agapito Associates, Inc. (AAI) has completed the geotechnical analysis of GENWAL Resources, Inc.'s (GENWAL) plan for room-and-pillar mining in the Crandall Canyon Mine Main West south barrier. AAI recommended the use of pillars on 80-ft by 92-ft[1] centers for retreat mining in both the north and south Main West barriers based on an earlier analysis documented in our July 20, 2007, report.[2] The design proved successful on development in the north barrier panel under maximum cover reaching 2,200 ft deep.

The panel was successfully retreated to crosscut (XC) 138 under approximately 2,100 ft of cover when poor roof conditions motivated moving the face outby and skipping pulling pillars between XCs 135 and 138. The retreat was re-initiated by pulling the two pillars between XCs 134 and 135 in early March 2007. A large bump occurred at this point resulting in heavy damage to the entries located between XCs 133 and 139. The remaining north panel was abandoned in favor of mining the south barrier.

AAI engineers [illegible] visited the bump location on March 16, 2007, under the escort of Mr. Gary Peacock, GENWAL Mine Manager and Mr. Laine Adair, General Manager, UtahAmerican Energy, Inc. GENWAL commissioned AAI to refine the pillar design for the south barrier based on the response of the north panel pillars. AAI was able to analyze the stress and convergence conditions at the time of the bump and modify the pillar design accordingly to control the potential for similar events in the south barrier. The results of the analysis and recommendations for south barrier mining are summarized in the following letter.

[1] Pillar geometry stated in terms of center dimensions; entries typically mined 17 ft wide.
[2] Agapito Associates, Inc. (2006), "DRAFT—GENWAL Crandall Canyon Mine Main West Barrier Pillar Mining Evaluation," prepared for Andalex Resources, Inc.

ANALYSIS

Ground conditions were simulated using the calibrated NIOSH LAMODEL[3] displacement discontinuity model used in the preceding study.[2] The complete model area is illustrated in Figure 1. Simulated conditions at the time of the bump are shown in Figures 2, 3, and 4. Figure 2 describes the vertical stress distribution in the pillars leading up to the bump. Figures 3 and 4 show the corresponding degrees of coal yielding and roof-to-floor convergence. The figures incidentally show retreat mining in the south barrier, although this did not exist at the time of the bump. The two retreats were simulated in the same model for convenience, which is possible because the two areas are geomechnically isolated from one another in the model.

At the time of the bump, the cave was reported to be lagging inby XC 138. Also, the new start-up cave was minimally developed above the two pillars pulled between XCs 134 and 135. These lagging caves were simulated in the model by limiting load transfer through the gob, which causes higher abutment loads to be transmitted to surrounding pillars. The lagging caves can be recognized in Figure 1 by the white colored gob areas.

Model results show that high stresses were placed on the pillars from three contributing sources: (1) abutment loads from the main cave (inby XC 138), (2) abutment loads from the start-up cave (between XCs 134 and 135), and, to a lesser extent, (3) abutment loads from longwall Panel 12. Peak stresses were concentrated on the pillars located between the two caves (between XCs 135 and 138). Figure 3 shows significant yielding in these pillars indicative of overloading. Modeling suggests that the start-up cave contributed on the order of 5,000 psi additional stress to some parts of the surrounding pillars. This, coupled with the other abutment loads, is believed to have created a high stress region that allowed a localized bump in the pillars somewhere between XCs 134 and 135 to propagate to pillars over a much wider area.

Figures 2, 3, and 4 show stress, yielding, and convergence levels in the same sized pillars (80-ft by 92-ft[1]) in the south barrier for ordinary retreat conditions, where no pillars are skipped. The figures show that high-stress conditions attenuate quickly away from the face and that protected conditions exist as close as one crosscut outby the face.

Figures 5, 6, and 7 illustrate the benefit of increasing pillar size from 80-ft by 92-ft[1] to 80-ft by 129-ft[1]. The added 37 ft length, approximately equivalent to an extra full cut, increases the size and strength of the pillars' confined cores, which helps to isolate bumps to the face and reduce the risk of larger bumps overrunning crews in outby locations. For conservatism, a lagging cave was also assumed in the south panel. Plans are to slab the south barrier to a depth of about 40 ft. The wider span is expected to improve caving conditions compared to the north panel and reduced concentrated loads at the face.

The south barrier will be mined to about 97 ft wide (rib-to-rib) after slabbing. The slabbed barrier will be subject to side abutment loads from gob on both sides, resulting in elevated stress levels through the core. Model results indicate that the barrier will yield to a

[3] Heasley, K.A. (1998), *Numerical Modeling of Coal Mines with a Laminated Displacement-Discontinuity Code*, Ph.D. Thesis, Colorado School of Mines, 187 p.

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depth of about 20 ft along the ribs, but that the core will remain competent. This is likely to result in some bumping in the gob, but is not considered to pose unusual risk to crews working at the face.

RECOMMENDATIONS

Based on the evidence from the Main West north barrier retreat and results of numerical modeling, we recommend mining with 80-ft by 129-ft[1] pillars, or similar, in the south barrier. This size of pillar is expected to provide a reliable level of protection against problematic bumping for retreat mining under cover reaching 2,200 ft. Pillars should be robbed as completely as is safe to promote good caving. Slabbing the south-side barrier is expected to benefit caving. Skipping pillars should be avoided in the south barrier, particularly under the deepest cover.

Please contact me to discuss these results, at your convenience, or if you have any questions.

Sincerely,

Leo Gilbride
Principal
gilbride@agapito.com

LG/smvf:klg
Attachments(7): Figures 1–7

Senator HARKIN. This letter states that a large bump occurred in early March 2007 and resulted in heavy damage. As a result, the remaining north panel was abandoned, in favor of a proposal to mine the south barrier. That's about 900 feet to the south, where the accident we're talking about today occurred.

First of all, Mr. Stickler, have you read this letter? Do you have it in your possession?

Mr. STICKLER. I have it here now, yes.

Senator HARKIN. When did you first receive this letter?

Mr. STICKLER. Sometime after I returned back to Washington—I spent 17 days there in Utah—and, after I returned back to Washington, I obtained a copy of the Agapito reports.

Senator HARKIN. This report, this Agapito report to Mr. Lane Adair—was a copy submitted to MSHA at that time for their review, do you know that?

Mr. STICKLER. I cannot confirm that at this time. I'm sure accident investigation will be able to answer that question.

Senator HARKIN. Is there a requirement in MSHA for such reports as this, if they're made to a mine operator, to also be sent to MSHA at the same time?

Mr. STICKLER. There is not a requirement, but most mine operators that do these kind of geotechnical analysis through consulting companies, submit that information to MSHA to support their case and their plan that they intend to have MSHA review and approve.

NEW PLAN FOR CRANDALL CANYON MINE

Senator HARKIN. Okay. Now, as I understand it, there was a new plan. There had been this bump in March, they had closed down that part of the mine. I've looked at the maps of the mines. We have—partway. All—we don't have the whole map—well, we have it over here, I guess. They closed down a part of the mine, and then a new plan came in to do retreat mining 900 feet to the south. MSHA approved that plan, am I not correct?

MSHA APPROVAL OF NEW PLAN

Mr. STICKLER. That's correct.

Senator HARKIN. Well, my question, again, Mr. Stickler, is: If MSHA approved the plan, did they have this letter of April 17 in their possession before they approved the plan? If you don't know at this point, I would ask that you find out for the committee and let us know if your MSHA inspectors had this letter in their possession at the time they approved the new plan.

Mr. STICKLER. Well, as I read through this, I see the recommendations here, that the consulting engineering company made, to increase the size of the pillars from 80 feet by 92 feet, to increase those pillars to 80 by 129 feet.

Senator HARKIN. Yes.

Mr. STICKLER. So, I have been told that MSHA was aware of that information, and that was part of the basis for MSHA's approval of the plan, was that the consulting engineering company recommended increasing the size of the coal pillars. Those are the blocks of coal that support the earth above, and, along with other recommendations, to improve the ground control conditions in that southern area. It states here in the recommendation from the professional engineers at Agapito—it says, "The size of the pillars expected to provide a reliable level of protection against problematic bumping for retreat mining under cover reaching 2,200 feet."

AGAPITO ASSOCIATES

Senator HARKIN. But, Mr. Stickler, it's also a fact, is it not, that Agapito Associates, this same engineering company, approved the plan for the north section, that had the bump in March? They approved that—they—they were the same engineering company.

Mr. STICKLER. They recommended approval. They——

Senator HARKIN. That's——

Mr. STICKLER [continuing]. Did not——

Senator HARKIN [continuing]. The one that had the bump.

Mr. STICKLER. That's correct.

Senator HARKIN. So, you go back to the same engineering company and say, "Well, now you can just improve the size of the pillars and it'll be okay." It raises a question in my mind as to whether or not MSHA really took a solid look at what their earlier recommendations were, why that failed, and whether their secondary recommendations were adequate.

Mr. STICKLER. Well——

Senator HARKIN. Obviously, this engineering company was wrong in their first plan, because they sealed off that whole north section after that big bump occurred. So, they were wrong then. What made us think that they would be right the second time?

Mr. STICKLER. Well, my understanding is MSHA's engineers in the Denver office, which covers all the mines west of the Mississippi River, reviewed the computer model that was used to do the mine design and the pillar size. They also went underground and made investigation of the conditions in the south area, where the pending plan approval was to be applied. They reviewed the history of retreat mining in this mine. I can point out to you, on this map—just prior to Murray Energy purchasing the—prior to Murray Energy purchasing the operation, the previous owner had retreat mined this area called the south mains. This is very similar. It's between two gob areas, or areas that have been longed out with—this left side, with longwall mining, and the right side—part of it was longwall, part of it was continuous miner retreat mining. But the previous owner had retreat mined up to about this location. Murray Energy continued. They had good results in that area. During the last 5 years, there has been one miner injury at this mine, due to a—anytime of roof or rib roll—an individual had a broken foot, with rock that rolled off on the foot. So, based on the fact of successful mining that occurred in the past in similar conditions, based on the successful retreat mining in that area and the engineering report from Agapito, along with MSHA's own underground investigation—the supervisor for the roof control group at Denver is a certified professional engineer; he and the roof control specialist went underground and made visual observations.

RESULTS OF MSHA INSPECTIONS

Senator HARKIN. So, would you provide, Mr. Stickler, for this subcommittee, for our staff and for me to review—you said, in your testimony, that, since the purchase of the Crandall Canyon Mine by Murray Energy, MSHA has performed five regularly scheduled inspections, two spot inspections, responded to a complaint from a whistleblower and performed, as you just said, a roof control tech-

nical inspection. Could the results of those be given to us? I'd like to know what was the complaint from the whistleblower. I'd like to know what the spot inspections and the roof control technical inspection showed.

Mr. STICKLER. Yes, we can provide those. My understanding of the whistleblower complaint was relative to the mine operator providing the required mine rescue-team service, and MSHA investigated that and issued an order requiring to—the operator to abate that violation.

[The information follows:]

[CLERK'S NOTE.—This information is available at http://www.msha.gov/drs/drshome.htm]

WIRELESS TRACKING TECHNOLOGY

Senator HARKIN. The rescue plan that was developed required drilling bore holes approximately 1,500 feet into the earth. The seven holes drilled ranged over several thousand feet in area, because we didn't know where the miners were. My question is, Mr. Stickler, is there a tracking technology available and approved by MSHA that could have told us where the miners were?

Mr. STICKLER. I wish there were. MSHA has spent thousands of man hours reviewing what's available around the world in the way of wireless tracking systems and wireless communications systems. We have not been able to identify any two-way wireless systems that will work in a mine such as this without some type of antenna or backbone wire going through the mine. This mine had what's been referred to as the PED system, the Personal Emergency Device, where they could send the wireless signal from the surface via an antenna through the mine to the miners that had cap lamp batteries that would receive text messaging, and also, when they received the message, their cap light would blink to signal them that they had a message. That system was deployed at this mine, as well as redundant hardwire communication systems in two separate entries. But the forces of the mountain bump—to try to illustrate—on the roof or the ceiling of the mine, they had bolted heavy steel mesh wire, similar to the reinforcing wire that's used in concrete—the diameter wire's about an eighth of an inch—the force of the coal exploding off of the walls of the tunnel ripped that wire off of the roof. So, naturally, it ripped out all the hardwire redundant communications systems, and it ripped out the antenna for the wireless Personal Emergency Device system at the mine.

Senator HARKIN. I have a couple more questions, but I'll yield now to Senator Specter.

Senator SPECTER. Thank you, Mr. Chairman. I'd like to note that we have families here today from the Sago Mine disaster, from the Jim Walters mine disaster. Miners are here from Pennsylvania, Ohio, and West Virginia, to observe these hearings.

BUMPS (SEISMIC ACTIVITY)

Mr. Stickler, as I review the uncontradicted evidence, it appears conclusive that MSHA, your Department, was not paying adequate attention to these bumps, which caused catastrophic results. Senator Harkin has gone into the letter, but, in addition to that, independently, the timeline from MSHA admits that MSHA received

information that pillar mining in the north main west barrier had stopped, due to ground stability problems. That is 900 feet away. Then you had other bumps. After the accident on August 6, when the rescue operations were undertaken, there was another bump, which buried equipment being used to clear the entry, and rescue teams were pulled out of the mine. Now, on August 11 a significant bump occurred, and all rescuers again were removed from the mine. Then, on August 15 there were three significant bumps between 1:15 and 1:40. Then, on August 16, another bump, resulting in the death of three men.

Now, with all of these bumps and what it demonstrates is the unsafe conditions, two questions. How could MSHA approve allowing the mining to go on 900 feet away, notwithstanding all of these fancy recommendations you have, and, in the light of these bumps on the rescue operations, how could MSHA pursue those rescue efforts in the face of these recurrent bumps? You know there's going to be another, on the laws or probability, resulting in the deaths of three more men? Isn't there just blatant failure by MSHA to recognize a fundamental problem which is caused by these bumps?

Mr. STICKLER. Well, your first question, I partially answered when Senator Harkin asked me. I walked through the——

Senator SPECTER. No, but you didn't——

Mr. STICKLER [continuing]. Process——

Senator SPECTER [continuing]. You didn't—you didn't answer it, in the context of the other——

Mr. STICKLER. Well, let me finish my answer——

Senator SPECTER. Wait, wait, wait——

Mr. STICKLER [continuing]. If I could, please.

Senator SPECTER [continuing]. A minute. You have the bumps—we're laypeople here, but he asked you about the bumps on March 12, but then we have all of these other bumps. We're trying to understand the significance of these bumps. It appears to me conclusive that these bumps shows there's a tremendous danger, notwithstanding your pinpoint light and what the experts may tell you. Isn't it perfectly apparent that these bumps tell you that something disastrous is about to happen?

BUMPS AND RESCUE OPERATIONS

Mr. STICKLER. The fact is that an increase in seismic activity cannot be used to predict a pending bump, nor can a silent period, where there is no seismic activity, be concluded that there will not be a pending or future bump.

But, getting back to the other question that you asked me regarding the rescue operation—and Senator Bennett mentioned this—when we referred to postponing the rescue activity of the mine rescue teams during the seismic activity, that was different than the rescue activity that was being done by the crew that was operating the continuous mining machine in the equipment in number-one entry to rehabilitate number-one entry. Initially, mine rescue teams tried to advance on top of the rubble, by crawling through spaces as low as 24 inches, to explore to see if there was any way that they could find an opening to get back to where the miners were trapped. That went on for several hours the first day of the accident. That was the activity that we determined that was

not prudent to continue without any kind of protection—a ground-control protection—for the members of the mine rescue team that was trying to find the route to travel to reach the trapped miners.

The second issue regarding the rehabilitation and the cleanup of the rubble in number-one entry. That operation advanced a little over 900 feet before the accident occurred, on the 16th. During that time, we had several bumps, but the ground support that was being installed protected the miners and was secure, and there were no injuries. You mentioned withdrawing miners from the mine. To my knowledge, that never occurred. When there was a bump—and what we've learned, going in to the process, is that, while many of the experts believe that the initial bump—the weight of the mountain would be redistributed, and there would be less stress after that initial bump. That was partially true. But what we learned is that the rubble in the entry—number-one entry—provided lateral support to the coal walls. As we used the continuous mining machine to load out that rubble, we removed the lateral support. Without that support, we were getting additional bumps on the coal walls of the tunnel right in the immediate area where the continuous mining machine was working. But during no time prior to the 16th did any of these bumps dislodge any of the heavy ground support that was put in to protect the miners along the walls of the entry.

MSHA VIOLATIONS

Senator SPECTER. Well, Mr. Stickler, I have to tell you that that elongated answer, which has consumed all of my remaining time, doesn't answer, for me, the very basic and obvious conclusion, that we have these bumps, and you have the tragic consequences, that MSHA was on notice to function very differently, and not to allow the mine to be activated 900 feet away from a bump which was very dangerous, and that you were on a lot of notice on these bumps, that the rescuers were in a very precarious position. I'm going to ask you to answer, for the record, because we have a lot of witnesses and a lot of Senators—but answer, for the record, the question about these serious and substantial violations—21—with fines of less than $20,000, and 10 of these serious and substantial violations with fines of zero, and to respond to the United Mine Workers' testimony that: "chilled enforcement efforts at the mine level and allowed operators to essentially negotiate workplace and safety matters,".

[The information follows:]

MINE SAFETY CITATIONS ISSUED TO CRANDALL CANYON MINE

At the time of the hearing, MSHA had issued 67 citations and orders at the mine since Murray Energy, Inc. purchased the mine in August 2006. Two of these were a type of withdrawal orders that do not receive civil penalties under the Mine Act. Of the remaining 65 citations and orders, 42 had already been assessed civil penalties in the amount of $22,483 and 20 citations and orders were not corrected until after June 18, 2007, and had therefore not been assessed. The three remaining actions were either in the review process for a "Special" assessment, pending a conference with the MSHA District Manager, or awaiting referral for assessment from the enforcement office.

Since the hearing, 15 of those 20 citations have been assessed. For this citations, MSHA assessed a total of $21,582 in September 2007. The remaining five are still in the process of being assessed.

A delay in assessment is not unusual. On average, a civil penalty notice is sent to the operator 80 days after the citation or order was corrected, that is, after the operator corrects the conditions that resulted in the citation or order. This timeframe is 6½ months for "Special" assessments. This year, 70 percent of the citations have been assessed within 90 days from the date the conditions cited were corrected, and 90 percent have been assessed within 4 months.

The time needed to assess civil penalties is dictated in large part by the due process afforded to mine operators and miners' representatives in the Mine Act. Mine operators and miners' representatives have the right to request a conference with the MSHA District Manager on any citation or order. Violations for which enforcement personnel recommend "Special" assessments are reviewed through the enforcement management chain and finalized by staff in MSHA headquarters. Special assessments are generally those enforcement personnel recommend in extraordinary circumstances such as fatalities that warrant a civil penalty outside of the regular formula used to determine penalty amounts.

Under the Mine Act all violations must receive a civil penalty. In fact, this administration has significantly increased civil penalties, going beyond the increases Congress passed last year in the MINER Act. Civil penalties increased from $25 million in 2005 to $35 million in 2006, and to $41.5 million through August 2007, with four months remaining in the calendar year.

With regard to the United Mine Workers' testimony that MSHA created an atmosphere that "chilled enforcement efforts at the mine level and allowed operators to essentially negotiate workplace and safety matters," there are other indicators beyond the increase in fines that contradict the notion that MSHA has relaxed its enforcement efforts.

—The number of violations MSHA inspectors have cited has increased in each year since 2003.

—In 2006, MSHA issued more citations and orders than in any year since 1995—and there were almost 3,000 coal operations in 1995 compared to just over 2,000 in 2006.

—The number of violations cited per inspection hour is at an all-time high—MSHA inspectors issued the most citations and orders per inspection hour in both 2005 and 2006 than in any year since these records have been kept (beginning in the 1980s).

—The percentage of unwarrantable failure orders cited is higher this year than in any year since 1994.

—The rate at which inspectors have used the most severe enforcement actions (i.e. citations and orders issued as "unwarrantable failure" on the part of the operator, or issued for failure to abate previously cited conditions or for imminent danger conditions per inspection hour) has also increased in each year since 2003.

—MSHA has taken the first steps to identify mines exhibiting a "Pattern of Violations" as described under section 104(e) of the Mine Act, an enforcement tool never before used.

By virtually any measure, MSHA is vigorously enforcing the mine health and safety laws. The Mine Act provides three main tools that MSHA uses to help the mining industry provide safer, more healthful work environments: enforcement, technical assistance, and education and training. Enforcement is at the heart of this three-pronged approach to mine safety and health. MSHA's enforcement record clearly illustrates its commitment to this belief.

PRESS CONFERENCE

Senator SPECTER. But I would like to ask you about one more subject, which is very important. How could you permit Mr. Murray to take over with the press and to stand by and allow him to be on the scene—I know you've explained to me, in our private meeting, that he starts the press conference before you get there, and you have to take action with the sheriff to keep him out of advising the families, because he gives them misinformation, and he makes the preposterous statement about an earthquake to try to make it an act of God. You have the statutory authority to banish the guy, and he's a real troublemaker on the scene, which you observed, and you say his conduct was unacceptable. But can't you

do something in a more forceful way, to stop him from disrupting the activities with the news media and the families, than you did?

Mr. STICKLER. Well, I'll take your last question first. In regard to the press conference, when I arrived, the day after the accident, I first attended a briefing for the family members, and I stayed there with the family members, allowing them to ask individual questions. Some individuals were not comfortable in asking questions in a group. We had 40, sometimes 70, family members there at the briefings. I was there, briefing the families and answering their individual questions. I got to the press conference, and it had already been started. Mr. Murray had preempted me in that press conference. After that press conference, I explained to Murray Energy officials that that was unacceptable, that, in the future, that MSHA would lead off all press conferences, that we would take the responsibility of providing an update and the factual information, that we would make sure that we would not communicate anything to the press that had not been previously communicated to the families. That was what we tried to do in all the following press conferences for the 17 days I was there.

I've been told by people—I didn't see any of the broadcasts, but people in MSHA have advised me that what the news media did was, even though I led off the press conference and gave the information, they wouldn't—the news media did not broadcast that, they waited until a mine official, either Bob Murray or Rob Moore, spoke, and then they would cut in, and that's what they showed the American public. Now, you know, if we can figure out a way to control the news media and control what people say to the news media, I don't know what that is yet. I tried, I advised, I coached, I lectured. We met, before the press conference, to make sure that we were on script, as far as the facts, make sure the facts the company had and MSHA had were the same. But I could not control the ad-lib and what other individuals want to speak to the press. I have no authority to stop them and control what the press does.

PENALTIES

In regard to your other question on the zero penalties, I think many of the violations that you're looking at there have not yet been sent to assessment to be assessed penalties. The process, when MSHA writes a violation, a mine operator has the right to contest—well, first of all, they have a right for a conference with the district manager. That takes some time. After the violation is conferenced, then the mine operator has the right to contest it before an administrative law judge, and that delays the assessment of the penalties. But I can assure you that the——

Senator SPECTER. Mr. Stickler, we're not interested in all the procedures. We know there are appeals. You're not telling us the facts when you say that the penalties haven't been assessed. Twenty-one "serious and substantial" penalties were assessed, at $19,662; and 10 of these, serious and substantial violations, the penalty was zero. That's done.

Mr. STICKLER. No, you're misinterpreting what you're reading there, Senator. What that means, by zero, is that the penalty has not yet been assessed. We assess a minimum penalty for every violation. In March of last year, MSHA published a final rule that sig-

nificantly increased the violations across the board. For the entire mining industry, the fines were increased from approximately $24 million to $68 million a year.

Senator SPECTER. Mr. Stickler, that's not relevant to here, and I can read English. It says "proposed penalty," and it says zero.

Mr. STICKLER. That means because it has not yet been assessed.

Senator SPECTER. January 3, 2007, proposed penalty zero? Mr. Stickler, if the English language does not mean "proposal penalty, zero," that that's the proposed penalty, we're going to have to look even with a sharper microscope on everything you've told us.

Mr. Chairman, I don't want to take more time here, so I yield back to you.

Senator HARKIN. Thank you, Senator Specter.

Yield to Senator Byrd, who has graciously asked that we yield a bit of time to Senator Murray, who has to go preside on the floor.

TIMELY INFORMATION FOR VICTIM'S FAMILIES

Senator MURRAY. Thank you, Mr. Chairman.

I do have to go preside on the floor. I do have a number of questions I'll submit for the record.

But I did want to follow up on Senator Specter's comments regarding the information that was given from the site. It was very confusing to all of us, whether Bob Murray was primary spokesman, or who was speaking, or how that was being handled. I just wanted to suggest to this committee, from my experience, chairing the Transportation Appropriations Subcommittee on the National Transportation Safety Board, NTSB, that they have a far more effective model in making sure that victims' families receive timely information from the government first, and that it is accurate, and that no one speaks on behalf of the government investigators at an aviation accident site. I would suggest to this committee—I'd like to work with you—that perhaps we can put that model in place for mine safety.

PREPARED STATEMENT

I do have a number of questions I would like to submit for all of our people here, as chairman of the Employment Safety Subcommittee. We've worked on mine safety in the past, worked with Senator Byrd. We'll continue to work with all of you to do the best we can to answer these questions and keep moving forward so that we can assure the families of the miners that we are taking the proper steps to assure that we are doing everything to protect their safety.

Thank you very much.

[The statement follows:]

PREPARED STATEMENT OF SENATOR PATTY MURRAY

Thank you, Mr. Chairman, for calling this hearing to help us begin to understand the tragic events surrounding the Crandall Canyon Mine disaster.

I would also like to thank Senator Byrd for his unwavering commitment to America's miners; they have a true long-standing champion in the Senator from West Virginia.

PAIN OF FAMILIES

As I know many of my colleagues and the witnesses have done, I have talked with the families who've lost their husbands, fathers, brothers, and sons to mining tragedies. The pain I saw in their eyes is something very few of us have had to endure. And, it's something we'll never forget.

After the tragedies in West Virginia last year, Senators from both sides of the aisle quickly worked together toward the same goal—passing bi-partisan legislation designed to improve mine safety in the hope that tragedies like Sago and Alma would never be repeated.

The MINER Act was a landmark piece of legislation and an important first step in meeting our goals but, clearly, we still have work to do.

As was the case in Sago, we can't undo what happened and we can't take away the pain. But we can resolve to work together to give miners better protection. And that's why we're here today.

MINER HEALTH AND SAFETY ENHANCEMENT ACT OF 2007

That's also why I, along with Senators Kennedy and Byrd, introduced the Miner Health and Safety Enhancement Act of 2007 earlier this year.

This bill makes five critical improvements to last year's bill.

—First, it speeds up the date by which mine operators must install improved underground communication systems and refuge chambers.

One of the questions I have asked myself this month is whether refuge chambers were ever considered for use at Crandall Canyon, given the dangerous nature of the retreat mining that was going on there.

—Second, our new bill enhances MSHA's enforcement authority. I'm particularly pleased that this bill establishes an independent ombudsman to ensure that miners' concerns are heard and protects whistleblowers from unfair retaliation.

—Third, it improves rescue, recovery and accident investigation authority.

—Fourth, it reduces miners' exposure to coal dust; and

—Finally, it addresses other critical hazards in the mines including asbestos exposure by requiring MSHA to adopt the current OSHA asbestos standard to better protect miners.

Tragedies like the one at Crandall Canyon focus our government's attention on the thousands of brave men who enter our coal mines every day to produce the energy our Nation relies on.

GETTING FAMILIES ACCURATE INFORMATION

It also reminds us that there are families who anxiously await word on their loved ones during times of disaster, and that they deserve honest and clear answers from their government.

We need to do more to make sure that if there is a mining incident they have access to accurate and consistent information from officials.

As Chair of the Transportation Appropriations Subcommittee, I am very familiar with the model used by the National Transportation Safety Board (NTSB) to ensure families have the best information first in the aftermath of an accident. I believe we should look to incorporate elements of this highly effective model in any new mine safety legislation that is developed in the HELP Committee.

We also need to make sure that if promising technologies are available, they're implemented sooner rather than later.

As I've said before, I hope that as we move forward, we will not allow the perfect to be the enemy of the good. We know that every technology has limits, and nothing is foolproof, but if there are steps we can take to make progress—we shouldn't hold back.

So, we have an important mission, Mr. Chairman. As Chairman of the Employment and Workplace Subcommittee, I look forward to working with my colleagues here and in the HELP Committee to identify what went wrong at Crandall Canyon and how we can prevent similar mining tragedies in the future.

Senator HARKIN. Thank you, Senator Murray.

Senator Byrd.

BRONZITE MINE IN WEST VIRGINIA

Senator BYRD. Mr. Stickler, the Charleston, West Virginia, Gazette reported, this morning, that MSHA has not conducted, this year, a regular quarterly inspection at the Bronzite Mine in Mingo

County, West Virginia, where a miner died on Monday. According to MSHA's Web site this morning, the article is correct. MSHA has performed only three spot inspections, not one regular inspection. How do you explain that?

Mr. STICKLER. At this point, I have not had an opportunity to fully evaluate that. I was told, this morning, that the spot inspections that MSHA conducted, one each quarter, were what MSHA refers to as enhanced spot inspections. They were not referred to as full regular inspections, because they did not cover every area of the mine, but they went beyond the normal spot inspection.

MSHA INSPECTOR RESPONSIBILITIES

Senator BYRD. I was under the impression that, in the aftermath of the Alma tragedy, MSHA had instructed its inspectors to go into every mine, which they were supposed to be doing anyway, and not simply rely upon spot checks and the paperwork submitted by the mine operators. I'm absolutely flabbergasted—flabbergasted—I'm at a loss—how can we have any faith that things at MSHA are actually improving as you contend, if you're not even fulfilling these basic inspection responsibilities?

Mr. STICKLER. Well, we have communicated with all of our inspectors the requirement to conduct the spot inspections in the underground area of the mine, as opposed to just the surface area, including the mine ventilation fans on the surface. I believe that that is being implemented. During the internal reviews last year of the Aracoma/Alma Mine and Sago and Darby Mine disasters, we identified 153 corrective actions that the agency is in the process of implementing to prevent some of the deficiencies that occurred and were brought to light during those internal reviews that MSHA completed this year.

CRANDALL CANYON MINE

Senator BYRD. Well, for God's sake, let's fulfill the basic inspection responsibilities. When and how did you become aware of the bump that occurred in March 2007?

Mr. STICKLER. I heard some discussion at the mine. During the first few hours I was at the mine, I reviewed the mine plan, the mine map, and asked several questions. I think it was during that period that I asked the question, "Why did mining stop in the north area and west mains?" I was not told that there was a bump, I was told it was because of deteriorating mining conditions. I think, later, I picked up, through a question from the press, about a bump. Since I returned to Washington, I've read the Agapito report, which indicates that there had been a bump.

Senator BYRD. What other geological disturbances, if any, was MSHA aware of prior to August 6?

Mr. STICKLER. Geological events, seismic events, I think, is the question. During the last 2 years, there have been over 150 seismic events recorded by the University of Utah in and near—around the area of the Crandall Canyon Mine. Seismic events are—can be picked up—just a roof-fall in the mine, a small area; it can be picked up by a longwall mining activity, continuous miner retreat mining activities. There's a lot of sources for creating the seismic events. It can be movement in the mountain that occurs from pre-

vious years of mining. You know, it's interesting, the coal pillars that are designed yield over years, and they fail over years. I know I had a lot of experience in Pennsylvania, where coal pillars that had been developed, and the mine was shut down, and, 50 years later, after developers developed housing projects over these areas that had been mined out—50 years later, the pillars fail. So, the pillars in all mines fail. It may be 50 years, it may be 100 years. But the event that happened here at Crandall Canyon, the majority of the failure occurred in less than 4 minutes.

Senator BYRD. But did anybody in MSHA learn about the March bump before August 6?

Mr. STICKLER. The roof control specialists, the ground control supervisor in Denver, was aware of that bump when they reviewed the roof control plans for the south area to be retreat-mined.

WARNINGS AT CRANDALL CANYON MINE

Senator BYRD. In July 2007, MSHA was conducting a quarterly inspection that was ongoing at the time of the mine collapse on August 6. Did that inspection reveal any signs or warnings that a collapse may be imminent?

Mr. STICKLER. I don't know of anyone that can go into an underground mine and, based on visual observation, predict that there will, or there will not, be a mountain bump. The coal walls of the tunnels yield, and that's a normal process. Really, if you have significant yielding and gradual slow yielding, you don't have the violent outburst of coal that you do with a mountain bump. It's when the coal walls are standing solid, and they take on so much stress, without yielding, and then they abruptly dislodge the coal all at one time—it's quite a different event.

Senator BYRD. I don't think I quite got your answer.

Mr. STICKLER. Well, my answer is that no one has the ability to go into a coal mine and predict whether there will, or will not, be a mountain bump. So, our inspectors underground traveled through the areas of the mine. They did not see any condition that would warn them that a mountain bump was pending.

Senator BYRD. So, you're saying that the inspection did not reveal any signs or warnings that a collapse may be imminent.

SPECIAL ROOF CONTROL INVESTIGATION

Mr. STICKLER. Correct.

Senator BYRD. In May 2007, MSHA conducted a special roof control investigation that, according to MSHA's Web site, lasted only 1 day, with no violations cited. Now, what triggered that investigation?

Mr. STICKLER. That was part of the normal process to review the operator's plan to retreat-mine the south barrier west mains. The engineers review the computer models, the calculations, but the supervisor for the ground control/roof control group, and one of the specialists, went underground, spent a day in that section looking at the conditions, evaluating the roof support, make sure that the pillars were developed according to the plan, the proper size, the proper roof support was installed. That's the kind of observations they conducted that day that they went underground in May. The

purpose of that was to gather information to be used in evaluating the approval of the ground control plan.

Senator BYRD. Why did that investigation last only 1 day?

Mr. STICKLER. Well, that's the normal time it would take for two people to travel—there's only four entries in that section, four tunnels, for a distance of about 2,500 feet.

Senator BYRD. That inspection did not reveal any signs or warnings that a collapse may be imminent?

Mr. STICKLER. That's correct.

COMPLAINTS FROM MINERS

Senator BYRD. MSHA records indicated that a 103(g) inspection resulting from a miner's complaint occurred in February 2007, revealing a serious violation of mine rescue team regulations. What other complaints or warnings did MSHA receive from miners prior to August 6?

Mr. STICKLER. That one that you mentioned, Senator, is the only one that I'm aware of.

Senator BYRD. So, what enforcement actions, if any, then, did MSHA take in response?

Mr. STICKLER. MSHA issued an order requiring the mine operator to abate the violation.

Senator BYRD. Thank you, Mr. Chairman.

Thank you, Mr. Stickler.

Senator HARKIN. Thank you, Senator Byrd.

Senator Hatch.

Senator HATCH. Do you mind if we ask a couple of questions?

Senator HARKIN. Please. Please.

Senator HATCH. Well, thank you.

HISTORY OF SEISMIC EVENTS/BUMPS

Mr. Stickler, if I recall this correctly, between 1992—there were seismic events around there, but, between 1992 and this tragedy, there were a limited number of bumps—with some small injuries, but there weren't any major injuries. Am I correct on that?

Mr. STICKLER. That's correct. As I——

Senator HATCH. If I recall correctly, there were only about eight bumps in the——

Mr. STICKLER. Right.

Senator HATCH [continuing]. In the mine itself.

Mr. STICKLER. That's right. The majority of those that resulted in injury occurred on a longwall mining section.

Senator HATCH. And this was not a longwall——

Mr. STICKLER. That's correct.

CRANDALL CANYON MINE RESCUE

Senator HATCH [continuing]. Mining section. I see. Now, I know that you and your team responded quite quickly to the events regarding the Crandall Canyon Mine. Can you please just run through the major events that you oversaw, upon arriving in Utah?

Mr. STICKLER. Well, like you said, I believe MSHA did respond very quickly.

Senator HATCH. Good.

Mr. STICKLER. Within 2 hours of when we received the call, we had a mine inspector onsite. Prior to the mine inspector arriving at the mine site, he verbally issued a K-order, which ensures the safety of the people at the operation and puts control on the activity of the mine operator to ensure that MSHA approve any activity the mine operator takes after that K-order has been put in place.

It's about 45 minutes from the Price field office to the mine, so, when you take that into consideration, the response, I think, was very timely, from MSHA.

Also, the mine rescue teams arrived there very quickly. The first two teams were from Murray Energy and also the neighboring mine, Deer Creek Mine, which was an adjoining mining operation, responded. The first two teams went underground at a little after 6 o'clock in the morning. So, I don't have the time they arrived on the mine site, but I'm sure they were briefed. I think that response was also very timely.

But when I arrived at the mine, the first thing I did was meet with MSHA's folks that had been on the ground. Our district manager—his office is in Denver—took him approximately 6 or 7 hours to arrive at the mine. So, they provided me a briefing of everything they knew about the situation. I arrived at the same time as our administrator that's in charge of coal mine safety and health, Kevin Stricklin. So, we jointly reviewed what everyone knew about the situation. We looked at what was going on at the operation, the plans for the rescue effort. The mine operator had already made arrangements to drill the first hole in the surface. That hole was started 1 day after the accident occurred. There were no roads within 8,000 feet of the surface area where the drilling had to take place, so the mine operator arranged for a helicopter to bring the first drill unit in, and it started drilling on the 7th, the day after the accident.

That was a small-diameter hole. We could not guide that hole—the driller could not guide that hole, and we were lucky that it drilled into an open entry, because it drifted 87 feet from where it was intended to drill into the mine.

The second hole was started the following day, on the 8th. It was within about 130 feet of the first hole, but it was 8⅝ inches in diameter, which would provide enough space that we could drop a camera into the mine and get pictures of the underground operation. The drilling process on the surface was conducted in a manner that I think was expedient, considering what had to be done to get started.

The second hole could not be started until an 8,000-foot road was built. In the Rocky Mountains, that's quite a challenge, to carve out a road for 8,000 feet to get a large drill rig in.

But the holes that were drilled followed a priority basis. The first two holes were located in this area outlined here. That's where we thought the miners were working. There was an electrician in this section, just a couple of hours before the event, and he had traveled out of the mine. He was able to give people on the ground information, and his indication was that the miners were working at the crosscut 139. The belt tail where the coal was dumped to transport it out of the mine was located at crosscut 138. So, that, generally, would be where the miners' normal activity would be located. The

first hole went in crosscut 138. The second hole went in at 137. When we got the air analysis of 7.5 percent oxygen, that was certainly a blow to everybody's hope, because, at that level of oxygen, it would not sustain life.

So, the planning process was to determine, well, what area could we look? Perhaps the miners would have survived. Whenever the bump occurred, we believe it breached this barrier between the sealed area to the north and the active section, and the oxygen in that area was less than 1 percent. That air was blown into the active section. It traveled out by—out of the mine, and dislodged the ventilation walls for several thousand feet out to crosscut 95. But when we looked at this area of the mine, there's a solid barrier of coal, and the belief was that fresh air would have been trapped in this area. So, the third hole was drilled here, and it did, in fact, verify that we had 16 percent oxygen, which would support life. Again, we dropped cameras in; there was no indication of life.

We drilled the fourth hole in that same entry, since we had a good air—good oxygen—well, I shouldn't say "good," we had minimal oxygen, at least enough to support life—that the miners may have barricaded themselves in this area, and, therefore, the fourth hole was drilled at crosscut 142 and number-four entry. Again, we did not find any signs of life by either the microphone, the seismic equipment or the cameras that were dropped in.

Then hole number five was drilled in number-one entry, because there was some discussion with the families that the miners would have tried to escape out the intake escapeway, which was located in number-one entry. That hole drilled into mostly rubble. It was just a few inches of clearance on top of the coal rubble. So, there was not any likelihood that anyone would have survived in that area.

The sixth hole was drilled where the continuous mining machine was believed to be located. Again, that hole just verified what we already knew. There was rubble almost all the way to the roof.

Meeting with the families, they felt pretty strong that they would like to see a hole drilled at what's called the "kitchen." It's like a picnic table where the miners eat their lunch. So, a hole was put in at number-three entry, crosscut 137 and a half. The kitchen area where the miners would have left their dinner buckets and their extra SCSRs, self-contained breathing apparatus, would have been located there. None of that was visible, because the entry was mostly filled with rubble, and there was only space of a couple of feet from the roof.

That's a general review of the drilling activity. This map also shows the advance that was conducted in number-one entry, from crosscut 120 up to crosscut 127, over 900 feet was rehabilitated. The heavy ground support was installed in that area. It shows the seal that was breached just hours after the initial accident. Mine rescue teams under apparatus believed that they could breach a seal and find a route through these entries to get down closer to where the miners were located. But, again, conditions would not allow them to proceed in that area.

Senator HATCH. Well, Mr. Chairman, my time is up. I appreciate your kindness in allowing us to ask these questions. Thank you, Mr. Stickler.

Senator HARKIN. Senator Bennett.

MSHA VIOLATIONS AND FINES

Senator BENNETT. Thank you very much, Mr. Chairman.

Mr. Stickler, let me go back to your exchange with Senator Specter, and see if I can get a little understanding of what you were saying and what he was saying.

He cited a—I want to—don't quite know—I don't remember the exact—violation, or some kind of difficulty in January 2007, and cited the fact that it says "the proposed fine was zero." You said, "That's just because the fine hasn't been assessed." All right, without getting into the back-and-forth there, let me ask you: When would you expect the fine for that particular item to be assessed? From January—we're now in September. If, in fact, there was a fine yet to be assessed there, when do you expect it would come?

Mr. STICKLER. That depends on whether or not the operator asked for a conference on the violation. It also depends on how long it takes to schedule that conference and conduct it.

Senator BENNETT. All right. But is it normal for something of this nature to go on for 9 months, or 10 months, or 1 year? Or would you say that would be an unusually long period of time?

Mr. STICKLER. Well, 7 months is slightly unusual, but it's something that I wouldn't say doesn't happen.

WARNINGS OF SEISMIC EVENTS/BUMPS

Senator BENNETT. Okay. Let me go back to further questions relating to your answers to, I think, Senator Byrd. You say the amount of mountain bumps, or the lack of mountain bumps, cannot provide any predictive power as to what might happen in the future. Do I have that right?

Mr. STICKLER. I think I referred to seismic activity.

Senator BENNETT. All right, seismic——

Mr. STICKLER. Seismic activity. It's similar to looking at the seismic activity associated with natural earthquakes. You can have a quiet period, and that's because the platal—the plates are wedged and not moving. You can have, then, a large earthquake——

Senator BENNETT. Yeah.

Mr. STICKLER [continuing]. Where small movements are picked up, but doesn't necessarily mean that there's a pending——

Senator BENNETT. Yeah.

Mr. STICKLER [continuing]. Large quake.

RESCUE ACTIVITIES

Senator BENNETT. All right. But, back to the point I made in my opening statement, I had understood, from that initial briefing, that there would be no rescue activity as long as there was seismic activity—there would be no rescue effort, or recovery effort, as long as there was seismic activity in the mountain. Obviously, there was such an effort undertaken while seismic activity was going on. If I understood your answer to that question, you said you suspended all rescue activity until there was adequate protection against the seismic action that was going on in the mountain. In fact, the protection, while it met all previous standards, proved to be inad-

equate, and that's why the three rescuers were killed. Do I have that correctly from your statements?

Mr. STICKLER. I think you're close. Really, there's two different types of rescue activity that we're talking about.

Senator BENNETT. Yeah, forget the drilling of the holes.

Mr. STICKLER. Right. The first—let's just stay underground. Two——

Senator BENNETT. Yeah, because the drilling of the holes didn't endanger anybody.

Mr. STICKLER [continuing]. Types of rescue activity underground. The first was initiated moments after the event.

Senator BENNETT. Oh, I understand that. But that was——

Mr. STICKLER. And——

Senator BENNETT [continuing]. Over by the time we had had our briefing.

Mr. STICKLER. Yeah. But I'm trying to tell you the difference between them.

Senator BENNETT. Okay, all right.

Mr. STICKLER. So, the one type involved miners using apparatus, mine rescue team members trying to probe, crawl over top of rubble in number-one entry, -two entry, -three entry, -four entry. All those entries were probed by mine rescue team members trying to crawl over top of the rubble, in low conditions, of about 30 inches. Wire mesh that had been tore off of the roof was hanging down. They also went over to the adjacent mains entry and breached the seal. They drilled holes and blasted through the seal area. They went through that seal under apparatus, and tried to explore. That's the activity that I think was communicated that would be discontinued. As long as we had seismic activity, we felt that that kind of exploration, without any kind of protection against a future bump, would not continue. So, that was stopped.

The other type of rescue operation underground was the rehabilitation of number-one entry. That involved using a continuous mining machine that was operated by remote control, diesel coal-haulers that hauled the rubble out and dumped it on the conveyor belt, roof-bolting crews that would come in behind the miner and roof-bolt the roof, and also crews that would set the 40-ton water jacks, install the chainlink fence and the wire cables.

Senator BENNETT. So——

Mr. STICKLER. That activity continued on, because we believed—and throughout the subsequent bumps, we didn't lose any of that support, it was still standing, still in place, withstood the bumps, until the one that occurred on the 16th.

Senator BENNETT. So, the second type of rescue effort, or recovery effort, carried out under conditions that previous experience taught you would be adequate to protect the miners.

Mr. STICKLER. All the experts on the ground there—we had our tech support people from Pittsburgh, ground control——

Senator BENNETT. Yeah.

Mr. STICKLER [continuing]. Experts, MSHA's inspection people, the mine operator, the engineers—we were confident that the support that was being installed would be adequate. I was underground in the exact area where the accident occurred on the—well, about—maybe 50 feet out by——

Senator BENNETT. Right.

Mr. STICKLER [continuing]. I felt safe. If anyone there would have felt that there was imminent danger, those workers would have been withdrawn.

CHANGING RESCUE PROCEDURES

Senator BENNETT. Right. I have one quick question, if I might, Mr. Chairman.

I've had an experience with the Forest Service with the disaster of a forest fire that threatened my own home and a number of homes and structures in the area where I was then living, and learned very quickly that when the feds showed up, in the Forest Service pattern, nobody else mattered. I learned a new term, that I had not known before, called "the incident commander." The sheriff's office and the Salt Lake County sheriff, the Salt Lake County Police, the Salt Lake County Commission, all the rest of this, they were immediately told, "Everything that has to do with this forest fire, the incident commander is king. We know you're the county sheriff, we know you have jurisdiction, but if it's in the area of the fire, the incident commander determines who goes in, who comes out, everything relating to the press—the incident commander is the only one that gives out any information."

I just ask you the rhetorical question: Would we be better off if MSHA went to a circumstance where you, or your designee, became the incident commander, and everything funnels through that, rather than the kind of cooperative effort that I ran into when I was there at the briefing? Do you have an opinion on that?

Mr. STICKLER. Well, I think it's important to have a lot of different input. My experience in the past, particularly operations that were—represent unions—the union was represented in the command center, the mining company, the State Mine Safety Agency, and the Federal Mine Safety and Health Administration. That team of four groups would work together cooperatively to come up with the best ideas, the best way to deal with these situations. There's no recipe, or no cookbook. Every situation is different. So, it's a matter of having people that have years of mining experience, the most knowledge that you can bring there, and resources, and work together cooperatively.

My experience has been that people do work cooperative. I have not had a case in a mine emergency where we were fighting among ourselves and you had to use force and take control.

Now, in one respect, if MSHA would take control of a situation like that, then you would have to ask the question, well, "What responsibility does the mine operator have?" If the mine operator walks away, he takes the personnel and the resources and equipment. It would be a monumental task for MSHA to secure contracts with drilling companies and bring employees in to substitute and replace the mine operator.

I think I would lean toward the cooperative—of teamwork between the State, the labor unions, MSHA, and the mine operator. I've seen it work successfully.

CONTROL OF ACCIDENT SITE

As far as the press, you know, I don't know how to control the press. If you've got any ideas on that, that can help the agency in the future—you know, it's unfortunate, because things got printed in the newspaper. Things are being quoted, even today, from newspaper sources that have not been confirmed and are not known to be factual. And some of this information, as it got back to the families, was hurtful to the families.

Senator BENNETT. Thank you, Mr. Chairman.

Senator HARKIN. Thank you very much, Senator Bennett.

But doesn't MSHA have the authority to approve the entry of media to the Crandall Canyon Mine?

Mr. STICKLER. I didn't catch your full——

Senator HARKIN. Well, didn't MSHA have the authority to permit who got into the mine? In other words, you could have—MSHA could have said only certain personnel can go into the mine. But, as I understand, media—Mr. Murray took media into the mine. But you could have stopped that, couldn't you have?

Mr. STICKLER. Well I think our—and I'm not sure, but, as I recall, our K-order limited the number of people in by—I don't know if it was crosscut 119 or 120——

Senator HARKIN. Did you approve the entry of media into the Crandall Mine?

Mr. STICKLER. Well, we didn't disapprove it. The mine operator has the right to take people into the mine, visitors, provided they give them the training, and provided that they don't go into an area that's unsafe.

Senator HARKIN. I think we ought to——

Mr. STICKLER. We had a Federal inspector traveling with the news media when they went underground. My understanding is that they were not taken in to an area that interfered or disrupted the rescue work or in any way exposed them to an unnecessary danger. So, if MSHA would take action to stop that, we would have to be able to show that it was unsafe.

TRACKING TECHNOLOGY

Senator HARKIN. Last, Mr. Roberts, in his testimony, will talk about a device that was used to save a Polish miner—track a Polish miner. I asked you, earlier, about tracking devices. I asked you: Is there a tracking technology available and approved by MSHA that could have told us where the miners were? Your answer was no, you wished there were. Are you familiar with what was used in the Polish mine? I don't know much about it, I don't know how deep that mine was, or anything like that. Are you familiar with that tracking device that was used there?

Mr. STICKLER. Well, I don't know, specifically, which device you're referring to, but——

Senator HARKIN. I don't——

Mr. STICKLER [continuing]. I know that MSHA's folks and NIOSH's people have been working hard, thousands of man hours, gathering all the information from around the world. We have tested—at MSHA—we've tested numerous systems that people claim will perform in a certain way, and we have not yet found a two-

way wireless communication or tracking system that would work in a mine such as the Crandall Canyon Mine.

Senator HARKIN. Mr. Stickler, thank you very much for your testimony here this morning. I think there were a couple of things that we had asked for, that I wanted to have you provide for us, and that was the MSHA approvals after the letter of April 18, 2007, the approvals that they gave for the resumption of mining in that south area. If you could provide those for us, I'd appreciate it.

Mr. STICKLER. We'll do so.

[The information follows:]

[CLERK'S NOTE.—This information is available at www.msha.gov/genwal/cradallcanyon.asp]

Senator HARKIN. Thank you very much, Mr. Stickler. Thank you.

Now we'll turn to our panel.

Senator BYRD. Mr. Chairman?

Senator HARKIN. Yes, sir. Do you have a question for Mr. Stickler?

Senator BYRD. Yes.

Senator HARKIN. Senator Byrd had another question, Mr. Stickler.

ACCIDENT INVESTIGATION REPORT

Senator BYRD. Mr. Stickler, do you stand behind the mining plan that MSHA approved at Crandall Canyon?

Mr. STICKLER. I think I will have to see the results of the accident investigation team. They will run the computer analysis. They will interview the professional engineers from Agapito. They will interview the district nine professional engineers that recommended approval of plan. I will wait until I get that information to make that decision.

Senator BYRD. Will we also get the information?

Mr. STICKLER. Sir, I didn't hear you.

Senator BYRD. Will this committee also get the information?

Mr. STICKLER. That'll be in our accident investigation report. You'll be provided a copy. It's posted on our Web site, and all the family members will be given a copy.

Senator BYRD. Very well.

Senator HARKIN. Can you just give us about—approximate date when that might happen?

Mr. STICKLER. When the accident investigation team—that team determines what they look at, how long they take. I would not want to preempt them or put any undue pressure on them by giving you a date.

INTRODUCTION OF OTHER WITNESSES

Senator HARKIN. Thank you very much, Mr. Stickler.

Now we'd like to call our second panel, Mr. Davitt McAteer, vice president of sponsored programs at Wheeling Jesuit University, former Assistant Secretary of Labor, Mine Safety and Health; Mr. Cecil Roberts, the international president of United Mine Workers of America; Mr. Bruce Watzman, vice president for safety, health and human resources for the National Mining Association.

Gentlemen, welcome. Thank you for being here this morning. Thank you for your patience. As you can see, we had a lot of questions for Mr. Stickler. I'm sure we'll have some for you, also.

All your testimonies will be made a part of the record in their entirety. I would ask if you could sum up, again, in 5, 7, 10 minutes, something like that. I'll get the light at 7 minutes, and if you have to go over, we'll give you a little time over that, but we'd like to have time to engage in questions for all of you.

So, I'll start in the order in which I brought people up, Mr. Davitt McAteer, vice president of the sponsored programs at Wheeling Jesuit University, and former Assistant Secretary of Labor, Mine Safety, and Health.

STATEMENT OF J. DAVITT McATEER, ESQUIRE, VICE PRESIDENT OF SPONSORED PROGRAMS, WHEELING JESUIT UNIVERSITY, SHEPHERDSTOWN, WEST VIRGINIA

Mr. MCATEER. Chairman Harkin, Chairman Byrd, Senator Specter, Senators Hatch and Bennett, thank you for the opportunity to appear here today.

In order to answer the questions that have been posed earlier to Mr. Stickler, I would propose to address three issues. One, the mining plan should not have been approved; it proved to be inadequate. Two, there were indications, prior to the approval of the mining plan and during the mining process, that there were difficulties being encountered at the mine, that bumps were occurring, and that pressure was building up during the period of time prior to the mining. The fact the mine had to move from the north to the south section, and that that was not apparently reported to MSHA, suggests that there was not an effort to comply with, or coordinate with, MSHA.

Second, MSHA has, at its resources available, a computer technology called ARPM Analysis of Room and Pillar Method. This analysis was not done prior to the incident, and—this analysis is a computer modeling system that is particularly useful in determining where the difficulties—where the pressures are going to be located. That analysis was done subsequent to the accident, and that analysis, according to one newspaper account, has found the design by Agapito and submitted by the Murray Company to be inadequate and to be insufficient.

Next, do we have a way that we can understand the technology that provides us with information about these bumps? These bumps are not the collapse of the mine, as you traditionally think of it, but they are, in effect, the rock bursting out, the coal bursting out into the workplace, pressured by the top and the bottom. There were, according to press accounts, reports by the miners in the days previous to the bumps—to this bump—hooving in the bottom and a heating in the bottom, which gives us some indication that pressure is building up. Other countries, other parts of this country, other mines in this country, suffer similar kinds of problems. It's related to the weight of the top, the height of the roof above ground cover above the mine, and the opening itself. There were pressure buildups here. Those pressure buildups were not being read and monitored.

There are systems in use in this country, and there are systems in use in South Africa and Poland that have, for the last 20 years,

been able to build—understand what—these pressure buildups are coming. These seismic systems are available, are commercially available, and have been in—been used in this country's mines. The Buchanan Mine, in Virginia, used such a seismic device. Other companies have used it. MSHA has tested one of these devices. NIOSH has tested one of these devices.

If we are going to permit the mine operator to operate in this highly dangerous circumstance, then we must put on that mine operator an obligation to, one, monitor and read the bumps—read the pressures, and, two, take steps to diffuse them. That can be done. There's ways to diffuse and to have limited explosions, which decrease the pressures so that you don't have the creation of a cataclysmic event.

The mine rescue system is broken, unfortunately, in this country. This is not to take away from the valuable and heroic efforts of the miners. But, in point of fact, Mr. Stickler suggests that it was expeditious and we got there quickly, given the conditions of the mountains and of the location of this particular mine. It is our suggestion that each mine operator, as part of their emergency plan, have a worst-case scenario, because, when you are in those mountains, and you know you're going to have problems, and you know you're going to have difficulties, then you should very well plan ahead; much like you plan ahead for the production side, you need to plan ahead for an emergency. If we're going to send people into these circumstances, in very difficult terrain, in very difficult locations, then we need to be prepared to get' em out, and get' em out quickly.

We are, unfortunately, not using the technologies that are available in other industries, like tunnel boring systems that would allow us to penetrate the earth quickly and safely, because it builds its own protection as it goes.

PREPARED STATEMENT

We need to learn from the accident, just like we needed to learn from Sago. At Sago, what we learned was to try to provide supplies and equipment to the miners to keep alive til we could get to them. In this instance, we need to learn how we can get to them faster and how we can predict these things from coming to us, and stop them from occurring before they occur.

Thank you, sir.

[The statement follows:]

PREPARED STATEMENT OF J. DAVITT MCATEER

Good Morning, Chairman Harkin and distinguished Members of the Subcommittee. My name is Davitt McAteer and I wish to thank you for this opportunity to appear before you today. I am the Vice President of Wheeling Jesuit University where I am responsible for research efforts at the National Technology Transfer Center (NTTC) and Center for Educational Technologies (CET).

In addition, during the past year and one-half, I led investigations into the Sago and Aracoma/Alma No. 1 Mine disasters in West Virginia at the request of West Virginia Governor, Joe Manchin, III, and issued reports on those disasters in July and November of 2006.

From 1994 to 2000, I served as Assistant Secretary of Labor for the Mine Safety and Health Administration (MSHA) and also served as Acting Solicitor of Labor from February, 1996 to December, 1997. I have been involved in mine safety and health issues since 1968 when, following the Farmington Mine disaster in November

of 1968, I conducted a study and produced a report and book entitled Coal Mine Safety and Health—A Case Study of West Virginia.

Tragically, we are here yet again to attempt to make sense of the events which began at 2:48 AM on Monday, August 6, 2007 at the Crandall Canyon Mine near Huntington, Utah, where nine men lost their lives. Based on the information I've reviewed, a massive coal bump [1] violently disrupted the mining operation. The bump was of sufficient force to be recorded as a 3.9 magnitude event by the University of Utah Seismograph Station in Salt Lake City and lasted 4 minutes.

The suggestion that this was a naturally-occurring earth quake has been rejected by every seismologist who has reviewed the evidence. Moreover, rock bursts of this sort are not uncommon in certain U.S. mining regions.[2] In fact, the Utah coal field where the Crandall Canyon mine is located has been known as an area prone to coal "bumps and bounces" for decades.[3] There's no doubt that the violent coal burst that occurred on August 6 was directly related to the mining activity at this underground operation. Panels of coal were being extracted in areas where exhaustive longwall mining had previously occurred.

It is my understanding that in February, 2007, the mine operator was mining in the North barrier panel, but in March, a large outburst of coal forced the company to abandon this section of the mine in favor of mining in the South barrier. Under MSHA regulations, a mine operator is required to report to MSHA "a coal or rock outburst that causes withdrawal of miners or which disrupts regular mining activity for more than one hour." [4] (It has been reported that the operator failed to file this required report to MSHA, and upon learning of the March 2007 rock burst, MSHA determined that mine operator had not violated the reporting requirement.) In response to the March 2007 rock burst and after consulting with a mining engineering firm, the mine operator submitted a revised mining plan for the Crandall Canyon Mine to MSHA on May 23, 2007, and the agency approved it on June 15, 2007. On the night of August 6, miners were removing coal from the 158 block when the massive bump and collapse occurred. Sadly, on August 16, during the heroic effort to rescue the six trapped miners, another massive bounce occurred. Three individuals were killed, including a MSHA inspector, Gary L. Jensen, and six others were seriously injured.

While it is early in the investigation and much remains to be learned, I would like to emphasize two points at this time. First, Prevention. Second, Emergency Answer. Historically, the most effective and proven way to save miners from disasters is to prevent them from occurring in the first place, by dealing effectively with known risks. Explosions, mine fires, rock bursts, fatal crushing injuries, and black lung disease have all been with us a long time, we have not invented new ways to kill miners. The same hazards that killed miners 50, 20 and 10 years ago, are the same, and the nature of mining—-where the workplace is changing minute-by-minute—-requires constant vigilance on the part of miners, foremen, mine superintendents, and mine operators.

Of course, MSHA also has a critically important role in prevention, by approving mine operators' written plans for ventilation, roof control, etc., and by conducting comprehensive inspections and protecting miners' rights to complain about safety and health concerns without fear of reprisal. Lest the public forget, at its core, MSHA is a law enforcement agency, but as the law states, it is the responsibility of the mine operator to safely operate the mines. It is responsible for enforcing mine safety and health regulations which are proven tools to prevent injuries, illnesses,

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[1] Coal Bump: Sudden outbursts of coal and rock that occur when stresses in a coal pillar, left for support in underground workings, cause the pillar to rupture without warning, sending coal and rock flying with explosive force. A Dictionary of Mining Minerals & Related Terms, Compiled and edited by Paul W. Thrush and the State of the Bureau of Mines, U.S. Department of the Interior, 1968, p. 223.

[2] Mine Safety & Health News; Retsof Salt Mine and Green River Wyoming, Trona Mine Collapse, August 13th Edition.

[3] In 1914, E.H. Weitzel, a company executive with the Colorado Fuel & Iron Company, testified before the U.S. Congress, House Committee on Mines and Mining that in many western coalfields the overburden of rock and strata covering the coal seams are very unstable and that he considered the Rocky Mountain region to be the most hazardous coal-mining area in the country. And in 1926, a U.S. Bureau of Mines representative noted that the practice of pulling pillars (unmined coal left standing between room and pillar entries) in worked-out areas—more common in the West than in other regions—made unstable roof conditions more dangerous. (U.S. Congress, House Committee on Mines and Mining, Investigation of Conditions in Coal Mines of Colorado. 63rd Congress, 2d Session, 1914 pp. 1781–1782; Daniel Harrington, Accident Record in Western Coal Mining States, Rocky Mountain Coal Institute, Proceedings 1927; 2:11–16.).

[4] 30 CFR Part 50.20–5(a).

and deaths. When it comes to protecting our nation's mine workers, MSHA's decisions should always err on the side of protecting the miners.

In this context, what do we already know about the situation at the Crandall Canyon mine? The mine plan was either grossly insufficient and led to the disaster, or it was adequate but the mine operator failed to follow it as written. In either case, we need to ensure that mining plans include a sufficient margin of safety, so that if minor deviations from the plan are made in the course of mining, a catastrophic event doesn't result. The catastrophic event in Utah suggests a serious deficiency in the way the plan was approved by MSHA. In the Sago and Aracoma/Alma disasters, the plans submitted by the mine operators and approved by MSHA did not include a sufficient safety factor, and as a result, miners were not protected and many perished. The MSHA approval process, a vital part in the prevention system, should start with the question: Will this plan provide a high level of safety to the miners working in accordance with it? Ultimately, an MSHA plan approval should convey to the mine operator, the miners and ultimately their loved ones, that the Agency has a high-degree of confidence that the plan, if followed diligently, will provide a robust level of safety for the mine workers.

MSHA's technical review of plans must certainly rely on the expertise of the agency's engineering specialists, but the staff also have available to them a computer modeling program called the "Analysis of Room and Pillar Mining Systems" or "ARPM." This computerized modeling system provides a quantitative measure to assess the engineering adequacy of the plan. The ARPM is especially valuable as it relates to pressure risks in coal pillars and ribs. It is my understanding that MSHA's ARPM was not used to evaluate the Crandall Canyon's mining plan until after the disaster occurred. And, it is my understanding that the evaluation found that the mining plan was "lacking and under-designed."[5]

This technology was previously used to limit mining in dangerous conditions. In 1996, following a double fatality at the Harlan Cumberland mine in eastern Kentucky where a violent coal outburst claimed the lives of miners Mark Skidmore and Randy Lewis, and injured four other men, MSHA's district office used the ARPM to evaluate the operator's plan to continue mining in a section near the fall. When the ARPM analysis showed continued and heightened danger, the plan was rejected and mining was not allowed in that section of the mine.

MSHA's approval of the mining plans is a critical component of its prevention responsibility, but this approval must also be integrated into the inspection process. The front-line inspectors must be given adequate time to coordinate and consult with the technical specialist who reviewed and approved plan. This way, the inspector who will actually visit the mine and see the plan in action, has a thorough understanding of the plan's unique features, and is aware of areas in the mine that should undergo more scrutiny during an inspection. Also, the various divisions of MSHA must work together when considering, for example, the demands for appropriate roof control and appropriate ventilation. Each of these safety concerns is equally important and must be reviewed as an integrated mine-safety system, not as independent factors, as if changes in one (e.g. ventilation controls) couldn't have a profound adverse effect on the other (e.g., ground control).

In addition, other Federal agencies with responsibilities for safety must be consulted. In the Crandall Canyon disaster, we now understand that Bureau of Land Management (BLM) engineers had not seen the mining plan until after the accident and were not aware "how aggressively they were on retreat mining."[6] The chief of the BLM's solid minerals branch said "I can say with certainty that our mining engineers would have had some questions about it."[6]

In the mode of getting "back to basics" on enforcement to enhance prevention, more emphasis should be paid to the role of MSHA's field and district office supervisors, for their support and enhancement of the front-line mine inspectors. Today many MSHA supervisors are being called on to take on all sorts of additional responsibilities (e.g., stakeholder meetings, special emphasis programs) which may dilute the principle enforcement mission of the agency.

Moreover, we know that in certain regions of the county with their unique geological formations, and in particular kinds of mining settings, underground mines are prone to rock bursts (i.e., "bounces" and "bumps".) In West Virginia, as well as in Utah, the coal seams and related geology is well understood by mining engineers. Coal "bumps and bounces" are not limited to western coal mines. At the Consolidation Coal Company's Buchanan No. 1 mine located in western Virginia, several

[5] Ward, Ken, Tough Questions, Need Answers, Computer Model Found Mine Plan in Utah Lacking; Charleston Gazette, Sept 2, 2007.

[6] Gehrke R. "Mountain was buckling months before mine collapse." The Salt Lake Tribune, August 31, 2007.

"bounces" occurred on July 7, 2007 and they were reported to MSHA. (No injuries to miners resulted from this event at the Buchanan mine, which registered above 3.0 magnitude on the Richter scale at Virginia Tech.) When a mine operator proposes an underground site for secondary mining applications, however, the geologists and mining engineers may know less about how the seams will respond and need to plan the mine design accordingly.

Therefore, I recommend that any mining operation with cover in excess of 1,000 feet, be required to meet a greater level of review and scrutiny before a plan is approved. Just like the special consideration and oversight of mines that liberate high concentrations of methane, we need an additional level of scrutiny for mines with more than 1,000 feet of cover. These mine plans must first make a determination of whether the mining can be undertaken while ensuring an adequate margin of safety for the miners. Then, it must include a description of how pressure buildups in the pillars or ribs will be monitored, but also elaborate on the techniques that will be used to (1) monitor the build-up of pressure in the strata, and (2) institute procedures to the release it. The methods to manage safely the risk of coal or rock bursts are well known and have been used extensively in the mines of Poland, South Africa, as well as in certain mines in the United States. They have not been applied on a large scale in the United States because they are not required by Federal law and interfere with rapid coal production. If day-to-day management of pressure build-ups in the pillars and ribs had been adopted at the Crandall Canyon mine, it is likely that miners' lives may have been saved.

Seismic monitoring of mining conditions is a well developed science which has been available as a tool for measuring and graphing rock pressure build-up in strata surrounding the coal seams. In principle, it is a modern version of listening to the rock or roof formation, a practice miners have used since ancient times. As the mining creates voids in the subsurface strata, the rock formations above and below will begin to adjust, in effect, filling the void (as the old saying goes, Mother Nature hates a void). That adjustment results in some cases, roof falls and in other locations in the build-up of pressure in the rock formations above, as well as below the coal seam and void. Typically the coal vein is the softest rock formation, thus pressure can cause bursts and bumps which violently cause the coal and surrounding rock to explode into the void and into the mine tunnel. This phenomenon occurs as well in gold and other metal and nonmetal mines.

As mentioned, seismic monitoring of the pressure build-ups has been practiced in South Africa and Poland for decades, and techniques for diffusing the pressures in a controlled manner have been developed and successfully deployed. This technique has also been deployed in the United States in the coal mining industry. Consolidation Coal Company deployed seismic monitors in its Buchanan Mine in the last twenty years, recently, the practice has been discontinued. The science has advanced to the point it is called "micro seismic monitoring" and portable wireless seismographic units have been developed. The U.S. oil industry has employed this technique for oil exploration.

Therefore, I wish to propose that each mine operator of any mine which has experienced pressure buildups, bounces or bumps or which has the potential for such events be required to deploy seismic monitoring systems in their mines. Moreover they be required to utilize techniques already existing to defuse the pressure build-up. Finally, each such operator should be required to have a procedure to remove miners from harm should pressure buildups be detected, and to discontinue mining until steps have been taken to release the pressure to a safe level.

MSHA recently tested a wireless mini-seismic system which according to the manufacturer, the in-mine testing was successful. This portable wireless system could also be adapted for mine rescue to listen for miners trapped below ground.

From a prevention perspective, mining companies and MSHA currently have tools available to them that are designed to assess hazards and prevent the kind of catastrophe that occurred at the Crandall Canyon mine. These must be deployed in the mines today.

Second, the mine emergency system in the United States must be overhauled. It has failed the miners. Rescues have been few and far between, sadly we are not as prepared, quick and nimble as we need to be. The mine rescue operations which have taken place in the last few years have certainly demonstrated the heroic efforts on the part of the rescuers, including all the men at Crandall Canyon. However, the system is not accomplishing what it was established to do: rescue miners quickly and safely, and with the least amount of risks to those individuals engaged in the rescue itself.

After the mine accident at Sago, a number of State and the Federal governments pushed reforms to equip trapped miners with additional breathing devices, and other essentials to keep them alive until they could be rescued. Today, more self-

contained self-rescuers are being stored underground than in the past, and that is a good, positive first step. But, we should never have been satisfied with that minor first step, and I am particularly disturbed at the slow pace of other improvements, notably, emergency response plans, communications and tracking, and rescue chambers.

When the MINER Act of 2006 required mine operators to develop a "response and preparedness plan" for mine disasters, it was hoped that mine operators and MSHA would have developed and approved plans, respectively, that reflected the letter and the spirit of the new law. An emergency preparedness plan should not simply list the number of SCSR's available and report that the underground emergency supply skid will contain 1 roll of brattice, 2 lbs. of #8 nails, and 10 gallons of water. Instead, the plan should reflect the mine operator's planning and preparedness for an emergency. Examining the emergency response plan for the Crandall Canyon mine, which MSHA approved in June 2007, there is little indication that the operator gave serious thought to the types of emergency scenarios likely to occur at his mine. For a region of the country notorious for rock bursts, and a mine with a history of them, we should expect the mine operator to consider these facts when planning and preparing for an emergency.

I recommended that each mine operator include in his emergency response at least one "worst case scenario" and how they would respond to this event. The plan should include how they involved miners, local emergency responders and family members in their mock-up exercises, and thoroughly describe the plausible eventualities considered in their preparation.

At Crandall Canyon, we know that precious hours were spent simply getting the site ready for the first drill hole. As the mine advances underground, given the requirement that the emergency response plan must be updated at least every 6 months, an estimated site for emergency response holes or "rescue boreholes" be mapped out in advance. In the event of an actual emergency when the command center officials determine that a bore hole is necessary, the site would have been already planned out. These and other steps that could be taken in advance will expedite the mine rescue process and hopefully buy time for the miners awaiting rescue.

MSHA must develop and equip rapid response teams with adequate equipment on-hand and ready to transport when notified of about a mine emergency. Technology from other industries (e.g., oil and gas, aerospace) should be examined for potential transfer to the mine safety world in order to improve the effectiveness and speed with which rescue teams can reach trapped miners. For example, tunnel-boring machines used in the tunneling industry appear to offer significant potential for boring quickly and safely into trapped miners.

At all levels, corporate, State and Federal levels, mine rescue must be modernized and made realistic, starting with in-mine rescue exercises in addition to the traditional mine-rescue contests.

The efforts to improve communications between the mining surface and to the underground miners must be redoubled. There are communication and tracking systems which are manufactured and available today for the mining industry. They may not be perfect, and they may not work in every emergency situation, but we must short-circuit the endless search for the holy grail of communication devices that can be used in every location underground. When the vast majority of nation's electricity is powered by coal, there is no reason that our coal miners don't have access to the best currently-available communication and tracking equipment. We must make a commitment that every 3 years or 5 years, existing equipment will be replaced with the latest state-of-the-art available technology.

Economically, the coal industry is well positioned to adopt improved safety technology, as the past several years have been especially profitable, and production is concentrated in a small number of companies.

Of the 612 underground mines that produced coal last year, 81 percent of the coal came from just 145 mines. The vast majority of these mines are controlled by the Nation's seven largest coal mining companies.[7] I know that some of these firms' mines have begun installing improved communication and tracking systems, however others have not. I recommend that the operators of these 145 top-producing mines, provide MSHA with a report on their current state of communication and tracking systems, as envisioned by the spirit of the Miner Act. We must help to ensure the continuous improvement and application of communication systems for underground miners by encouraging a new approach to applied mine safety engineering, so that the "research" to "practice" to "product" cycle is accelerated greatly. One

[7] Alliance Resources (NYSE: ARLP), Arch Coal (NYSE: ACI), CONSOL (NYSE: CNX), Foundation Coal (NYSE: FCL), Massey Energy (NYSE: MEE), Murray Energy, Peabody (NYSE: BTW).

suggested method would allow MSHA to provide grants to equipment entrepreneurs, inventors and coal operators to establish partnerships and collaborate between themselves to test the system components to ensure the equipment is effective and intrinsically-safe for use in an underground mine.

Our failures in the past 2 years are driven by the lack of knowledge of the location and condition of the miners. Systems exist which can enhance that knowledge, but they have not been adopted. I do not believe that perfection should be the benchmark for mine safety equipment, but rather improvement should be the standard for the deployment of new mine safety equipment, concrete steps to deploy safety equipment should be taken now.

Retreat mining carries a higher risk than other types of mining. It therefore should be looked to only as a mining technique of last resort, and higher safety standards be required in particular when exhaustive mining has been previously conducted and secondary and tertiary mining cycles are being proposed. In fact, the practice of retreat mining in general, and retreat mining in secondary mining situations—as happened at the Crandall Canyon mine—is an issue which should, I believe, be examined in general. In a study conducted in 2001 for the West Virginia Governor, I concluded that retreat mining which was done in a small number of mines had a disproportionately high rate of fatal and non-fatal accidents.[8] In that report, I urged the restriction and prohibition in many instances of retreat mining as a practice.

Here, I would like to recommend a suspension of approval for retreat mining plan approvals by MSHA until a review of the question of whether retreat mining should be permitted; particularly in cases, as in Crandall Canyon, where extensive mining has previously occurred and where the cover exceeds 1,000 feet and the area is prone to coal bumps and bounces.

In conclusion, the time for the industry and Federal Government to wait on research before implementing applied engineering improvements is at an end. Crandall Canyon signaled loud and clear it is time for action. Mining in the twenty-first century calls for a new set of criteria, as coal reserves dwindle, as mining conditions change, greater challenges can be expected, and greater scrutiny should be forthcoming. The mining industry must consider whether it wishes to continue in the mining business or not—-if it does, it must use the technologies available from other industries and other mining countries (i.e., tunnel boring machines and seismographs, South Africa and Poland) to protect the men and women we send underground. There is a need to overhaul the technology used to protect and defend miners. The maxim must be if we can't go get them quickly and safely then we should not send them underground!

Senator HARKIN. Thank you very much, Mr. McAteer.

Now we turn to Mr. Cecil Roberts, president of United Mine Workers of America. I have to add, here, I—just parenthetically, for my friend Senator Bennett, when you—when you earlier mentioned that the level of fatalities in mining—coal mining had gone from—in 1920 to 3.6 per 1,000 down to .6, if I got—if I remember right——

Senator BENNETT. .2.

Senator HARKIN. .2—I thought about that, and I thought, you know, I wonder that was. But one of the reasons was because miners organized and became unionized. My father was never privileged to belong to United Workers, because—but he told me a lot of stories about them trying to organize, and what would happen to them. He worked in mines, where they brought over people from Italy, the Italians, Slovenians, Croatians, Welsh, of course—John L. Lewis—Irish—my father—all came over to mine coal. He told me about the early days of trying to organize, and what would happen to them, by the mine owners and stuff. But he looked back wistfully on that, back in the 1950s, up—1960s, up until the time

[8] In a report to the then Governor: Report to Governor Robert Wise On Mine Safety and Health in West Virginia and Recommendations to make West Virginia Mines the Safest and Healthiest in the Nation, Fall 2001, a recommendation was made to Improve and Update Requirements related to Roof and Ground Control Methods and Criteria, including restricting and eliminating retreat mining and pillar removal in certain instances.

he died, and he thought John L. Lewis was probably one of the greatest men who ever lived. He just wished that they had been unionized when he was in the mine. So, I think that part of the reason that we have that was because miners got organized, they demanded these safety things, and—the safety procedures and stuff, the—many of which predated the 1952 law—or the 1952 Mine Health and Safety Act.

Well, with that—just my way of saying thank you very much, Mr. Roberts and all those presidents who preceded you in working for the safety and health and benefit of our coalminers in America.

STATEMENT OF CECIL E. ROBERTS, INTERNATIONAL PRESIDENT, UNITED MINE WORKERS OF AMERICA, FAIRFAX, VIRGINIA

Mr. ROBERTS. Mr. Chairman, thank you very much for those kind remarks.

I want to thank this committee, not only for conducting this hearing today, but also the interest that you've shown, not only last year in the wake of all those tragedies, where 47 miners lost their lives, but, earlier this year, you called a hearing, in February I believe, to ask about the progress that we were making with respect to mine health and safety in the United States of America. I think that demonstrated this committee's very keen interest in protecting the coalminers.

I also want to thank this committee, particularly my friend Senator Byrd, for the nearly $26 million that was appropriated to hire an additional 170 Federal inspectors to protect the Nation's coalminers. I think you've done some good work.

I also would like to take this opportunity to express my condolences to those wonderful people in Utah, the families of the six trapped miners, the brave efforts of the three miners who were attempting to rescue them. We're all one family here, whether we're union or nonunion, when it comes to this.

I come here today with—as has been mentioned—with families from Sago and from Jim Walter Resources tragedies, 2001 and 2006, and we're all united in the purpose here of making the coal mines in this Nation safer. That's the only purpose that we come here, today.

We would point out that—I was asked a very pointed question in February, as to whether, if we had another situation such as Sago, would there be much of a difference? The answer to that was no, unfortunately, for a variety of reasons.

I have been very pointed in my comments about this situation, that this mining plan, (*a*) should not have been submitted, and (*b*) should not have been approved. I think it bears a little more conversation here than what's been given at this point, in why we believe that. I must say, that's been shared by the Colorado Bureau of Mines, the Bureau of Land Management, former employees of MSHA, experts at West Virginia University. So, it's not just the union coming in here, suggesting this.

This area, here, was longwalled. This area, here, is all mined out. This area, here, was longwalled. This is where we found our miners right now. So, it's just not the point of—well, was it retreat mining, which is really what we call longwall mining, Mr. Chairman, in the East—this is what we call pillar work, in West Virginia, and pull-

ing pillars is another common term here. This is the most dangerous type of mining there is. But that's not the real problem here. The problem is, is where we're doing this type of work—you take any expert—don't take my word for this—don't take the word of Colorado School of Mines, and don't take West Virginia University's, and don't take Mr. McAteer's word. I'm sure there's somebody somewhere that you could bring in here that everyone would have confidence in. But this mining plan should not have been submitted, and that's where this problem started. I'm not pointing fingers, but you—I've got coalminers with me from West Virginia, Pennsylvania, and Ohio, and you lay this map out to them, and say: "We're going to go in here now, after mining everything to the north of where you're going to pillar, and everything to the south of where you're going to pillar, and everything leading out of this mine, and we're going to have 2,000 feet of mountain above you. What do you think?" I submit to you, there's no one going to walk in here and sit where I'm sitting right now and say: "I'm a mining expert, and I believe that this type of mining should have been done." I think this needs to be made perfectly clear, here.

I think it's also important to note, here, Mr. Chairman, members of the committee, that there were warning signs here, as Mr. McAteer alluded to. Just north—this is a blown-up portion, here, of where we believe—a very small area, where we believe these six trapped miners happened to be working—just north of there, they sealed this area off, when the bump occurred in March, because they thought it was too dangerous to be there. Now, you look at the map, to the north, to the south, the very exposed area.

Now, when you say this is mined out, understand what that means; there are no roof supports for 4,000 feet north of here, and about 5,000 feet south of here. You can look on the map and come to the conclusion of how far it would be this way without any roof supports. The only roof supports here were in that small area where these miners were trying to extract the last of the roof support.

I submit to you that no one can come in here with a clear conscience and submit to you that this is a plan that should have, (*a*) been submitted, and (*b*) been approved. There's something wrong with—and I have not heard, by the way, that MSHA believes that this plan should have been approved. I think we're at the point where we've been told there is a reviewing of this to determine what should have happened.

I must say to you, we talked, here, in the past, about the culture that exists—and I'm not blaming Mr. Stickler for this, I think this clearly started well before his watch—and, in fairness to him, he's got a tough problem to try to correct—that there's a culture out there that a coal operator believes, in their mind, that they can get this plan approved; and, second of all, they can. This plan was in the Denver office, the best that we can figure out, a little over a week. Now, I ask, and submit, that an operator submitting this plan, and this thing being there for a little less—a little more than a week—I think there should have been a much closer look at this, and an understanding of what happened here. There still is a question, that I don't think has been answered yet, as to whether or not—and I'm—it may not be clear, at this point—whether or not

MSHA understood that there had been a bump and a damage to this mine and a sealing off of this mine before they approved this plan.

Now, I may sound harsh, and I've—and please forgive me for that—but we do have, here, six families who still have their family members in this mine, and we have three brave rescuers who have lost their lives, and we need to come to conclusion as to what caused this. The other question that I think is probably more important than that is, are there any other plans that exist in the United States of America right now, where workers are being exposed to this type of a situation? That is what we can do, here today. Let's not do this again. Let's determine if this exists anywhere else. If it does exist anywhere else, let's deal with it.

PREPARED STATEMENT

Now, I just want to make one more point. I know I've gone over my time. I believe that this Congress, last year, dealt with this issue of who was to be in charge of communications. Unless I'm reading the MINER Act wrong, unless I misunderstood what Congress did, they said MSHA would be the chief spokesperson on the scene, period, and the chief entity dealing with these families. Now, I'm going to tell you what, I wish Mr. Murray had come here today, because I think there's a lot of things that need to be answered, but I know one thing, if I had been in charge there, you wouldn't have found Mr. Murray out in front of the cameras, and he wouldn't have been dealing with those families, because I would have stopped it, and I think that should have happened.

Thank you.

[The statement follows:]

PREPARED STATEMENT OF CECIL E. ROBERTS

Chairman Harkin, ranking member Spector, members of this subcommittee, as President of the largest Union that represents coal miners, I am honored that you have asked me to offer testimony regarding the August 6, 2007 disaster at Crandall Canyon Mine in Huntington, Utah, and how to prevent future tragedies. It is with a heavy heart that I appear before you to discuss—yet again, and in far too short a span of time—the deaths of mine workers. Our hearts and prayers remain with the families of the six miners who remain trapped in the Crandall Canyon mine.

I also wish to express my deep appreciation to everyone who participated in the rescue efforts. During these most trying of times, many brave miners demonstrated extraordinary courage by contributing to the rescue efforts. Unfortunately, three more miners paid the ultimate price as a result of their bravery. We cannot thank them enough, and we will keep their families in our thoughts and prayers, too.

Mr. Chairman, on February 28 of this year I appeared before this subcommittee. At that time you asked me about what impact the MINER Act of 2006 had already had on the lives of miners in this country. (See attached testimony.) My response in February was that conditions were not much different from last year, and that miners facing a mine fire or explosion or other accident would face most of the same challenges that miners at Sago, Aracoma and Darby faced over one year ago. I am so sorry to say that the Crandall Canyon disaster has proved this to be true.

Just since the Sago explosion, 64 American coal miners have died on the job, and that number does not include the six miners still trapped in Utah. This Committee's inquiry into the Crandall Canyon Mine Disaster is terribly important to ensuring that miners' health and safety are protected, so that we do not have to confront more needless death and injury.

My most important message to you today is that the Crandall Canyon disaster began on June 3, 2007, not August 6, 2007, because June 3 is the date when the mine operator submitted to MSHA a plan to engage in retreat mining at the Crandall Canyon Mine.

Likewise, MSHA's best chance for saving the miners was on June 15, not August 6th or 7th. But when MSHA approved the Crandall Canyon mining plan on June 15, that chance was lost.

Make no mistake about it, this disaster was not an act of God, but an act of man. It was preventable.

EXPERIENCES AT CRANDALL CANYON

All the factors that lead to the recent disaster at Crandall Canyon may not yet be evident. However, it is apparent that the conditions were man-made. The disaster at Crandall Canyon was the result of decisions made by mine management, and plans approved by MSHA. Contrary to what some may say, there is little doubt that this was a man-made disaster.

It was because of concerns for worker safety, the prior operator of Crandall Canyon decided not to engage in the type of mining that Mr. Murray's company was engaged in before disaster struck. MSHA should have been aware of those concerns, as it should have known about the "bump" that occurred a few months prior, which motivated the operator to abandon mining a nearby section.

At the time Mr. Murray purchased the Crandall Canyon Mine the previous owner had partially or completely extracted over 30 coal panels using the longwall mining technique. In essence the only coal remaining in the mine was in the barriers and pillars necessary to support the roof of the Mine's main entries. Because extensive longwall mining had been done on both sides of the main entries there can be no doubt that the mountain over the mine was exerting extreme pressure on the remaining coal, which was supporting the mine roof. Murray Energy was extracting that very coal, using the pillar extraction method, at the time of the catastrophic collapse.

The prior operator, Andalex Resources, filed a document with the Utah Division of Oil, Gas and Mining in which it stated, "Although maximum recovery is a design criteria, other considerations must be looked at in the final analysis in the extraction of coal. These factors consider the insurance of protection of personnel and the environment. Solid coal barriers will be left to protect the main entries from mined out panels and to guarantee stability of the main entries for the life of the mine."

Despite this assessment, Murray Energy submitted the plan to MSHA for approval to mine all the remaining coal reserves including the barrier pillars. The agency took just 7 business days to approve the request.

It is also unfortunate that the management team at this operation has spent so much energy trying to deflect blame in this tragedy. It is equally unfortunate that MSHA, yet again, ignored the will of Congress in its reaction to this disaster.

Section 7 of the MINER Act States that MSHA "shall serve as the primary communicator with the operator, miners' families, the press and the public." Nevertheless, in Utah MSHA surrendered its role as chief communicator. As a result, a great deal of inaccurate and misleading statements and information was allowed to get out over the airwaves. The effect has been that millions of Americans were given incorrect and misleading information right from the start of this disaster, and MSHA allowed it to happen. Here are some examples:

(1) From the very beginning, Murray Energy's Owner and Chief Operating Officer, Robert Murray, asserted that "an act of God" in the form of a natural earthquake caused this catastrophe. He suggested that the "seismic activity" at the mine is uncontrollable and unrelated to his company's activity. However, from tapes made of calls to the local Sheriff's office that same morning, it is apparent that from the time it occurred, University of Utah seismologists believed the activity was the result of coal mining.

(2) Time and time again Mr. Murray emphatically stated that he knew exactly where the trapped miners were. Yet many weeks and many boreholes later he still has not been able to locate the miners.

(3) Mr. Murray also strenuously objected to reports that miners were performing a final method of mining referred to by the media as "retreat mining." Again, he was not giving true information: from the approved mining plan it is evident that this mine was in the process of "pulling pillars." It is important to note this distinction: There has been a great deal of reporting about Crandall Canyon performing "retreat mining." The term retreat mining has different meanings to different people. In fact, this operation was performing a method of mining known in the industry as "pillar mining" or "pillar extraction."

(4) Mr. Murray claimed that the mine was perfectly safe when he invited nonessential personnel from the media and families to tour the underground rescue work. However, not only did they experience a "bump" while they were under-

ground, but it was in the same vicinity where nine rescuers were injured and killed just days later.

(5) Mr. Murray stated that he had not had any major accidents at any of his mines prior to this. The truth is that four miners have been killed at Mr. Murray's mines. Any time a miner is killed, that constitutes a major accident.

(6) Mr. Murray continually said that the UMWA was trying to organize the Crandall Canyon mine, and that somehow meant that nothing we had to say about this incident could be trusted. While we strongly believe that all miners should have the benefits of a union contract—not the least of which is the enhanced safety language written into our contracts—we were not engaged in an organizing campaign at that mine at the time of the incident there, nor had there been any organizing activity at that mine for years.

(7) Mr. Murray also claimed that the UMWA was responsible for the stories about the company intending to reopen a part of the mine to production, when in fact it was his own Murray Energy Vice President who made those statements to reporters.

These are but some examples of the inaccurate and misleading statements Mr. Murray made that met with no contradiction from MSHA—statements that were seen by many as having an "official" stamp of approval since in most cases they were made with MSHA officials looking on, making no attempt to correct him.

What is so astounding about the press conferences at Crandall Canyon is that the conduct of Mr. Murray, and MSHA's indulgence of him, were directly contrary to section 7 of the MINER Act, which Congress expressly added to prevent the kind of misinformation debacle that occurred at the Sago mine. There, the families were first told their loved ones were alive and were leaving the mine, whereas the reality was that only 1 of the 13 survived; it was hours before the misinformation was corrected.

Regardless of whether Mr. Murray may have wanted to convene and conduct press conferences, there is no reason, requirement or benefit to the miners, their families or the public for MSHA to participate in the events he, as the private operator, staged. As the Federal agency affirmatively charged with communicating with the families and press, MSHA should have exercised its power and conducted independent press conferences to provide objective reports of developments at the disaster site. Instead MSHA representatives yielded their authority; at best they stood in the shadows as the coal operator spun his story, at worst they cowered out of view refusing to correct the half truths and misstatements. Further, it has been widely reported that Mr. Murray's attitude was abrasive and demeaning to these grieving individuals. MSHA's responsibility to serve as the liaison should have protected the families from him.

HAS THE MINER ACT CHANGED THE POST-ACCIDENT SITUATION?

Miners working today do not have many of the health and safety benefits that Congress demanded through the MINER Act in 2006. The additional oxygen devices you insisted be available to underground miners are still on back order, effective wireless communication or tracking devices have not been installed, and MSHA has approved Emergency Response Plans (ERPs) that do not require operators to provide the safety and health protections Congress expected.

For example, in most instances tracking of miners is still being done today the same way it was done before the Sago disaster: operators rely on their dispatcher, and only know in which "zone" a miner is assigned to work. As we all know from Crandall Canyon, despite assurances that the operator knew exactly where the trapped miners could be found, without reliable tracking devices, rescue efforts are delayed and mis-directed.

As Crandall Canyon has revealed, miners caught underground have little better chance of survival than did the miners at Sago, Aracoma and Darby in 2006 (or even those who perished in the disaster at Farmington in 1968. Although we have advanced the calender some 40 years since the Farmington disaster, in many instances miners are caught in a time warp, still trying to adapt the health and safety technology of the 1960's into today's mining environment. For example, Congress directed MSHA to consider safety chambers in the 1969 Mine Act, but they still remain largely absent from our mines. Moreover, the regulation MSHA implemented requires operators to provide supplies to build a barrier after an accident occurs. This was required before the MINER Act, though since the MINER Act operators now must provide breathable air and other requirements to sustain life. However, having supplies available for construction of a safe haven after an accident will often be too late: the post-accident atmosphere can be toxic and so smoky that min-

ers cannot even see their own hands, and they may well be disoriented, making it impossible for miners to then construct a safe haven.

After the three high-profile disasters last year that claimed 19 lives, Congress passed the MINER Act. That historic legislation was the first miners' safety and health legislation in 30 years. It placed new requirements on mine owners and operators to improve miners' safety. Some, like directional lifelines, additional self-contained self-rescuers (SCSRs) and Emergency Response Plans (ERPs) were required immediately. Others, including advanced wireless communication and tracking devices were to be phased in over 3 years as they become available. We said then and still believe that the MINER Act represented a good "first step," but so much more is required.

As the MINER Act is being implemented, MSHA has been too tolerant of operator delay. While directional lifelines require no new technology, and could be immediately placed into use to guide miners out of a mine during an emergency, MSHA is allowing some operators to set their own time frames for meeting this requirement. As for the miners' need to have supplemental oxygen, though the MINER Act required operators to store additional supplies for miners' use if trapped, MSHA's regulation permits the supplies to be stored in a location that is too remote. Based on the existing regulation, if the Crandall Canyon miners survived the initial event, they would not have been able to access what oxygen should have been stored because it would have been too far away, on the other side of the collapsed area of the mine. Moreover, though the MINER Act required operators to submit their ERPs by August 2006, the Crandall Canyon ERP was only approved in June, 2007 and the supplemental oxygen need only to have been in place 60 days later . . . after the miners were trapped on August 6. Why the operator was given 60 days to provide the oxygen is puzzling, as the oxygen canisters should be readily available and there was no good reason for the delay.

Some of the MINER Act requirements, including advanced wireless communication and tracking devices were to be phased in within 3 years, as they become available. However, rather than demanding that operators quickly utilize improved equipment and technology as soon as it becomes available, MSHA is allowing operators to wait out the clock until the 3-year deadline comes to a close.

You probably recall the stories last year of the Polish miner pulled from wreckage after he was located through use of a tracking device, and that of the Canadian miners trapped underground but safely retrieved from the safety chamber to which they had retreated. The Crandall Canyon miners did not have these advantages. However, if other countries' miners can survive and escape these disasters, then so should American miners. We need change, and we need it now.

We wish to note that some operators have gone beyond the minimum requirements to protect miners, but many more meet only MSHA's minimum standards. MSHA could and should be pushing operators to utilize the best available technology to better communicate with and track miners. We believe that was what Congress expected when it enacted the MINER Act last year. Crandall Canyon graphically demonstrates the consequences of operators' and MSHA's intervening complacency.

CULTURAL PROBLEMS AT THE TOP OF MSHA

The problems within MSHA begin at its highest levels. Indeed, there has developed at MSHA a culture of cooperation rather than enforcement. When then-Assistant Secretary of Labor for MSHA, David Lauriski, initiated a new "compliance assistance" plan, he sanctioned a different way of pursuing the agency's mission. That new program chilled enforcement efforts at the mine level and allowed operators to essentially negotiate workplace health and safety matters.

The notion that MSHA should foster compliance assistance when its first priority is supposed to be miners' health and safety is preposterous. In MSHA's internal reviews of the three major disasters in 2006 it found plan reviews to be an area where better oversight is required. This lack of oversight and accountability played out to dire consequences at Crandall Canyon: the mine plan that was submitted should never have been submitted; and MSHA should not have approved it.

The UMWA argued strenuously against MSHA's policy of compliance assistance ever since its inception. Our objections to the culture of cooperation have been dismissed by the agency's highest officials. It is no consolation to sit before this Committee and remind you of our continuing assertion that MSHA's effectiveness is compromised. The disasters at Sago, Aracoma, Darby—and now Crandall Canyon—represent the consequences of agency misdirection and inaction.

Lessons learned from decade after decade of miners' injuries, illnesses and deaths teach that strict enforcement is needed to protect miners' health and safety. These

facts were reinforced by MSHA's own internal reviews of the tragedies at Sago, Aracoma, and Darby. In each instance, the agency discovered significant problems of non-accountability and lack of oversight.

There is a culture at the highest levels of agency that not only ignores the needs of miners, but the input and expertise of longtime MSHA field employees and specialists. MSHA's inspectors and specialists have years of practical experience, they work in the same conditions as do miners they seek to protect, they know the laws and regulations, and they strive to perform their jobs. However, to successfully protect miners' health and safety, inspectors must receive uniform direction and support from their superiors. If we are to achieve the health and safety improvements anticipated by the Mine Act and the MINER Act, there must first be a cultural change within the Mine Safety and Health Administration. I submit to you that the reality of this situation is stark. If we fail to force a cultural change at MSHA it will continue to decline and eventually implode. We cannot allow that to happen.

This Congress possesses the power to make vital changes to restore the direction of MSHA and ultimately offer miners the health and safety protections they deserve. Congress must require MSHA to focus first and foremost on the health and safety of miners. We urge this Congress to move swiftly to require immediate action on the mandates contained in the MINER Act and to be prepared to demand through appropriate legislative initiatives the next level of protections.

FAMILIES FACING A MINE DISASTER DESERVE BETTER

Just last year Congress moved to ensure that families facing mining disasters would be treated with the dignity they deserve and would be kept abreast of the most accurate information available. This did not happen for the families of the trapped miners at Crandall Canyon. Like the Sago families in January of 2006, they were held almost as captives, awaiting any bits of information (or misinformation) delivered by the coal operator.

How is it possible that MSHA could get it so wrong in Utah? How could it ignore the mandates of Congress, which requires the agency to take charge of such accidents and serve as the liaison with the families and press? By allowing this mine owner to take center stage, MSHA ignored the directives of the MINER Act. In so doing, it failed the families at Crandall Canyon. They deserved—and still deserve—much better. If the leadership of MSHA is not willing or able to limit the activity of a single mine operator in the face of express authority to take such control, how can we expect them to effectively lead the agency that is charged with regulating an entire industry?

On behalf of their loved ones, the families of those trapped at Crandall Canyon asked the UMWA to serve as their miners' representative. This would ensure that their designated representative would be able to participate in the accident investigation. However, MSHA has rejected their request, claiming that it would have to first verify that the miners themselves made the designations. Obviously, a trapped miner cannot provide that assurance. Yet, in denying the families the right to make such a designation for their trapped miners, MSHA has prevented those most affected by the tragedy to have a voice at the table during the investigation.

MSHA's spokesperson has criticized the UMWA for attempting to serve as the trapped miners' designated representative, claiming that we "are trying to use a law enforcement investigation for its own purposes." We will confirm that the UMWA does want to participate in this matter. The reason is simple: we want honest and complete information about everything that happened—from before the latest mining plan got prepared, submitted and approved. We want to make sure no more miners' lives are lost. The UMWA is the ONLY organization in this country that is dedicated to advocating for miners' health and safety. We are proud of advancements that have been made at our urging, and we don't plan to stop anytime soon.

So yes, the UMWA does have a purpose of our own here: to fight for and improve mine safety in America. We invite MSHA to join us in that endeavor, instead of casting veiled aspersions on our efforts on behalf of coal miners and their families.

To the extent that MSHA feels current law does not allow it to recognize the UMWA as a miners' representative absent proof that the miners themselves have made the designations—something the trapped miners obviously cannot satisfy—we urge Congress to change the law. Family members of those trapped or killed in a mine accident should have the right to designate a trusted representative to participate in the accident investigation.

Further, and as we have written to you, the UMWA feels that it is imperative that there be an independent investigation of this tragedy. (Letter attached.) Otherwise, MSHA and the operator will simply be investigating what they themselves did. That is not the best way to ask the hard questions or to get the full truth. Our

goal must be to learn from what went wrong at Crandall Canyon so that no more families will suffer such needless loss of life.

CONTROL OF A MINE POST-ACCIDENT

Since 1977 MSHA has had the right to control all activity at the mine when disasters occur. By issuing a Section 103(j) Order, MSHA could have secured this control. Yet, with but one exception at Scotia, MSHA chooses to utilize its authority under Section 103(k) which permits the operator greater latitude in directing a rescue operation.

Under a (k) order, the operator prepares plans and submits them to MSHA, which must approve each component before it can then be implemented. That is the procedure that must have transpired when, just days before the rescuers were killed and injured, the operator proposed and MSHA approved a plan that permitted non-essential personnel (that is, press and family members) to travel underground with Mr. Murray to observe the rescue.

We understand the curiosity of some within the media and the dire concern of family members, however the conditions at the mine were so unstable that some workers engaged in the rescue effort requested work away from the mining operation. There is no reasonable explanation for allowing non-essential personnel to be subjected to such dangerous conditions. They easily could have confused and hindered the rescue had the "bump" they did experience been larger in scale. While we thank God that there was only a minor mountain bump while these individuals were underground, we also recognize the situation could have become much more disastrous. They could have suffered the same tragic result that rescuers experienced when the large bump caused a cave-in, claiming the lives of three rescuers and injuring six others. Mr. Murray should not have submitted a plan to take guest travelers into the mine, and MSHA certainly should have known better than to permit it. That incident represented an extraordinary amount of poor judgment by both key parties to this rescue and recovery effort.

MSHA should have brought to the site at a much earlier date experts who could address the unique geological conditions to help develop a safe procedure for rescuing the trapped miners. We recommend that there be designated a variety of mine emergency response experts who could be immediately called upon to service mining emergencies like those at Crandall Canyon, Sago, Aracoma, and Quecreek Even now, we call upon Congress to consult with a variety of geological, engineering, and other experts, public and private, to determine if the trapped miners can be safely recovered. The families deserve to have their loved ones back if that can be accomplished without sacrificing any more lives.

We also seek an independent investigative body to analyze the rescue process to report on how that procedure could have been improved. At the end of the day, the most important thing we can take away from such a tragic experience is to learn from the mistakes so they will not be repeated. Only an independent investigation can hope to uncover the needed truths.

Since the MINER Act was passed last year, we have heard a lot of operators complain about how much money they have to spend to comply with it. However, let me suggest that it is better to invest up front. Mining disasters are very costly—first and foremost in lost lives and the destruction of families. But accidents also consume huge amounts of time and energy on the part of the particular operator, not to mention Federal and State governments, too: first the rescue and recovery efforts are expensive, and then the investigation takes another substantial commitment of capital. Wouldn't we all be so much better served if these resources would be dedicated to protecting miners from the problems in the first place? I am certain that was your intent when you enacted the MINER Act. Unfortunately, this goal has not yet been adequately realized.

CONCLUSION

How many times must we demand that MSHA's practices change only to be ignored? How many more times will mine owners and MSHA thumb their nose at your mandates? Something must be done to change the status quo. Leaders must be held accountable for their actions and inactions. Just as mine operators cannot self-regulate, MSHA cannot function without being subject to the routine scrutiny of Congress and appropriate sanctions when necessary.

The miners of this nation can no longer be asked to sacrifice their safety when their employers are focused on monetary profit with little regard to their employees' well being. It is time to place effective measures in place so that a miner may engage in his primary job of mining, without jeopardizing his life.

I thank you for this opportunity to share our on-going concerns about the state of miners' health and safety in this country. I urge you to do all that you can to ensure that the investigation of the Crandall Canyon disaster is full and independent and that the families of trapped miners get all the answers they want and deserve.

PREPARED STATEMENT OF CECIL E. ROBERTS, PRESIDENT, UNITED MINE WORKERS OF AMERICA, WEDNESDAY, FEBRUARY 28, 2007

IMPROVING MINE SAFETY: ONE YEAR AFTER SAGO AND ALMA

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 117 years, has been an unwavering advocate for miners' health and safety.

This entire Committee has played a significant role in advancing miners' health and safety. I would like to express my appreciation to the leadership of this Committee for your efforts to protect the health and safety of all miners. Your continued oversight is critical to ensuring miners will go home safely at the end of their shift.

One year ago I testified about miners' health and safety shortly after the Sago and Alma disasters; even after those two dramatic tragedies occurred, 32 more coal miners were killed in 2006.

Following the Sago and Alma disasters and after five more miners were killed on May 20, 2006 at the Darby Mine in Kentucky, Congress moved to enact the MINER Act. That law includes several important provisions aimed at helping miners after a mine emergency develops. It is most appropriate for you to consider whether the improvements Congress intended to accomplish through the MINER Act are being realized. The Union supports MSHA's efforts to require substantially more oxygen for every miner. The emergency mine evacuation rule also contains a number of important improvements. Having said that, my testimony will focus attention on areas that MSHA needs to dedicate additional resources to fully implement the MINER Act.

Some of the inadequacies in implementing the MINER Act may be linked to insufficient resources. However, others can be tracked to decisions made by the Agency. In 2001, then Assistant Secretary for Mine Health and Safety, David Lauriski told members of the National Mining Association that MSHA would, "collaborate more with mine operators on regulatory initiatives" and become "less confrontational with mine operators, in an effort to provide companies with better compliance assistance." At a meeting with mine operators in Hindman, Kentucky, he bragged about his diminutive regulatory agenda. He noted, "if you've seen it you noticed its quite a bit shorter than some past agendas." These policy statements were accompanied by a withdrawal of many proposed regulations by MSHA and a noticeable shift to compliance assistance. These compliance assistance programs divert precious resources away from enforcement. Perhaps most tragically, in many cases, MSHA has ignored the mandate of Congress by adopting regulations and policies that place miners at greater risk.

MINE INSPECTORS/MINE INSPECTIONS

The agency is experiencing great difficulty in fulfilling the mandatory inspections required under the Mine Act. The Union is convinced that the hiring and training of more MSHA inspectors must be a top and continuing priority. The agency must have a full complement of properly trained personnel if it is to perform its primary job of enforcing the Mine Act. The ranks of the inspectors have been diminished over the years and we can expect further reductions as more of MSHA's long-time inspectors leave the profession as they reach retirement age. These needs can only be filled by hiring qualified individuals from all segments of the industry, including rank and file miners. These new inspectors must also be outfitted with state-of-the-art equipment for personal protection and to perform their inspection duties. Sufficient monies must be allocated to ensure this equipment is readily available to these inspectors.

As the number of inspectors have decreased, MSHA's field office specialists, including ventilation specialists and its electrical and roof control support staff, have been forced to carry out routine mine inspections. These specialists must be returned to their areas of expertise. The only way to accomplish this is to hire an adequate number of inspectors which will permit the specialists to focus on the job they are trained to do. In addition, the Agency must move immediately to train a sufficient number of inspectors to perform these technical tasks in the future.

I would like to thank Senator Byrd and the other members of the Committee who worked to secure $25.6 million to hire an additional 170 mine inspectors and your continuing efforts to secure future funding. Congress must ensure that funding levels at the Mine Academy in Beckley, WV remain sufficient to meet future training needs for mine inspectors. This facility is used to train mine inspectors and also offers comprehensive training for miners and other health and safety experts.

SEALS

In 1969 and again in 1977 Congress mandated that "explosion proof seals or bulkheads" be used to isolate abandoned or worked out areas of the mine from active workings. However, in the years since, MSHA has promulgated regulations regarding seals that are much less protective than what Congress mandated. The current regulation simply requires that seals withstand static pressure of 20 pounds per square inch (psi) in order to be approved for installation in the mine. The standard was further eroded when MSHA approved the use of Omega Block type seals, such as those that were used at Sago. These Omega Block seals catastrophically failed as a result of the explosion at Sago and contributed to the deaths of all 12 miners.

The UMWA urges MSHA to promulgate a regulation that would require the construction of seals that meet the mandates of Congress and the recommendations in NIOSH's draft report on mine seals.

REGULATIONS

The UMWA believes that MSHA should adopt an aggressive regulatory agenda to address important issues in addition to those contained in the MINER Act, including:

1. Improved Atmospheric Monitoring Systems
2. Develop a Nationwide Emergency Communication System
3. Revise MSHA's Approval and Certification Process for Equipment Approval
4. Occupational Exposure to Coal Mine Dust (lowering exposure limits)
5. Collection of Civil Penalties (mandatory mine closures for non-payment)
6. Air Quality Chemical Substances and Respiratory Protection Standards (update personal exposure limits)
7. Surface Haulage (truck, haul road, train and loadout safety)
8. Respirable Crystalline Silica Standard (reducing quartz standard)
9. Requirements for Approval of Flame Resistant Conveyor Belts
10. Confined Spaces (tight quartered work areas)
11. Training and Retraining of Miners (revision of Part 48)
12. Surge and Storage Piles (dozer/feeder safety surface)
13. Escapeways and Refuges
14. Accident Investigation Hearing Procedures (make them public)
15. Verification of Surface Coal Mine Dust Control Plans
16. Continuous Monitoring of Respirable Coal Mine Dust in Underground Coal Mines
17. Modify Conferencing Process (Appeals of Citations)
18. Underground Coal Mining, Self-Contained Self-Rescuer Service Life Approval and Training.

RECORDING FATAL ACCIDENTS

Just last week MSHA issued new guidelines for determining what constitutes a mine related fatality. The "Fatal Injury Guideline Matrix" narrows the scope of what the Agency will define as a fatal accident chargeable to the mine operator. This will allow the Agency to report numbers that are artificially low and possibly skew the actual health and safety record of the mine and the industry. In addition, fatals not listed as mine-related will not get the same scrutiny as a chargeable accident. Without the formal investigation process, lessons learned will not be available to prevent similar events in the future.

The Union also disagrees with the Committee established by the Agency to review deaths where chargeability is in question. The Committee is made up of upper-level MSHA employees and not open to other agencies, organizations or the public. This type of structure does not lend itself to a fair, unbiased review of the situation.

IMPLEMENTATION OF THE MINER ACT

In the MINER Act, Congress mandated timelines for its implementation. In some cases, MSHA has failed to meet these deadlines. The Union urges Congress to allocate adequate funding to MSHA so it can fully implement this Act within the timeframes set by Congress.

The Emergency Mine Evacuation Rule, which is separate from the MINER Act but ties into the self-contained self-rescuers (SCSRs) requirements, was finalized and made effective December 8, 2006. However, miners working underground today do not have all the protections that Rule addresses. MSHA deems the operator to be in compliance with the Rule if it has placed an order for additional SCSRs. Although the Rule requires increased availability and storage of SCSRs, there is a backlog of orders for these life-sustaining units. While the Union is extremely frustrated that more than a year after the Sago and Alma disasters, many miners only have one additional hour of oxygen, in light of this backlog, the Union supports MSHA's approach to make the additional oxygen units equally available to all miners. In reality, it will still take a number of years before miners receive the protections mandated by Congress. Miners cannot wait for another mine disaster to occur to drive new technology, therefore, the Union strongly urges the development and approval of the next generation SCSR.

The Rule also requires "expectations" training on SCSRs. This would allow miners to experience the actual effects of donning a unit and attempting an escape. The practice units would allow miners to experience the breathing restriction and heating that SCSRs create, without risking their safety. While MSHA claims these practice units are not available for purchase, they are in fact available. The reason these devices are not being used by miners today is not availability, it is cost. Many mine operators simply do not want to spend the money to buy them. This is unacceptable and while we commend MSHA for promulgating a rule that is intended to be "technology-driven," it must now enforce that rule.

Moreover, the finality of this emergency response and evacuation rule is somewhat uncertain as the National Mining Association (NMA) filed a court challenge. The Union is not certain which aspects of the rule NMA is contesting, but it is certain that such legal maneuvers delays the protections Congress mandated only last year.

Congress understood the importance of requiring that mine operators have comprehensive emergency response plans at all their operations. The MINER Act permitted operators a 60 day period to prepare these plans and submit them to the agency for review and approval. However, many of the mine emergency response plans that operators submitted were grossly inadequate, and not worthy of approval. We are now over 6 months beyond the deadline established by Congress. While we commend MSHA for not approving these faulty plans, we do believe it must be more aggressive and apply more pressure on the operators to get these plans completed. Unless MSHA takes decisive action and resolves all the remaining issues, miners will not get the mine emergency response improvements that Congress intended.

Further, the mine emergency response plans are to be reviewed and re-approved by MSHA every six months. We are already 6 months beyond the original plan due date. If those first plans are not yet approved and fully implemented, how can we expect MSHA to handle these semi-annual reviews? Perhaps MSHA needs more manpower to handle this task, but whatever the answer, until every operation has an approved plan in place, miners are not getting the protections Congress intended.

Very little has changed in the last year concerning the ability to communicate with and locate trapped miners. While we have learned more about this technology and understand that much is available, very few operators have taken advantage of it. Communication systems and tracking devices are areas that MSHA must pursue more aggressively. Current communication and tracking technology, including one-way text messaging and two-way wireless systems, some of which are available now, must be immediately installed in all mines. Any system that can increase the ability for miners to escape a mine emergency, even if it is limited in scope, must be utilized. The Federal Government, through NIOSH and MSHA, must fund and direct continued studies and research to develop the next generation of tracking and communication devices. As this newer technology becomes available, mine operators must be required to upgrade existing systems at all its operations.

We are also troubled by MSHA's failure to undertake action to facilitate the creation and training of additional mine rescue teams. Congress in the MINER Act clearly outlined its intent regarding the need for additional mine rescue teams. In addition, the language clearly defines how this is to be applied at both large and small mines. While Congress allowed MSHA 18 months in which to prepare, finalize, and give effect to rules that increase and enhance mine rescue team requirements, so far MSHA has not addressed this need. The need is real, and it is immediate. In the not-too-distant future MSHA will need additional funding to certify that mine rescue teams are qualified, as contemplated by the MINER Act.

Over the past 20 years MSHA and some operators have weakened the intent of the current regulations regarding mine rescue protections. The existing mine rescue team structure is spread too thin. It takes a lot of time and much practice for any

mine rescue team to function well. The UMWA has training facilities and is willing to provide mine rescue training and first responder training if we receive the necessary funding. Miners cannot afford to wait any longer for the training of new teams to begin.

COLLECTION OF CIVIL PENALTIES

In the MINER Act, Congress charged MSHA with revising and enhancing its penalty structure. MSHA proposed a revised schedule, but it is not yet final, so it is difficult for us to comment about whether it will induce any better compliance by operators.

However, even without a new fine structure, the Agency needs to do a better job of tracking and collecting the fines it imposes, and it should escalate the pressure when an operator refuses to pay a final penalty. Last year MSHA blamed computer problems on its inability to track fines. We understand that it still faces some technological challenges. If that is the case, then MSHA needs to fix the problem. When fines go unpaid it not only gives an unfair competitive advantage to the delinquent operator, but that operator's disregard for the mine health and safety laws and regulations imposes excessive risk on its employees.

To the extent that MSHA takes the position that it cannot close an operation for having substantial unpaid fines, we submit that Congress should grant the Agency such authority. MSHA's top personnel claim that if it had that authority the Agency would exercise it to close operators who refuse to pay their fines. We would welcome that.

MSHA HOTLINE

The Union has complained for some time that the current hotline system miners use to report hazardous conditions is ineffective. Recently, a member of the UMWA called the 800 number listed on MSHA's website to report a problem at the mine where he worked and was frustrated by problems he encountered. The individual who answered the call, a contract employee, did not have any knowledge of mining, making it extremely difficult for the miner to convey the message. Further, the individual at the call center was not remotely familiar with MSHA's District structure and was therefore uncertain which office should receive the complaint.

The Union has stressed on many occasions that the MSHA hotline should be staffed 24 hours a day, 7 days a week by MSHA personnel with an understanding of the mining industry and the agency. The current practice of contracting this work out to call centers lessens miners' health and safety.

BELT-AIR

In keeping with the mandates of Congress in the 1969 Coal Act, and the 1977 Mine Act, which strictly prohibits the use of belt-air to ventilate working places, the Union has historically been opposed to the use of belt-air to ventilate the working places. The 2006 Alma disaster is a reminder that there is no safe way to ventilate working sections using belt-air. This mine fire was intensified by air from the belt entry, and the contaminated air was dumped onto miners working inby. In addition, conveyor belts used in the mining industry must be made of non-flammable material.

In the MINER Act, Congress directed that there be created a Technical Study Panel to provide independent scientific and engineering review and recommendations with respect to belt air and belt materials; the Study Panel is then to issue a report to the Secretaries of Labor and Health and Human Services, as well as the Senate Committee on Health, Education, Labor, and Pensions, and the House Committee on Education and Labor. While this Technical Study Panel has been constituted and had its first meetings last month, we harbor reservations about its administration. Congress was silent as to its administration, but MSHA staff is providing the support personnel. If its first meetings are any indication, MSHA seems more invested in defending the belt air decisions it has already made, than simply servicing the Study Panel. Congress assigned this Study Panel to offer an "independent" review and recommendations, and we hope it can overcome MSHA's bias in favor of belt air.

FUNDING FOR ADDITIONAL PROGRAMS AND HEALTH AND SAFETY PROTECTIONS

The Union would urge Congress to adequately fund other agencies and programs that advance the Health and Safety of the nation's miners. These include:

—Pittsburgh Research Center,

—Lake Lynn Facility,

—Appalachian Laboratory for Occupational Health and Safety in Morgantown, WV,
—Approval and Certification Center,
—Personal Dust Monitors (PDM), and
—Colorado School of Mines.

CONCLUSION

One year ago many of you were present when I testified before the Senate Committee on Health, Education, Labor and Pensions to discuss and review the performance of MSHA and the overall state of mine health and safety. That testimony followed the first two disasters of 2006 at the Sago and Alma Mines. At that time, I described many of the shortcomings in miners' health and safety.

I am sorry to report that MSHA's efforts over the past year would do little to change matters today if a mine were to experience an explosion like the one at Sago, or a mine fire like the one at Alma; indeed the underground miners would likely fair no better than those who perished over one year ago. Thanks to the MINER Act, I can presume that any incident would be reported within the initial 15 minutes. However, there is no reason to expect that a sufficient number of mine rescue teams would respond quickly. This is because the last year has seen virtually no progress in either expanding the number or improving the proximity of qualified mine rescue teams.

MSHA still allows mine operators to ventilate working sections with belt-air, and non-flammable belts are still not required. Today there are no requirements that operators provide systems that would enable miners to communicate with the surface or vice versa. There is nothing in place that requires an operator to be able to locate trapped miners, and very few could do so. Safety chambers are not required, nor are safe havens prescribed. Most operators do not have a complete approved emergency response plan as required by the MINER Act. Many miners caught in a disaster would likely have one additional hour of oxygen as opposed to early 2006, but please remember that it took more than 40 hours for the first mine rescue teams to reach the miners at Sago.

We are most appreciative that Congress has worked towards increasing MSHA's budget so more mine inspectors can inspect mines to ensure compliance with the Mine Act. We implore MSHA to demonstrate a similar commitment to enforcing the Mine Act and to improving miners' health and safety so that our industry will never again experience another mine disaster like Sago or Alma. Technology is progressing on a daily basis and the UMWA urges MSHA to require mine operators to employ improvements as they become available.

LETTER FROM THE UNITED MINE WORKERS OF AMERICA

Fairfax, VA, August 21, 2007.

Hon. HARRY REID, *Senate Majority Leader,*
Hon. NANCY PELOSI, *Speaker of the U. S. House of Representatives,*
United States Congress, Washington, DC.

DEAR SENATOR REID AND REPRESENTATIVE PELOSI: I write to urge Congress to appoint an independent bi-partisan committee of coal mine safety experts to investigate the Crandall Canyon disaster. The public needs a reliable way to obtain meaningful information and insights about this horrific tragedy: both the initial trapping of six miners and the subsequent rescue efforts, which resulted in three deaths last week. I do not believe the American public and our nations' coal miners will be well-served by another instance of MSHA investigating itself in this disaster.

Just last year this Nation was witness to three dramatic multi-fatal accidents beginning with the Sago mine explosion on January 2, 2006, followed less than three weeks later by a mine fire at Aracoma, and then an explosion at the Darby mine. Together these three disasters took 19 lives, and devastated entire communities. Since the beginning of last year, 64 coal miners have been killed on the job. That's an average of three each month.

In a demonstration of bi-partisan support for the nation's coal miners, Congress enacted the MINER Act which President Bush signed into law on June 15, 2006. The MINER Act served as an important first step for improving miners' health and safety. However, it was the first piece of miners' safety and health legislation in nearly 30 years, and did not address all the shortcomings in the laws that are needed to protect miners. One of the many things that bill did not accomplish was to change the way mining accidents are investigated.

The problem with the status quo is that the Mine Safety and Health Administration ("MSHA") investigates mine accidents. However, time and again MSHA's performance has been found to have had a role in sanctioning the very conduct that developed into subsequent disasters. For example, MSHA must approve mining plans, ventilation plans and roof control plans, not to mention to ensure through enforcement procedures that each operator adheres to all the plans once the respective MSHA District approves them. Yet, after the disasters of 2006, MSHA's Internal Review determined that:

"[At] Aracoma . . . the majority of contributory violations were obvious and should have been identified by MSHA inspectors prior to the fatal fire that killed two miners. The team determined that inspection personnel failed to exercise their authority in a manner that demonstrated an appreciation for the importance of strict enforcement of the Mine Act and failed to conduct inspections in a manner that reliably detected violations.

"Inspection personnel also demonstrated a lack of technical know-how necessary to effectively evaluate and address complex safety and health conditions, and failed to comply with MSHA policies and procedures that, if followed, would have significantly improved the scope, quality and effectiveness of mine inspections. The lack of effective management oversight and controls also contributed to enforcement deficiencies at Aracoma. MSHA has referred its findings at Aracoma to the Labor Department's Office of Inspector General for further investigation of employee misconduct.

"The Sago internal review found that . . . failure by personnel to follow inspection procedures, coupled with inadequate managerial oversight, resulted in a number of enforcement deficiencies. Among the areas cited as needing improvement was the district's mine emergency response capabilities.

"The Darby internal review found that district personnel did not effectively utilize the mine operator's history of repeat violations to elevate the level of enforcement. Failure to follow inspection procedures, along with inadequate managerial oversight, resulted in many of the deficiencies identified in the report."

From MSHA press statement 07–975-NAT, dated June 28, 2007.

Three different MSHA District offices, but all three substantially failed in their primary responsibility of protecting the miners. What makes this MSHA statement especially frustrating is that the Agency came to the same kind of conclusions following an explosion that took 13 miners' lives at the Jim Walters Mine #5 in Alabama back in 2001. There is an integral problem at the very heart of the Agency where there seems to have developed a culture of accepting the status quo and not rocking the boat.

MSHA has had many opportunities to correct what is wrong; yet it still has not arrested its well-documented problems. We need an outside group of experts to analyze what happened at the Crandall Canyon mine in Utah, not only on August 6, 2007 and during the subsequent rescue efforts, but also the events that set the stage for the August 6 disaster. We also would welcome the recommendations such independent experts could make about how the Agency should change to better keep all miners safer.

The status quo simply isn't working to protect miners. Miners at Crandall Canyon and their families deserve better. In the same bi-partisan fashion that Congress demonstrated on the heels of the three coal mining disasters last year, we urge you to appoint an independent committee of experts to investigate what went wrong for the Crandall Canyon workers.

Respectfully,

CECIL E. ROBERTS.

Senator HARKIN. Thank you very much, Mr. Roberts.

Now we'll turn to Mr. Watzman, vice president for safety, health and human resources, National Mining Association.

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

Mr. WATZMAN. Thank you, Mr. Chairman, members of the subcommittee. NMA appreciates the opportunity to appear before you to discuss efforts to improve mine safety, progress made since passage of the MINER Act of 2006, and the challenges that remain to realize our goal to return every miner home safely after every shift.

The Crandall Canyon Mine accident has affected everyone in the mining community, and we mourn our fallen colleagues. The mining industry is determined to return to the path that it was on for much of the past three decades, when it achieved steady reductions in fatalities and serious injuries.

As you know, following last year's tragic events in West Virginia and Kentucky, the coal industry worked with Congress and others to pass the most sweeping mine reform legislation in more than three decades. The requirements, as implemented through emergency response plans, recognize that good safety practices continually evolve, based on experience and technologic development, and that every underground coal mine presents a unique environment, and what may work in one mine may well not work in another.

Since passage of the MINER Act, the industry has moved aggressively to identify technology that satisfies the law's requirements as quickly as possible. Our written submittal details the progress that has been made. While more work needs to be done, the industry has made significant investments and progress. I would ask that a chart that we prepared on Mine Safety Improvement, Progress Facts Since February 2006, be included in the hearing record.

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

Apart from the most fundamental technologic barriers to in-mine and through-the-earth signal propagation, a post-disaster mine environment presents survivability considerations. Explosions, fire, and roof falls produce destructive forces that can damage or destroy system components and render the systems inoperable. Despite these daunting challenges, the industry is not sitting idly by until a reliable system reaches acceptable functionality under all circumstances.

You'll recall that last year you were shown a device, a $20 tracking device, we were told, that would enable every miner to receive a one-way message from the surface in the event of an emergency. Experts, both inside and outside our industry, cautioned that this device had limitations. That messaging device was in use in Utah. Fortunately, the system survived the bump event and a miner received the message to evacuate the mine. At this point, no one knows if others received the message or if the system's capabilities were destroyed in the initial event.

Today, I've brought, to show you, two devices that are in use in mines today. The first is a tracking system that was developed by Alliance Coal, a member of the National Mining Association. This is one of several systems that uses radio frequency identification tags, RFID tags, that are worn on the miner's hat, and omnidirectional readers to track miners' movement throughout the mine. This is an improvement over earlier systems, and is considered state-of-the-art. The system currently requires a connective,

through-the-mine fiberoptic capable, that is vulnerable to damage and could potentially render the system useless.

Another is a leaky feeder communication system, a cable that is run through the mine and allows the signal to leak from the cable so that miners can connect to it via a handheld radio. This, too, unfortunately, is susceptible to damage by destructive forces that will affect its functionality.

We view the development and introduction of new technology as a three-prong approach. First, the installation of redundant communication with manual tracking systems, as was required by the MINER Act last year. Second, the installation by 2009 of more elaborate systems with electronic tracking. Finally, the development of voice communications systems with parasitic capabilities. The systems I've shown you today move us to the second phase. Our efforts under the NIOSH-sponsored Mine Emergency Communication Partnership, that we discussed at the earlier—the hearing held earlier this year, is providing the forum and the resources to reach these goals, and we thank you for your continued support of the efforts.

PREPARED STATEMENT

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

Thank you, Mr. Chairman. I'd be happy to answer any questions you might have.

[The statement follows:]

PREPARED STATEMENT OF BRUCE WATZMAN

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

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

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

MINER ACT

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

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

—100,000 additional self-contained self-rescuers (SCSRs) have been placed into service, with an equal number on back order.
—All underground coal mines have submitted emergency response plans including plans to supply breathable air and other supplies to sustain miners trapped underground. Units to meet these requirements are being ordered and installed without the normal testing that a device such as these would normally receive.
—55,000 underground coal miners have received new training and will continue to receive quarterly training.
—Underground coal mines have implemented procedures to track miners underground.
—Existing communications systems have been hardened and redundant systems installed.
—More than thirty-five new mine rescue teams have or will be added around the country.

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

MINE SAFETY TECHNOLOGY AND TRAINING COMMISSION

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

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

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

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

MINE EMERGENCY COMMUNICATION PARTNERSHIP

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

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

Despite these daunting technological challenges, the industry is not sitting idly by until a reliable system reaches acceptable functionality under all circumstances. You may recall that last year this subcommittee was shown a piece of equipment

that was touted as a "$20-device" that each miner could carry and would enable him or her to receive a one-way message from the surface in the event of an emergency. Yet experts both inside and outside our industry cautioned that this device had limitations. That messaging device was in use in Utah. Fortunately, where the system survived the bump event a miner received the message to evacuate the mine. At this point no one knows if the others received the message, or if the system's capabilities were destroyed in the initial event.

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

Our commitment to improvement while searching for the best technology is evidenced by the mining industry's efforts in the Mine Emergency Communication Partnership. Following the Sago accident, the NMA joined with the National Institute for Occupational Safety and Health, other State and Federal agencies, equipment manufacturers, system integrators in a collaborative undertaking to facilitate the development, evaluation, and deployment of communication and tracking system technology. A number of different systems have been tested in our members' mines. Some have not proven to be mine-worthy, meaning they could not hold up to the rigors of use in an underground mine environment. Others worked in certain situations, but failed in different conditions. We have learned that mining conditions, for example, the depth of cover, mine entry height or the types of rocks above the coal seam, affect dependability and operability.

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

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

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

Senator HARKIN. Thank you, Mr. Watzman. Thank all of you for being here. We'll try to move as rapidly as possible here.

Mr. Roberts, in your testimony, you pointed out—and I'll ask Mr. McAteer to comment on this also—you pointed out that the previous owner, Andalex, on this mine, had basically decided not to engage in the type of mining that Mr. Murray's company was engaged in, because of concerns for worker safety. You quote in your testimony that Andalex Resources filed a document with the Utah Division of Oil, Gas, and Mining, which—it stated, and I quote, "Although maximum recovery is a design criteria, other considerations must be looked at, in the final analysis, in the extraction of coal. These factors consider the insurance of protection of personnel and the environment. Solid coal barriers will be left to protect the main entries from mined-out panels, and to guarantee stability of the main entries for the life of the mine," end quote.

Then you go on to say, "Despite this assessment, Murray Energy submitted the plan to MSHA for approval to mine all of the remaining coal reserves." Now, would you also enlighten for us—we keep hearing that this was retreat mining, but you point out really what they were mining were the pillars.

Mr. ROBERTS. Yes——

Senator HARKIN. Can you elaborate on that? Tell us about that.

Mr. ROBERTS. Yes, sir. Thank you very much, Mr. Chairman.

The key here is, as you drive the mine from the very entrance to its furthest reaches of the mine, and you branch off, you leave what would look like city blocks as you go, only on a very much smaller scale. Those city blocks are pillars that hold the roof up. You also put roof bolts into the city room bolts into the roof, depending on what type strategy you have, to help support the roof and keep the miners from being injured by roof falls. Well, as you look at the map, you can tell they've longwalled out most of the coal that's in this mine. Then they started the process of removing the pillars. Someone described this—I think, our safety director, Dennis O'Dell did—as like going in your basement and deciding to remove the supports that's holding your house up. Well, you might get away with that for a while, but then the house will fall. Now, in pillar work, that's what is supposed to happen; the roof is supposed to collapse as you pull out the pillars. The problem here—that I believe is obvious—that you cannot have this kind of exposure for over 4,000 feet to the north and 5,000 feet to the south and—that's just not in the area where they were working—as you go out of the mine and look to the north and the south, they've removed all of that coal, too. So, you only had a very limited amount of coal pillars remaining. So, what they were doing—and the mountain is sitting on top of all of this exposed area, some 2,000 feet, right? So, now, they are pulling out these pillars to basically remove the coal and sell it——

Senator HARKIN. Yeah.

Mr. ROBERTS [continuing]. Which is what coal companies are—do. That's the business they're in. But you've got an extremely dangerous type of mining, to start with, and you're removing their supports that's holding the mountain up.

Senator HARKIN. Now, taking off on that, Mr. McAteer, you said that the plans should not have been submitted, nor approved. Now, this type of mining is done in other parts of the United States, right? Now, I'm told, however, that a lot of this is done in the East—West Virginia, Pennsylvania, places like that—where you don't have a couple of thousand—3,000 feet of mountain above it; they're more shallow than that, so they don't have that stress. Could you enlighten us on that aspect of it?

Mr. MCATEER. Mr. Chairman, it is correct that this type of mining is done in other parts of the country. What Mr. Roberts suggested, and what is factual, is that retreat mining, generally speaking, is the most dangerous type of mining, because, in effect, you're taking the pillars and you're removing them.

Senator HARKIN. Right.

Mr. MCATEER. So, you take the most dangerous type of mining, and then you put it in an area that is prone to these bumps and outbursts, and those—that prone-ness comes from the fact that you've got so much cover above it, you've got such a heavy weight of rock—sandstone rock—and you've got all of this pushing down, that causes these two factors to come together. So, now you've created an ultradangerous circumstance, when you're trying to use this retreat, or pulling pillars, in this location.

It is that reason that I suggested that it should not have been submitted and should not have been approved.

Senator HARKIN. You also say that these pressure buildups were not monitored.

Mr. MCATEER. That's correct. I think that's the most profound inadequacy in our system, is that we know that there are pressure buildups that occur. We can see them. They can hear them. Well, seismologists have gone a step further and essentially developed schemes to monitor, through nodes or through a device, these buildups. Other countries have systems in place, and we have used systems in place, to, one, suggest that we don't continue mining in an area where pressure is built up, or, two, that we use localized explosions to decrease the amount of pressure that is being built up in that area. Those devices have been used both in this country as well as overseas.

Senator HARKIN. So, my staff just handed me that instrument, I guess.

Mr. MCATEER. They did, sir.

Senator HARKIN. They put this up on the surface.

Mr. MCATEER. That can be used on the surface or underground.

Senator HARKIN. It can tell you what the stresses are.

Mr. MCATEER. In effect, what it's doing is, it's listening to the earth make sounds. Miners, since ancient times, have listened to the rock above them, and been able to, kind of, read what is happening. This does this mechanically, and it allows you to gauge and grade the buildups, so that in those locations where you have a buildup of pressure, you can diffuse that pressure through a couple of steps.

Senator HARKIN. Were these being used at the Crandall Mine?

Mr. MCATEER. Not to my knowledge.

Mr. ROBERTS. I'm unaware.

Senator HARKIN. No one knows.

Mr. MCATEER. I'm pretty certain they were not.

Senator HARKIN. Pretty sure they were not. But they could have been used.

Mr. MCATEER. They could have been used. It is my contention that, when you put this kind of mining together with this kind of geologic conditions, that you, in effect, have to use a higher standard of protection, and that you, in effect, should be using the seismic detection to determine the level of buildup of pressures and to determine what steps to take to diffuse them. It is done consistently overseas, in South Africa and in Poland.

Senator HARKIN. I see Mr. Stickler is still here. Mr. Stickler, I don't know if you heard my question about whether these were used. Do you know whether or not these type of devices were used at the Crandall Mine?

Mr. STICKLER. They were not.

Senator HARKIN. They were not. But you say they're being used in other parts of the world.

Mr. MCATEER. They have been used in other parts of the world for a number of years. They have been used in this country. In the Consolidation Coal Company Mine in Virginia, they were used several years ago, because it experiences bumps because of its depth. MSHA has tested this device. NIOSH has tested this device in a couple of areas. It is not required by the statute, and it, in fact, can slow the mining process down.

Senator HARKIN. Last, let me just ask you, as I've taken too much time; we've got to recognize others, but could, or should, MSHA, prior to approving this plan, have demanded that these type of devices be used to measure the stresses?

Mr. MCATEER. I think they should have. I think they should have in those mines where you have buildups of pressure, you ought to have a way to detect that pressure so you can defeat it.

Senator HARKIN. Thank you, Mr. McAteer. Thank you all very much.

Senator Specter.

Senator SPECTER. There's not a great deal of time, so I'd like to ask the three of you a question for a yes-or-no answer. Based on the evidence at hand, that one company sells the mine because it's not safe to operate, and you have this bump, which occurred a few months earlier, was it a safe plan to authorize the mining 900 feet away?

Mr. McAteer, yes or no?

Mr. MCATEER. No, it was not.

Senator SPECTER. Mr. Roberts?

Mr. ROBERTS. No.

Senator SPECTER. Mr. Watzman?

Mr. WATZMAN. Senator, I don't think I'm equipped to answer that question, at this point, not having all of the facts.

Senator SPECTER. Second question. Where you have the bumps, which we have heard—we know of the one in March, and then we have the incident on August 6, then we have a bump on August 6, burying the equipment used to clear the entry, rescue teams being pulled out of the mine; then, on August 11, a second bump; rescuers were removed from the mine; August 15, three significant bumps; and then, on August 16, the bump which causes the death of three men—now, in the light of the history, especially the bumps on August 6, 11, and 15, here again, yes or no, was this a safe rescue plan?

Mr. McAteer, was this an appropriate rescue plan?

Mr. MCATEER. Senator, as much as I'd like to answer yes or no, I have difficulty with it. When you're trying to rescue the miners, you weigh it as best you can. I think they weighed it as best they can and went forward. Would I do differently? I don't know.

Senator SPECTER. Mr. Roberts?

Mr. ROBERTS. Let me say this. It may surprise you, Senator. Given what they had to deal with, I don't think they could have done this any safer than they were doing it. In retrospect, you can look back and say, "Well, we shouldn't try to save these people, because it was too risky," but I've been in this position. I've been in the position on both sides of this, not to make this too long of an answer, but I was just reminded, before I came in here, from one of the family members, from Jim Walter Resources, who said, "I remember when you told us you weren't going to let anybody else go in that mine," and said, "I"—said, "You made the right decision then, but I didn't agree with it." So, these kinds of decisions are the hardest decisions to try to be as fair about this as possible, as a human being can make.

Senator SPECTER. Mr. Watzman, what's your answer to that question?

Mr. WATZMAN. Senator, I'm not going to second-guess the decision. The decision was made, based upon the facts that were available to the experts onsite. Human nature is that we try to rescue and reach our fallen brothers. That is what they attempted to do. In retrospect, it's easy for us to second-guess. But, based on the facts, they believed that they had—were undertaking safe activities.

Senator SPECTER. Let me turn now to the issue of the fines. In your prepared testimony, Mr. Roberts, you say that, when Assistant Secretary of Labor of MSHA, David Lauriski, initiated a new, quote, "compliance assistance plan," he sanctioned a different way of pursuing the agency's mission. The new program "chilled enforcement efforts at the mine level, and allowed operators to essentially negotiate workplace health and safety matters." That's your testimony. What would you recommend as the appropriate course of conduct for MSHA with respect to penalties? Should the penalties go so far as to entail jail sentences?

Mr. ROBERTS. Let me speak to that, if I might. I think it speaks to what I said previously, the culture that exists, and was there prior, actually, to Mr. Stickler arriving on the scene, and it's going to be a difficult proposition to change. I think we've seen that throughout these disasters.

What needs to happen is, the mission of MSHA clearly has to be the enforcement of the law. They are the police officers who act in behalf of the coalminers in the United States of America. Coal companies have a lot of people who tell 'em how to mine coal and how to get it out the most productive way. What coalminers in this country need are people going in these mines—and let me say this about that. These fine men and women who work for MSHA and go in these coal mines right beside these coalminers every day, they're to be commended. But I must submit to you, there's some confusion out there as to what their mission is with respect to the top levels of MSHA. I submit to you that there ought to be severe penalties, whatever those might be—and I have suggested, previously here, that the closing down and shutting down of these coal mines when they're dangerous is the most effective means to protect the coalminers.

Senator SPECTER. Thank you. Thank you very much, gentlemen. I'm going to have to excuse myself, at this point, but I want you to know that, as far as I'm concerned, we're going to pursue this, and we're going to have Mr. Murray here, and we're going to get to the bottom of it.

Thank you, Mr. Chairman.

Senator HARKIN. Thank you, Senator Specter.

Chairman Byrd.

Senator BYRD. Mr. McAteer—having been in Mr. Stickler's shoes, Mr. McAteer, can you comment on the Bronzite Mine, in Mingo County, West Virginia, and why MSHA would not have conducted the regular quarterly inspection this year?

Mr. MCATEER. Senator Byrd, I learned of that matter this morning. I am at a loss to understand why the regular inspections did not occur.

Senator BYRD. Can you respond to Mr. Stickler's comments and explain the difference between the quarterly inspection, a spot inspection, and a so-called enhanced spot inspection?

Mr. MCATEER. Senator Byrd, the quarterly inspections are the mandated inspections under the statute which require that the mine be inspected in its entirety. Spot inspections were to be conducted, or are to be conducted, in an effort to pinpoint and to determine if there are particular types of problems, and they can occur, if it's, for example, an electrical problem or a roof-control problem, and they really go to the issue of trying to address a particular problem that might come to the information of the inspector, by the company, by the miner, by the some individual, telling the inspector. So, they're to look at individualized things.

Enhanced spot inspections are new to me, in the sense that they're not part of the statutory provision. They were, as I understand it, from Mr. Stickler's comments, a spot inspection that's writ large, that is to say, it might go beyond looking at one particular condition.

But the statute mandates, from the 1969 act that you worked so hard to pass, that the mines be inspected four times a year in their entirety. I am at a loss to understand why this mine had not been inspected.

Senator BYRD. Mr. Chairman, thank you.

Senator HATCH. Well, thank you, Mr. Chairman. This is so nice of you to allow us to—let me just say that I've appreciated the testimony of all three of you; Mr. Roberts, particularly your testimony.

All I can say is that it—I may be wrong on this, but my understanding is that almost half of the bumps or bounces that have occurred throughout the country have occurred in Utah. So, it's something we're not unfamiliar with, something that has happened, and yet, we've had some of the very, very effective, both union and nonunion mines in Utah. You know, it's always easier, after the fact, to come in and find fault. On the other hand, we appreciate your testimony, because we've got protect these miners as best we possibly can.

Maybe I could just ask Mr. Watzman this. This recent mining act, how have the major mining companies implemented that act since we passed it?

Mr. WATZMAN. Senator, I think all of the companies have worked aggressively to implement it. And, as I noted earlier, I will submit, for the record, a chart that reflects only the member companies of the National Mining Association. We conducted a survey of them to see what they have done since February 2006.

Senator HATCH. Do you feel you're in compliance with the act——

Mr. WATZMAN. Yes.

Senator HATCH [continuing]. Throughout the country?

Mr. WATZMAN. Even predating the act. You know, 125,000 new self-contained self-rescuers have been introduced into the mines. But we still have a backorder of 100,000 of them. Communication technology is being introduced into the mines. But today there's only a leaky feeder system approved by MSHA. The approval process takes some time to get systems to the approval stage.

So, the technology has not advanced quick enough for any of us—none of us are satisfied with that—to allow further enhancements and further compliance with the act. But, in those areas where companies have been able to, mine rescue teams, SCSRs, breathable-air provisions for 96 hours of breathable air, all of those are being met by the industry, to the degree that there is technology available that allows us to meet it.

Senator HATCH. Okay. Mr. Roberts, do you agree with that?

Mr. ROBERTS. I think that the MINER Act from last year—in my testimony, I point out where there's been some problems with implementing the full act itself.

Senator HATCH. Right.

Mr. ROBERTS. I think Mr. Watzman is correct, there's a backorder on the oxygen. There was an—August of last year, 2006—mandate to get the emergency evacuation plans in place. That was not met. It was extended. I think there were both a good reason and a bad reason for that. I think most of the companies got a plan in, and MSHA rejected many of those plans and forced them to go back and re-evaluate those. We still——

Senator HATCH. Was that good or bad, that MSHA——

Mr. ROBERTS. I think it's good that——

Senator HATCH. Okay.

Mr. ROBERTS [continuing]. They were forced to go up—go back and come forward with a plan that was—that protected the miners.

Senator HATCH. So, you felt MSHA actually did its job, in that instance.

Mr. ROBERTS. I think that we have indicated, and publicly from time to time, where we think that MSHA's done its job, and we've been critical when we think they haven't. The 96 hours of oxygen, we publicly stated that that was the correct thing to do. The position that MSHA has taken on the seals, we publicly said that was the correct thing to do. When they haven't done what we think they should do, we've been critical, and we think that's the role we should play.

Senator HATCH. Well, that's the role you should play.

Well, thank you, Mr. Chairman.

Senator HARKIN. Senator Bennett.

Senator BENNETT. Mr. McAteer, you intrigue me about the device that can listen to the mountain. As Senator Hatch has indicated, we have a lot of bumps, we have a lot of talking mountains, if you will, in Utah. Do you have any idea how many people in Utah may be using this?

Mr. MCATEER. Senator, I do not. As we get deeper in our mines in this country, this phenomenon of bumps and bursts will increase.

Senator BENNETT. Yeah.

Mr. MCATEER. Geologically, that's just a fact.

Senator BENNETT. Yeah.

Mr. MCATEER. I mentioned South Africa—their mines, 2 miles, 3 miles down, they could not operate without the use of seismic detection equipment.

Senator BENNETT. How long has this equipment been available?

Mr. MCATEER. Oh, at least 10 to 15 years.

Senator BENNETT. When you were the head of MSHA, did you feel any desire to mandate it anywhere or——

Mr. MCATEER. We did not Senator. We had the good fortune of not having the Crandall Canyon kind of accident, which demands that we look at it. Second, as we increase the coal production and increase the demand for coal in this country, we will be going into these greater depths, and we'll be going into these more difficult circumstances, as we've found here.

Senator BENNETT. So, you would think, at some future point, it should be mandated?

Mr. MCATEER. It's my opinion that it ought to be mandated, in those mines, particularly, to begin with; and not necessarily mandated, it can be used without the mandate. But I think it can be a useful tool to any operator who wants to understand the pressure in the mountain, and so that you can diffuse this pressure. But I do believe that as we go into mines that have this kind of problem, the bump problem that you spoke of, then we ought to mandate that, yes, sir.

Senator BENNETT. So, you would give MSHA the power, at some future point, to say, "This mine should have it, this mine, not necessarily?"

Mr. MCATEER. In the area of gas liberation, there are grades—if your mine liberates over *x* million cubic feet of gas per day, 24-hour period, you meet a higher standard, in effect.

Senator BENNETT. Yeah.

Mr. MCATEER. It is our proposal here that such a graded standard—because you do have mines that have that kind of problem—if you have a mine with 200 feet of cover, and you don't have the kind of propensity to have bumps, then I wouldn't think you didn't—necessarily need it. But where you have these factors that lead to bumps, you know they're going to be there, you have a history of bumping, then I think you should have that.

Senator BENNETT. Yeah. But do you think—as I say, looking forward, you didn't feel it necessary to do, while you were there. You're looking forward, you think it would be necessary, at some point in the future. Do you think MSHA has the authority now to say, "In mine A we would mandate it, and not mine B?" Or do you think Congress should act and say, "It should be mandated under these conditions?" Or do you think Congress should be—should act and say, "MSHA should have a discretionary authority?"

Mr. MCATEER. MSHA has the authority to promulgate regulations, based upon its general jurisdictional powers. So, yes——

Senator BENNETT. So, you're not—you're not saying Congress needs to act on this——

Mr. MCATEER. I don't believe Congress needs to act. I believe MSHA could take it on, yes, sir.

Senator BENNETT. Well, I have understood, since getting into this, that mining is only going to get more and more dangerous, because—to shift the analogy—we've picked all the low-hanging fruit.

Mr. MCATEER. That's right.

Senator BENNETT. We have mined the mines that are the easiest to mine, the mines that are, by definition, therefore, the safest to mine. As we continue to go after the energy that our economy needs, until we resolve the problem in some other way, mining is

going to get more dangerous, and the use of these devices, however much you may not have felt it necessary when you were there, you now think it is necessary, and, maybe looking ahead to the future, it will become even more necessary. Is that a fair assumption?

Mr. MCATEER. That's exactly my belief. The process, it doesn't necessarily go into individual mines. In other countries, one of the procedures is to do a—in effect, a regional seismic read, so that——

Senator BENNETT. I see.

Mr. MCATEER [continuing]. If you hear of bumps, then I can say to you, mine operator A, "You need to take actions here." That can be done in a different kind of way.

Senator BENNETT. Well, Utah is a region——

Mr. MCATEER. Yes, sir.

Senator BENNETT [continuing]. Where we have these kinds of things. Thank you.

Mr. MCATEER. You certainly do.

Senator HATCH. Mr. Chairman, if I could just ask one——

Senator HARKIN. Senator Hatch——

Senator HATCH [continuing]. Short question of Mr. Watzman?

Senator HARKIN [continuing]. And then Senator Byrd wanted——

Senator HATCH. Over the last year, since the passage of the act, how would you characterize MSHA's enforcement activity? Has it been more, less, whatever?

Mr. WATZMAN. I think, Senator, our members would say that their enforcement has been vigorous.

Senator HATCH. What does that mean?

Mr. WATZMAN. Their inspection——

Senator HATCH. Double the——

Mr. WATZMAN [continuing]. Their presence at the mine sites is more robust. There are more citations being issued. There is more inspector presence at the mines than there was prior to the MINER Act. But that is a trend that has been continuing over the last several years. It didn't occur just following the tragic events of Sago and Darby and Alma. That was something that had started before that, and we're seeing a continuation of that now.

Senator HATCH. Compared to before the act was passed, could you give a percentage? Is it 25 percent more strict, double, whatever?

Mr. WATZMAN. I think, Senator—and I may be off by a little bit here, not in terms of the number of inspections, but I think that the inspection actions—meaning the citations and orders that are being issued—is up, I believe, 10 percent or 12 percent, if memory serves me correct. So, they're—they have a bigger presence at the mines.

Senator HATCH. Well, thank you.

Senator HARKIN. Thank you, Senator Hatch.

Senator Byrd.

Senator BYRD. Thank you, Mr. Chairman and Senator Specter, for holding these hearings.

Mr. Secretary, I have just one final question. You're not at the table, but if you don't mind: Why were there no quarterly inspections this year at the Bronzite Mine, as required by the Mine Act?

Mr. STICKLER. What was your question, Senator?

Senator BYRD. I'll be happy to repeat it. Why were there no quarterly inspections this year at the Bronzite Mine, as required by the Mine Act?

Mr. STICKLER. Until I investigate that, I cannot give you an answer.

Senator BYRD. Would you say that again, please?

Mr. STICKLER. Until I've had an opportunity to investigate, I cannot give you that answer. I don't know the answer, at this time.

Senator BYRD. All right. Now, when you have an opportunity to investigate, will you please report to this committee your response?

Mr. STICKLER. I will.

Senator BYRD. I thank you.

Senator HARKIN. Appreciate that. Thank you.

Senator BYRD. Thank you, Mr. Chairman.

Senator HARKIN. Thank you, Chairman Byrd.

There's just one other issue that I'm going to just bring up here before we all close this down. I'm going to ask Mr. Stickler or if any of you have any knowledge of this.

Arianna Huffington, in an op-ed about this incident, and about the whole safety aspect, in general, claims—now, this is what she's claiming, I have no knowledge of this, but I intend to look into this, Mr. Stickler and others—claims that Mr. Murray had enough political muscle to get a Mine Safety and Health Administration district manager, who had cracked down on safety issues at one of Murray's mines, reassigned. Do you know about this at all, Mr. Stickler?

Mr. STICKLER. I can assure you that nothing similar to that has happened since I've been in this job.

Senator HARKIN. Any of you know about—Mr. Roberts?

Mr. ROBERTS. That is absolutely true.

Senator HARKIN. Pardon?

Mr. ROBERTS. That is absolutely true, but it didn't happen on Mr. Stickler's watch. That's been—that's not the first time that's been published.

Senator HARKIN. As chairman, I intend to have my staff look into this and to get as much information as possible. If you have any more information on this, Mr. Roberts, I'd appreciate it.

Mr. ROBERTS. We'll provide it to you, or the entire committee, or whoever.

Senator HARKIN. Well, just get it to my staff, so that we can look into it when we have Mr. Murray here.

Do any of you have any other statements or any other comments or observations you wish to make before we adjourn the hearing?

If not, again, Mr. Stickler, thank you very much for your patience in being here. Thank all of you for your patience. Thank all of the miners, who traveled a great distance to be here. I'm sure I can say, on behalf of the sons of two old coalminers——

Senator BYRD. Yes, man.

Senator HARKIN [continuing]. That we appreciate all you do for the energy of this——

Senator BYRD. Thank you. Thank——

Senator HARKIN [continuing]. Of this country.

Senator BYRD [continuing]. You.

Senator HARKIN. Thank you all you coalminers.

Senator BYRD. Thank you.

ADDITIONAL COMMITTEE QUESTIONS

Senator HARKIN. There will be some additional questions which will be submitted for your response in the record.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR DANIEL K. INOUYE

APPROVAL OF PILLAR EXTRACTION REQUESTS:

Question. Mr. Stickler, I understand that the mining accident that occurred in Crandall Canyon is much different from recent mining accidents that were the result of mine explosions. The Crandall Canyon accident involved mining at extreme depths using the process of retreat mining. In the testimony provided by the United Mine Workers of America, because of extensive longwall mining performed on both sides of the main entries of the mine, the only remaining coal would have been in the pillars of the mine. In fact, the UMWA claims that "there can be no doubt that the mountain over the mine was exerting extreme pressure on the remaining coal, which was supporting the mine roof." Despite the obvious dangers of pillar extraction at these extreme depths, the Mine Safety and Health Administration (MSHA) approved the request from the Murray Energy Company to mine all the remaining coal reserves including the barrier pillars.

Mr. Stickler, under what criteria would the Mine Safety and Health Administration have approved this request?

Answer. In September 2006, the Crandall Canyon mine provided MSHA with two Agapito Associates geotechnical reports, dated July 20, 2006 and August 9, 2006 that analyzed whether the North and South barriers of Main West could be safely retreat mined. Agapito Associates used both the ARMPS (Analysis of Retreat Mining Pillar Stability) and LAMODEL (Laminated Model) computer models to conduct its analyses. ARMPS is a computer model that bases its output (pillar stability) on empirical data received from historical successes and failures of past mining configurations. LAMODEL is a true boundary element, computer model where mine design output (stress and convergence) is generated from input based on the physical characteristics of the mine seam and surrounding strata. LAMODEL is software that uses boundary-elements for calculating the stresses and displacements in coal mines or other thin, tabular seams or veins. It can be used to investigate and optimize pillar sizes and layout in relation to pillar stress, multi-seam stress, or bump potential (energy release).

After an MSHA onsite mine visit and company revisions to the retreat mining plan, MSHA subsequently approved the retreat mining plan amendment for the North Barrier on February 2, 2007. The plan amendment to develop the South Barrier was approved on March 8, 2007. Agapito Associates visited the North Barrier section on March 16, 2007. Based on its observations, Agapito Associates then reran the LAMODEL computer model for retreat mining in the South Barrier. Agapito's subsequent recommendations were to increase the pillar length and to slab the barrier pillar on retreat, which Agapito contended would move the stresses to the gob areas and promote safe caving.

On April 18, 2007, Agapito Associates sent a letter to Crandall Canyon with their recommendations. Crandall Canyon incorporated the Agapito recommendations in the plan amendment to retreat mine the South Barrier. The South Barrier retreat mining plan amendment left five pillars around the Main West sump to protect the South Barrier bleeder entry.

Based on onsite observations of development in the South Barrier on May 22, 2007, MSHA recommended that the bleeder entry for the South Barrier Pillar retreat mining be adequately supported and protected. During the onsite visit, MSHA recommended that the company leave an additional three pillars (for a total of eight) to establish a clean cave line to prevent a location on the pillar line that could burst.

The mine operator made the recommended changes in a revised drawing dated May 23, 2007, and after an additional review, the South Barrier retreat mining plan amendment was approved on June 15, 2007.

Question. Should the Mine Safety and Health Administration approve future pillar extraction requests for other deep mining operations?

Answer. MSHA will approve future pillar extraction requests for other deep mining operations when mine design and safety procedures are adequate to protect miners. Since the Crandall Canyon incident, MSHA has taken the following actions as described below:

Evaluations are being made of all underground coal mines in the United States to identify Crandall Canyon "type" mines that may have bump potential. A list of "bump prone" deep mines will be compiled. Each of these mines will be visited by MSHA's Technical Support roof control experts. As a result of the site visit to the mine, recommendations will be made to ensure that the mine is adequately supported. All recommendations will be presented in memorandum form and given to the Coal Mine Safety and Health District where they can be shared with the mine operator.

QUESTIONS SUBMITTED BY SENATOR PATTY MURRAY

MSHA AS PRIMARY COMMUNICATOR

Question. During the news coverage of this disaster it appeared to me—and I am sure to many of my colleagues—that mine owner Bob Murray was the primary spokesperson at the site. In my mind his confusing and conflicting statements and his penchant for railing against government regulators were inappropriate at best and, by their own admission outraged, the victims' families. This unfortunate situation should have never been allowed to occur. I know from my experience chairing the Transportation Appropriations Subcommittee that the National Transportation Safety Board (NTSB) offers a far more effective model in making sure that victims families receive timely information from their government first, that it is accurate and that no one else speaks on behalf of the government's investigators at an aviation accident site.

Mr. Stickler, can you tell the subcommittee how you currently interpret the following provision in the MINER Act of 2006? "The Secretary shall establish a policy that requires that MSHA shall serve as the primary communicator with the operator, miners' families, the press and the public."

Answer. Section 7 of the Mine Improvement and New Emergency Response Act (MINER) Act requires MSHA to be the primary communicator with the mine operator, miners' families, press and public during a mine disaster. On December 22, 2006, MSHA issued a Program Policy Letter (No. P06–V–11) which set forth the policy implementing the provisions of section 7 of the MINER Act. Revisions to the Headquarters Mine Emergency Response Guidelines Handbook (AH08–III–2) set forth specific guidance to be used in applying this policy during a mine emergency.

Often, the mine operator and State agency may have their independent communicator on the scene. While MSHA is the primary contact for release of official statements regarding rescue and recovery efforts, MSHA's spokesperson works closely with other organizations to ensure the message is clear and accurate. Neither the MINER Act nor MSHA's policy prohibits the mine operator or others from communicating with the families or the public.

Question. Did you communicate to Mr. Murray that you were to be the primary communicator at the site? If so, what was Mr. Murray's reaction to your role as the primary communicator at the site? If not, why not?

Answer. Yes. Mr. Murray and I discussed the fact that MSHA is the primary communicator. Immediately after MSHA was notified of the Crandall Canyon accident, MSHA began acting as the primary communicator with the families, policymakers, the public and the media, a responsibility MSHA takes very seriously. MSHA also acted as the primary communicator with the media. MSHA held regular briefings every day for reporters at the sheriff's command center. During these briefings, we provided detailed updates regarding the rescue effort and answered reporters' questions. MSHA also provided regular updates on the agency's website regarding the rescue effort and issued media advisories concerning our updates at the mine site. In addition, MSHA personnel regularly updated Utah's governor and congressional delegation on the status of the rescue operations, both onsite and offsite.

MSHA and the operator were present at each of the family briefings. At times, representatives of the State of Utah participated as well. In addition to the three family liaisons dispatched by MSHA to provide regular updates on the rescue operation, MSHA also provided interpreters for the Spanish-speaking families. In each of these briefings, MSHA took the lead as the primary communicator. In some cases the media did not show MSHA's briefings, but elected to broadcast only the mine operator's comments.

Question. Did MSHA provide Mr. Murray with information on any developments at the site before the families were briefed?

Answer. Yes. Typically there was a pre-meeting held between MSHA and the company prior to meeting with the families. Because of the mine operator participation with the rescue effort at the mine site, the operator already knew of developments in most cases.

Question. Did MSHA provide Mr. Murray with any communication techniques or strategies on how to best update families and the public on new developments?

Answer. MSHA did suggest communication techniques or strategies to Mr. Murray and also suggested that Mr. Murray be replaced with someone else from the company. As the rescue operation progressed, Mr. Murray was replaced by another company spokesman.

Question. Given the confusing and misleading information that was delivered to the families on multiple occasions at this site, does MSHA need more legislative authority to properly secure a mine accident site?

Answer. In general, MSHA does not feel that the information the agency delivered to the families was confusing or misleading. MSHA kept a family liaison representative with family members 24 hours per day. The MSHA liaison representative called the command center to get updates on the hour. In addition, the MSHA Assistant Secretary briefed the families twice a day (morning and evening) to give them a firsthand account of what was taking place during the rescue operation and what was being planned. MSHA does not have or need any legislative authority to secure a mine accident site. This is best handled by local law enforcement, county, or State police.

Question. I was very concerned to recently learn that MSHA denied the UMWA's petition to be the miners' representative in the Crandall investigation.

Mr. Stickler, it would seem to me that in any investigation you would want to gather as much information as possible from sources with first hand knowledge and experience. The Crandall Canyon miners and families have a unique perspective on the safety conditions they work in, yet their opinions and observations are not being included in this investigation.

Mr. Stickler, do you think that the families of the trapped miners should have a strong voice in the upcoming investigation? If yes, can you assure me that their concerns will be heard? How do you plan to include them?

Answer. I believe that families must have a strong voice in the investigation, and MSHA has worked to keep the families involved. I am personally committed to seeing that MSHA does everything it can, consistent with the requirements of the law, to address the concerns of the families and determine the cause of the accident. As you may know, immediately after MSHA was notified of the Crandall Canyon accident, MSHA, fulfilling its responsibilities under the MINER Act, dispatched three family liaisons to meet with family members and kept them updated on the rescue operation. First, early in the investigative process the families were invited to share any relevant information that they had with the MSHA investigative team. The families were invited to meet either formally or informally with the team to provide this information.

Question. The Miner Health and Safety Enhancement Act of 2007 calls for the establishment of an independent ombudsman to ensure proper attention to miner complaints of unsafe conditions and to protect whistleblowers from retaliation. Do you believe that such an office would allow miners, particularly those without union representation, the opportunity to voice their concerns about their safety?

What procedures at MSHA have you established to ensure the voices of miners are heard and respected through the independent ombudsman?

Answer. MSHA does not believe an independent ombudsman would do more than the procedures already in place. MSHA has a well-publicized, national hazardous condition complaint hotline that is staffed around the clock with live operators. The hotline allows any miner, miner's family, or member of the public to anonymously call or submit a written complaint online regarding concerns about hazardous or unsafe conditions. This Call Center collects relevant information, logs in the complaint and notifies the respective MSHA office emergency contact, who then initiates an investigation. The complaint is sanitized so mine operators do not know who called in the complaint.

RIGHT TO CONTROL ALL ACTIVITY WHEN DISASTER OCCURS

Question. According to testimony by Mr. Roberts, since 1977, MSHA has had the right to control all activity at the mine when disasters occur by issuing a section 103(j) order, yet MSHA has chosen to use the authority under section 103(k), which permits the operator greater latitude in directing a rescue operation. Why did

MSHA not use this authority, and after misinformation was given to the miners' families and the media by Mr. Murray, why was section 103(j) not ordered?

Answer. MSHA believes that § 103(k) is a very strong provision of the Mine Act relating to rescue activities in that it requires the mine operator to get MSHA's approval of the mine operator's plan for its rescue operations. The mine operator is the entity in the best position to know the mine, prepare a rescue plan, and engage in the activities necessary under the plan. Under § 103(k) the mine operator cannot take action without consulting with MSHA (and any State representatives when feasible) to obtain MSHA's approval of the plan. Further, under § 103(k), MSHA can issue any order to the mine operator that the agency deems appropriate to provide for the safety of any person in the mine. This section of the Mine Act is a very powerful tool under which MSHA approved all actions by the mine operator before those actions were implemented. In addition, MSHA moderated Mr. Murray's contacts with the families. We do not believe that we, or any federal agency, have the power to prevent Mr. Murray from talking to the press.

QUESTIONS SUBMITTED BY SENATOR ROBERT C. BYRD

MINE ACT § 103(K)

Question. Please describe the K order issued at the Crandall Mine?

Answer. Under Mine Act §103(k), when an accident occurs MSHA may issue any orders appropriate to ensure the safety of any person in the mine. In addition, under § 103(k) the mine operator, in consultation with any appropriate State representative, must obtain MSHA's approval of its rescue or recovery plans. Based on the information received by the Call Center and forwarded to MSHA District 9, MSHA initially issued the 103(k) order over the phone to the mine operator before MSHA's arrival onsite. The § 103(k) order required mine management to evacuate the mine and effectively secure the site and was reduced to writing when MSHA arrived onsite.

Question. What parts of the mine were covered by the order? What parts, if any, were not covered, and why?

Answer. The original §103(k) order covered the Main West Pillar section. No other parts of the mine were included in the order. MSHA did not feel that miners' safety was at risk in the area out by the Main West Pillar section.

Question. What modifications to the order, if any, were issued?

Answer. The order was modified six times in the days following the initial mine collapse to allow recovery operations to continue in accordance with the approved plans.

Question. When were those modifications issued?

Answer. Modifications were issued on: August 6, August 7 (two modifications), August 8, August 16, and September 4.

Question. What were the reasons for the modifications?

Answer. MSHA modified the order for the following reasons:

—Modification No. 1 (6:00 a.m. MDT on August 6, 2007) was made to show the correct time of the bounce, allow necessary personnel travel underground to repair damaged ventilation devices, install a belt tailpiece at crosscut 120, and to open up the No. 1 seal to explore old Main West entries.

—Modification No. 2 (1:50 p.m. on August 7, 2007) was made to permit the use of cameras underground.

—Modification No. 3 (6:20 p.m. on August 7, 2007) was made to allow personnel to travel underground to make necessary repairs to damaged ventilation devices, clean in and around the feeder breaker, and advance in the No. 1 entry.

—Modification No. 4 (10:18 a.m. on August 8, 2007) was made to allow the operator to continue recovery operations in accordance with an MSHA-approved site-specific plan.

—Modification No. 5 (11:35 p.m. on August 16, 2007) was made to prohibit anyone from traveling in by crosscut 107 of Main West.

—Modification No. 6 (3:55 p.m. on September 4, 2007) was made to allow work in crosscut 90 provided that all entries were continually monitored for O2, CO, and CH4.

Question. Who made the decision to allow the media and others to tour underground during the rescue effort?

Answer. Typically, the mine operator proposes mine rescue activity and plans for MSHA approval. MSHA can deny approval of the proposed plan if MSHA believes the plan is unsafe. Mr. Murray proposed that the film crew (media group) be permitted into the mine.

The highest-ranking MSHA official on site is responsible for MSHA decisions. In this case I was on site and take responsibility for final approval. The Coal Mine Safety and Health Administrator, District 9 Manager and Assistant District Managers, Field Office Supervisor and other MSHA personnel also were on site.

No one expressed concern to me that it was unsafe for the film crew to enter the mine area in which it was permitted. The film crew was given the usual visitors' safety training before it entered the mine. MSHA officials traveled with the visitors and monitored their safety.

Question. Why was that decision made?

Answer. At the time the film crew entered the mine, the family members were very distraught due to their belief that the rescue effort was moving too slowly and not using the most effective methods or equipment. The pictures of the surface and underground rescue were valuable in helping the family members understand the rescue process and develop confidence that the maximum effort was being made to reach their loved ones.

Question. Was this decision consistent with the K order?

Answer. The original 103(k) order was modified on at 1:50 p.m., on August 7, 2007, to permit the mine operator to use a camera underground.

Question. What communications occurred between the mine operator and MSHA relating to the K order?

Answer. As § 103(k) requires, the mine operator submitted rescue and recovery plans and modifications to MSHA for approval. Communication between the mine operator and MSHA were continuous and ongoing throughout the rescue effort.

Question. What modifications, if any, resulted from these communications?

Answer. After the operator submitted acceptable plans, MSHA modified the order to allow the operator to implement the submitted plan.

BUMP OF MARCH 2007

Question. Mr. Stickler, it has been reported that a bump occurred at the Crandall Canyon Mine in March 2007, and that the bump caused the cessation of regular mining activity in one area of the mine. When and how did MSHA officials become aware of the bump that occurred in March 2007?

Answer. MSHA was not immediately notified of the March 10, 2007 burst or its magnitude. The burst occurred on a Saturday and was not reported to MSHA as a 30 C.F.R. part 50 reportable accident. On March 12, 2007, the mine operator notified the district office of ventilation monitoring concerns and to discuss a need to abandon the section. It was during this conversation that MSHA was made aware that the March 10, 2007 burst had occurred.

Question. What other bumps and roof control problems was MSHA aware of prior to August 6?

Answer. Since January 2002, MSHA was aware of several injuries at the Crandall Canyon mine involving ground control issues. Four injuries occurred due to two bursts on the face during longwall mining and one injury occurred from a rib sloughing during retreat mining. None of these injuries was life-threatening. However, they resulted in serious injuries. Inspections conducted by enforcement personnel revealed no issues or problems with the roof control plan.

Question. What enforcement actions, if any, did MSHA take in response? Answer. MSHA issued 27 ground control violations to the Crandall mine from 2002 to 2007.

Question. Has a determination been made about whether the March 2007 bump should have been reported to MSHA? If so, what are the facts that led to MSHA's determination? If not, when will a determination be made?

Answer. The Crandall Canyon Accident Investigation Team will address this in its accident investigation report. The team has obtained all available information and has interviewed personnel with firsthand knowledge. The investigative report will determine if the operator should have reported the March 2007 burst.

APPROVAL OF THE CRANDALL MINE PLAN

Question. Mr. Stickler, MSHA's accident report on the Sago disaster acknowledges that the agency approved a plan for bottom mining (a kind of secondary mining) on the same day that the plan was submitted for review. How long did MSHA consider the plan at the Crandall Mine?

Answer. The roof control plan amendment to develop four entries in the South Barrier was received on February 23, 2007. The amendment was approved on March 8, 2007. The District 9 District Manager signed the amendment for the development of the South Barrier Block of Main West. Prior to Crandall Canyon's submittal of the amendment, there was discussion between MSHA and the company regarding stipulations that should be included in the amendment.

On May 15, 2007, MSHA received a copy of the Agapito Associates, Inc. report, dated April 18, 2007. MSHA received the operator's plan to retreat mine the south Main West barrier on May 17, 2008. Following an onsite evaluation of the ground conditions in the south Main West barrier development on May 22, 2007, discussions were conducted with the operator regarding the district's concerns with the plan. On June 15, 2007, MSHA approved the plan to retreat mine the south West Main barrier.

Question. Who was involved in those deliberations?

Answer. The review of the roof control plan amendments was conducted by the District 9 Roof Control Supervisor, with the assistance of the roof control specialist. Additionally, a graduate mining engineer assisted in reviewing some of the proposed roof control plan amendments (although he did not review the final plan amendment submittals relating to the South Barrier development and retreat mining).

Question. Who gave the final approval?

Answer. The District 9 Staff Assistant (who was the acting District Manager that day) signed the retreat mining roof control amendment for the South Barrier Block of Main West. The Staff Assistant is a certified Civil Engineer.

Question. It has been reported that a private engineering consultant was retained by the mine operator, and that those engineers deemed recovery of coal pillars to be safe at this mine under certain circumstances. MSHA concurred in that assessment. Was the full report from the private engineering consultant included in the application for plan approval?

Answer. We believe the full reports from Agapito Associates, Inc. were included in the application for plan approval. However, MSHA's accident investigation team also has looked into this matter and the team's report should indicate whether any portions of the Agapito report were omitted.

Question. Were all of the safety standards in the private engineering report required by MSHA as part of the Crandall operating plan?

Answer. MSHA's accident investigation team will address this question in its report (to be published shortly).

Question. Did MSHA technicians consult with the private engineers prior to approving the Crandall mining operation?

Answer. No. MSHA personnel discussed the plan submittal with the mine operator.

Question. What was the substance of those discussions?

Answer. MSHA had no discussions with the Agapito engineers.

Question. What negotiations, if any, occurred relating to safety standards?

Answer. There were no negotiations. MSHA informed the operator about a number of issues that needed to be addressed. The operator addressed those concerns and the plan was ultimately approved.

Question. Did MSHA technicians consult with the MSHA inspectors at the Crandall Mine prior to approving the mining operation?

Answer. Yes. An MSHA District 9 Roof Control Specialist and Roof Control Supervisor were underground in the South Barrier section on May 22, 2007, to evaluate the operator's submitted plan to retreat mine. The Roof Control Specialist worked in the Price field office.

Question. What was the substance of those discussions?

Answer. The Roof Control Specialist traveled with the District 9 Roof Control Supervisor and agreed with the plan approval.

Question. What negotiations, if any, occurred relating to safety standards?

Answer. There were no negotiations between the roof control supervisor and specialist.

Question. Did the MSHA inspectors at the Crandall Mine consult with the private engineers? What was the substance of those discussions? What negotiations, if any, occurred relating to safety standards?

Answer. The MSHA inspectors did not consult with the private engineers.

QUESTIONS SUBMITTED BY SENATOR ROBERT F. BENNETT

RESCUE OPERATIONS

Question. In our meeting at the site—the day after the initial collapse—we were informed that rescue operations would not occur inside the mine until the ongoing seismic activity had ceased. Following that meeting, the "bumps" continued. Nine days later I received the news that three rescuers were killed—one of which was an MSHA employee—and six injured. What changed that led you to determine that it was safe to put rescuers into the mine?

Answer. After the accident on August 6, 2007, attempts were made to reach the trapped miners. These initial attempts involved rescue team members exploring the Main West sealed area and the partially filled entries in the South Barrier section. Both of these efforts were suspended because they required miners to travel into areas where the burst occurred and where supplemental ground support had not been installed. It was decided that the safest way to reach the miners was to clear out the rubble in the number 1 entry of South Barrier section and install heavy supplemental ground support. This was the consensus of MSHA personnel (which included our engineers from Technical Support, District personnel, and headquarters staff) and the mine operator.

Question. Who makes those decisions and what seismic expertise, if any, do these individuals have?

Answer. Mine rescue decisions evolve from the combined expertise of all those involved in the rescue effort. While MSHA ultimately approves or disapproves the safety aspects of all plans, our preference is to include all input and expertise available and to reach consensus. The decision to continue the rescue efforts was a concerted decision. The mine operator submitted a plan and it was approved by MSHA. MSHA does not believe that seismic expertise exists that can determine when a burst will or will not occur. MSHA felt the best support available was the system discussed in the answer above. We did feel it would be able to protect miners at that time. After August 16, 2007, it was apparent that the support was inadequate, and the underground rescue operation was ceased.

Question. Does MSHA have the ability to make rescue operations recommendations, or does it simply approve the plans that are made by the mining operation?

Answer. After issuing a §103(k) order under the MINE Act, MSHA can approve or reject any rescue plan submitted by the mine operator. MSHA also has the authority under §103(j) and §103(k) to issue orders and take actions independently.

Question. Would safety increase if MSHA took a leading operational role in rescue operations?

Answer. MSHA obtains the best safety results through the issuance of a §103(k) order to control the safety aspects of the rescue or recovery operation. The mine operator's mine specific knowledge of personnel, equipment, and infrastructure is critical to leading the operational role.

MSHA RESOURCES

Question. Given that this hearing is taking place in an appropriations subcommittee, the first question that comes to mind is: does the Mine Safety and Health Administration (MSHA), a government agency, have the necessary resources to enforce safety and health standards and promote safety and health conditions?

Answer. As of September 5, 2007, Coal Mine Safety and Health (CMS&H) had 744 enforcement personnel, of which 488 were authorized representatives and 256 were inspector trainees. Each month the number of inspector trainees decrease as they progress from the trainee status to the authorized representative ranks. During the supplemental mass hiring, CMS&H's goal was 757 enforcement personnel, which is an adequate number of enforcement resources to enforce safety and health standards and promote safety and health conditions.

Question. The MSHA Price office has jurisdiction over the Crandall Canyon Mine. Does the Price office have the necessary resources and staff to effectively do its job?

Answer. Yes, we believe they do. At the beginning of the supplemental hiring process in July 2006, the Price Office consisted of 15 enforcement personnel, which included three specialists and three trainees. As of September 5, 2007, that office consisted of 17 enforcement personnel (which included one specialist and 7 trainees). As long as we continue to be funded for this staffing level, we feel that this is an adequate number of enforcement resources for the Price office to enforce safety and health standards and promote safety and health conditions.

BEING NOTIFIED OF AN ACCIDENT

Question. Clearly one of the key questions we should ask is when did MSHA first learn of the initial bump and when did it learn that six miners were missing?

Answer. The mine operator first notified MSHA of the initial August 6, 2007, burst via the MSHA toll-free hotline at 3:43 a.m. Mountain Daylight Time (MDT). The mine operator did not report death, injuries, or entrapment of miners. The Call Center operator notified MSHA at 3:51 a.m. MDT. The MSHA official contacted the mine at 4:03 a.m. MDT. During a phone conversation with the mine officials at 4:05 a.m. MDT, MSHA learned that 6 miners were missing and no contact had been made. The MSHA inspector verbally issued the § 103(k) order at 4:41 a.m. MDT.

Question. How soon after you learned of the collapse was MSHA at the mine?

Answer. MSHA arrived at the mine at 5:45 a.m. MDT, on August 6, 2007.

Question. Could you please walk us through the first initial steps MSHA takes when confronted with an accident?

Answer. Title 30 C.F.R. part 50 defines accidents that must be immediately reported to MSHA. When reported, MSHA must promptly inform the operator if it will conduct an investigation. During this time, part 50 prevents alteration of the accident scene. If an investigation will be conducted, MSHA may issue a § 103(k) order by phone or when arriving onsite.

Depending on the type and scope of the accident, MSHA management will assign one or more investigators. Resources may be deployed based on the operator's report or after an initial onsite contact. Assignments are made considering any necessary specialty and the need to provide an independent investigator not responsible for inspections at the mine. Assistance is requested from MSHA Technical Support on a case-by-case basis. Investigators travel to the accident site, examine the area and take measurements, photos, and detailed notes. Physical evidence may be collected as necessary for further examination, testing, or other purposes. Related records are reviewed—primarily for training and examinations. Witnesses are interviewed. Investigations are conducted in cooperation with the operator, any labor organizations, the State, and sometimes manufacturers. A formal report may be produced.

For mine emergencies, other resources may be requested including the MSHA mine emergency unit, MSHA mine rescue teams, gas analysis and monitoring instruments, seismic instruments, satellite communication equipment, robotic equipment, additional personnel external to the district, and other specialists and resources. These resources are deployed in consultation with the headquarters office.

In cases in which miners are missing or a lengthy rescue/recovery operation is expected, each district maintains at least one trained Family Liaison to furnish information and assist families that could arrive at the mine. MSHA deploys additional trained Family Liaisons to ensure 24-hour assistance to the families.

Similarly, MSHA acts as Primary Communicator to furnish timely information to the media and to the public. These procedures fulfill the objectives of section 7 of the MINER Act and have been formalized in an MSHA handbook.

DEEP COVER COAL MINING

Question. Utah's mountainous regions are the home to many coal mines. Much of this mining is conducted under peaks, which creates unique geological challenges for the industry. Do we know enough about deep coal mining under peaks for it to be safe? Does MSHA have the staff with the necessary expertise to manage such mining? If so, could you convey to the subcommittee MSHA's qualifications in this area?

Answer. MSHA (Technical Support) does have the staff with the necessary expertise to manage deep cover coal mining. MSHA's Technical Support has an engineer on staff with extensive ground control-related industry experience at deep cover coal mining operations and another engineer has considerable research experience regarding ground control-related hazards in deep cover coal mines. Since mining in Crandall Canyon type conditions is very limited in the United States, Technical Support expertise is sufficient to evaluate similar mining conditions and roof control plans throughout the country. The two engineers discussed above are nationally recognized experts in deep mining and computer modeling. However, several engineers in the Technical Support Roof Control Division are also well versed and respected authorities in this area.

CONCLUSION OF HEARING

Senator HARKIN. Thank you all very much for being here. That concludes our hearing.

[Whereupon, at 1:05 p.m., Wednesday, September 5, the hearing was concluded, and the subcommittee was recessed, to reconvene subject to the call of the Chair.]

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