Certification Form

I certify that I have read the transcript for the January 9, 2007 meeting of the Panel, and that to the best of my knowledge this transcript is accurate and complete.

Linda Zeiler, Designated Federal Officer

Dr. Jan M. Mutmansky, Chair

TRANSCRIPT OF PROCEEDINGS

IN THE MATTER OF:)
)
TECHNICAL STUDY PANEL ON THE)
UTILIZATION OF BELT AIR AND THE)
COMPOSITION AND FIRE RETARDANT)
PROPERTIES OF BELT MATERIALS)
IN UNDERGROUND COAL MINING)

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UNITED STATES DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION

IN THE MATTER OF:)
)
TECHNICAL STUDY PANEL ON THE)
UTILIZATION OF BELT AIR AND THE)
COMPOSITION AND FIRE RETARDANT)
PROPERTIES OF BELT MATERIALS)
IN UNDERGROUND COAL MINING)

Polaris Suite
Ronald Reagan Building and
International Trade Center
1300 Pennsylvania Avenue, N.W.
Washington, D.C.

Tuesday,
January 9, 2007

The parties met, pursuant to the notice, at 1:00 p.m.

BEFORE: LINDA F. ZEILER
Designated Federal Officer

ATTENDEES:

Panel Members:

JURGEN F. BRUNE
Chief, Disaster Prevention and Response Branch
Centers for Disease Control
National Institute for Occupational Safety and Health
Pittsburgh Research Laboratory
Pittsburgh, Pennsylvania

FELIPE CALIZAYA
Associate Professor
University of Utah
Mining Engineering
Salt Lake City, Utah

JAN M. MUTMANSKY
Professor Emeritus of Mining Engineering
The Pennsylvania State University
University Park, Pennsylvania

ATTENDEES: (Cont'd)

Panel Members:

JERRY C. TIEN
Associate Professor
Department of Mining Engineering
University of Missouri-Rolla
Rolla, Missouri

THOMAS P. MUCHO
Thomas P. Mucho & Associates, Inc.
Mining Consultancy
Washington, Pennsylvania

JAMES L. WEEKS, Director
Evergreen Consulting, LLC
Silver Spring, Maryland

Staff Members:

MATTHEW WARD, Esquire
Office of the Solicitor
U.S. Department of Labor/MSHA

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Fire Protection Engineer
MSHA Technical Support

HARRY VERAKIS
Senior Projects Engineer
MSHA Technical Support

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Supervisory Mining Engineer
MSHA Technical Support

ROSALYN FONTAINE
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Management and Program Analyst
MSHA Technical Support

DEBRA JANES
Regulatory Specialist
MSHA Office of Standards, Regulations and Variances

ROBERT TIMKO
Manager, Monitoring Team
NIOSH

Also Present:

RICHARD E. STICKLER
Assistant Secretary of Labor, MSHA

P R O C E E D I N G S

(1:00 p.m.)

MS. ZEILER: My name is Linda Zeiler, and I will be serving as the designated federal official for the Technical Study Panel on the Utilization of Belt Air and the Composition and Fire Retardant Properties of Belt Materials in Underground Coal Mining, more commonly referred to as the panel.

Just a couple brief announcements. First, we would ask that everyone if you haven't already please sign in in the back. We provided sign-in sheets at the back of the room.

There will be no opportunity today for public input at this first meeting since the meeting will primarily focus on administrative and procedural issues and providing background information to the panel so they can begin their work.

Subsequent meetings, however, will allow an opportunity for all interested parties to address the panel and submit written comment on the topics under consideration of the panel.

At this time I'm pleased to introduce the Assistant Secretary of Labor for Mine Safety and Health, Mr. Richard Stickler, who will officially welcome the panel on behalf of the Secretary of Labor.

MR. STICKLER: Good afternoon. Thank you, Linda.

I would like to welcome you to the first meeting of the Technical Study Panel on belt air and belt materials. This meeting is set to last two days and will cover a number of important issues on this subject.

The Technical Study Panel was created by the MINER Act of 2006. It provided for an independent scientific engineering review and recommendations with respect to the utilization of belt air and fire retardant properties of belt materials for use in underground coal mines.

We at MSHA are proud to take the lead in forming, administering and assisting this panel in its important work. Your work on this panel will be crucial to mine health and safety in the years to come.

Under the broad scope of your charter, there are several specific issues you may wish to pursue. The 1992 advisory committee report on this same subject gives you good background information from which to start your work.

We are interested to know how technological advances during the last 15 years can be applied to

reduce the risk of belt conveyors in underground coal mines. We are also interested in your thoughts and recommendations on limiting the belt air velocity, including revisiting the velocity cap.

We are also interested in your thoughts on the use of atmospheric monitoring systems instead of point-type heat sensors. We also seek your advice on the current state of fire resistant belt materials as opposed to fireproof materials and their practical use in underground coal mines.

The question of whether the effectiveness of belt fire suppression systems are adversely impacted by the use of larger conveyor belts and higher belt air velocities is also an issue we hope you will address.

I want to personally thank each of you for agreeing to serve on this critically important panel. I know that it will take time away from the work that you have, and I want you to know that I appreciate your service and how important your work will be to the safety of miners.

It is my honor to welcome and introduce the members of the panel. I'd like for you to stand when I introduce you, please.

Jurgen Brune. He is Chief of the Disaster

Prevention and Response Branch, National Institute of Occupational Safety and Health, at the Pittsburgh Research Laboratory in Pittsburgh, Pennsylvania. Thank you.

Felipe Calizaya is Associate Professor at the University of Utah, Salt Lake City Utah. Thank you.

Jan Mutmansky is Professor Emeritus of Mining Engineering from Pennsylvania State University, University Park, Pennsylvania.

Jerry Tien is Associate Professor, Department of Mining Engineering, at the University of Missouri-Rolla, Rolla, Missouri.

Thomas Mucho of Thomas P. Mucho & Associates, Inc., is a mining consultant in Washington, Pennsylvania.

James Weeks is Director of Evergreen Consulting, LLC in Silver Spring, Maryland.

I want to thank you gentlemen for giving us the benefit of your expertise on this subject and your commitment to mine health and safety. I commend you at the outset of your year-long hard work that you're about to embark on, and I welcome you to Washington to get started.

I'll turn it over to Linda. Thank you.

MS. ZEILER: Thank you.

I would like to begin now with a little more explanation on what will happen next. The first order of business for the panel will be to elect the chair, but my first order of business as the DFO is to give you some clarification on the procedural issues first followed by a reading of the ground rules for the panel.

Even before that, I'd like to ask that the panel members have an opportunity to introduce themselves to each other and the members of the public here today.

If we might start with Jim Weeks, please? Jim? You're free to say as much or as little as you'd like.

DR. WEEKS: My name is Jim Weeks. I'm an industrial hygienist. I've been working in the coal mining industry for about 25 years. That about does it.

DR. BRUNE: I'm Jurgen Brune. I'm a mining engineer by training. I have worked in the industry for 23 years and started with NIOSH in Pittsburgh. I am in charge of research of the prevention of mine fires, mine explosions, mine rescue and response and mine ventilation.

DR. MUTMANSKY: I'm Jan Mutmansky, Professor Emeritus of Mining Engineering at Penn State University. I've spent 32 years as an academic starting at the University of Utah and then at West Virginia University and finally the last 24 years of my career at Penn State. I'm allegedly retired.

DR. TIEN: Jerry Tien is my name. I have a little bit different background. I was educated overseas, got my mining degree in Taiwan and came to the U.S. in 1972 and, other than going to school, have been in the mining industry for about 33 or 34 years.

I spent two years working as an underground mining ventilation planning engineer for White Pine Copper, which was the largest underground mines at the time in upper Michigan in the 1970s. When the copper price went crazy, I decided to change my career to work for Peabody Coal Company. I was the ventilation specialist. I worked for Peabody from 1975 to 1985.

I went to Rolla, Missouri, in 1985. I've been there since. I've been involved in the mining industry and also more specifically ventilation for quite a while and have been also working on safety and ventilation issues in China and some other international projects.

DR. CALIZAYA: My name is Felipe Calizaya.

I'm originally from Bolivia. Just like Tien, I came here for graduate studies.

I graduated from Colorado School of Mines. After that I did some research work at various places, University of California-Berkeley and the University of Reno. After that I joined a mining company and worked overseas in Indonesia for Freeport. I'm working now at the University of Utah. I'm an associate professor.

MR. MUCHO: My name is Tom Mucho. I've been in the mining business for over 35 years. After the first time I graduated from college I began underground as a rank and file miner. I've been a section foreman, shift foreman, assistant superintendent.

I was superintendent of Mine 58 Marianna for 10 years. Following that I was superintendent and mine manager at Mine 84 in Pennsylvania. Following that I did research for the U.S. Bureau of Mines mainly in the area of ground control, but in other areas at that time, including ventilation.

I was senior mine engineer at Emerald Mine for a couple of years, and following that I was the chief of the Disaster Prevention and Response Branch, the same position that Jurgen now holds, for NIOSH for

seven years. I retired in March of 2005 from there and have been consulting since.

MS. ZEILER: Okay. Thank you very much. Now onto the clarification points, and here is why I want to provide them to you panel members.

Historically, at least in MSHA's experience with advisory committees, under the Mine Act of 1977 there's already a chairperson in place at the first meeting. This is not so for this technical study panel since it is governed by the MINER Act of 2006 so we will need to first elect a chair, and it's important that you all have a good understanding of the process before you choose your chairperson.

First let me explain my role. As the DFO, I am MSHA's agent for all matters related to the panel activities and have specific legal responsibilities under FACA that are included in your ground rules. Professionally I'm not a subject matter expert on the issues before the panel, and I do not have a vote on the panel. I am here primarily to make sure you receive all the support you, the panel experts, need to do your jobs.

The general purpose of the panel, as outlined in Section 11 of the MINER Act and in your charter, is to provide independent scientific and

engineering review and recommendation with respect to the utilization of belt air and the composition and fire retardant properties of belt materials in underground coal mining. Your report will be due by December 20, 2007, which is one year from the official date of this panel formation.

The charge of the panel is found in your charter, and it's fairly broadly defined. Mr. Stickler provided some additional guidance in his opening remarks, NIOSH is providing additional input to you today, and we trust your professional judgment in identifying more specific issues once you have listened to the presentations today and tomorrow, at future meetings and from the information that you may request from us.

In general, you may wish to divide the report into two sections, one addressing belt air and one on belt materials. It may help you to take a look at the structure of the Belt Air Advisory Committee report of 1992, which is Tab 8 I believe in your binder.

Your final report should contain majority recommendations, but may also contain separate minority or split decision reports if the panel is unable to agree on everything. This is a technical

study panel, so we are seeking advice and guidance that is driven by your analysis of technical data.

You will also have staff support available to you on the panel. Right now I'd like to introduce to you your staff to date, and I would ask the staff to please stand or wave when I call your name.

We have Bill Francart, Mining Engineer with MSHA Tech Support; Bill Knepp, who is the Assistant District Manager for Technical Services for MSHA Coal Mine Safety and Health; Mike Kalich, who is a Senior Mining Engineer for MSHA Coal Mine Safety and Health; Mike Hockenberry, who is a Fire Protection Engineer with MSHA Tech Support;

Harry Verakis, who is a Senior Projects Engineer for MSHA Technical Support; Mark Schultz, who is the Supervisory Mining Engineer for MSHA Technical Support; Rosalyn Fontaine, a Program Analyst with MSHA Tech Support; Hazel Haycraft, a Management and Program Analyst for MSHA Technical Support;

Debra Janes, who is in the back waving at the check-in desk, a Regulatory Specialist with MSHA Office of Standards, Regulations and Variances; and we also have Robert Timko, who is the Manager of the Monitoring Team for NIOSH; and here on my left is Matthew Ward, a solicitor from the Department of Labor

for MSHA.

Your staff is here throughout the process to assist you in anything you need to facilitate your work. You tell us what you need, and we will make every effort to get it for you involving speakers or any research material you might require.

How does the work get done by the panel? You are not limited to working on official meeting days, although all substantial decisions should be made on the record in an official meeting. You can take assignments back with you and, as outlined in the ground rules, can meet in subgroups on particular issues. You also heard that this morning as part of your FACA briefing. Between meetings, panel members can confer with each other as long as there's no meeting of four or more members apart from official meetings.

Finally, what is the job of the chair? In general, the chair keeps the panel discussions focused, facilitates the assignment of work and helps set some deadlines. He will also communicate with other panel members between meetings and transmit information and requests to me, the DFO, as necessary.

There are other specific duties of the chair also outlined in the ground rules. I would say more

important the chair of this panel in the final block of time tomorrow will need to lead the panel discussion and identify the range of issues the panel believes needs to be considered to address the charge, reflect among those and set some priorities for the agenda of future panel meetings.

Now I'd like to go through the ground rules with you. They are in your binder in the front, which will be followed by the election of the chair. These ground rules will cover the conduct of the Technical Study Panel on Utilization of Belt Air and the Composition and Fire Retardant Properties of Belt Material in Underground Coal Mining, also known as the panel.

The panel is established in accordance with Section 11 of the Mine Improvement and New Emergency Response Act of 2006 and the Federal Advisory Committee Act. The purpose of the panel is to provide independent scientific and engineering review and recommendations with respect to the utilization of belt air and the composition and fire retardant properties of belt materials in underground coal mining.

Membership. As required by Section 11 of the MINER Act, the committee will be composed of six

voting members, two individuals appointed by the Secretary of Health and Human Services in consultation with the Director of the National Institute for Occupational Safety and Health and the Associate Director of the Office of Mine Safety;

Two individuals appointed by the Secretary of Labor in consultation with the Assistant Secretary for Mine Safety and Health, and two individuals, one appointed jointly by the Majority leader of the Senate and House of Representatives and one appointed jointly by the Minority leader of the Senate and House of Representatives.

After appointment, each member shall serve until the dissolution of the panel unless he or she becomes unable to serve or resigns. Each panel member shall be provided with a list of the other members prior to the start of the panel's first meeting.

Meetings will be announced in the *Federal Register* and will be open to the public unless notice to the contrary is provided in the *Federal Register*. All observers will identify themselves and their affiliation by entering this information in a designated log.

Facilities and services. MSHA and/or NIOSH will pay the per diem and travel expenses of the

members in addition to compensation as specified in the charter. MSHA and/or NIOSH will provide suitable meeting rooms, appropriate support staff, as well as equipment and resource material. Expenses for experts, advisors or additional consultants may be paid at the discretion of the DFO.

Committee meetings. All meeting dates of the panel will be scheduled by a majority vote of the members and with the approval of the DFO. Changes in the panel's meeting schedule, once established, including extending time for discussion at a meeting, may be made by a majority of the committee or at the discretion of the chair. All changes in schedule or scheduling of additional time must receive prior approval of the DFO.

The time, place, date and purpose of all meetings shall be published in the *Federal Register* at least 15 days prior to the date of the meeting. This announcement shall also include a summary of the meeting agenda.

Timeframe. There will be no more than six separate sessions for panel meetings. Each session will consist of two or three day meetings. The sessions will be spread over approximately 240 days.

Quorum. A minimum of four members and the

DFO are required to be present to hold a meeting of the panel.

Agenda. The DFO will approve meeting agendas after consultation with members of the panel. Only agenda items will normally be open for discussion at each meeting. Any material submitted for consideration by the panel should be forwarded to the DFO for reproduction and distribution at least 20 days prior to the scheduled meeting. Should the panel want to discuss issues not on the agenda, approval of the chair and the DFO is required.

Caucuses. Members may caucus during a discussion at the discretion of the chair. The time allowed for caucus will be set by the chair. General Services Administration regulations allow for caucuses to be held to gather information, conduct research, analyze relevant issues and fact or to draft a proposed position paper for deliberation by the panel.

Transcripts. All meetings of the panel will be transcribed by a transcription service and used as the official minutes of the meeting. The transcript will include:

1) the date, time and place of the meeting; 2) a record of the persons present, including the names of panel members, names of panel staff and the

names of members of the public from whom written or oral presentations were made; and 3) a complete and accurate description of the matters discussed and conclusions reached, including reference to all reports or other documents received, issued or approved by the panel at the meeting.

The accuracy of the transcript shall be certified by the chair. The original transcript will be maintained by MSHA in the Office of Standards, Regulations and Variances and will be made available for public inspection and copying.

Voting. When a decision or recommendation of the panel is required, the chair will request a motion for a vote. Any member, as well as the DFO, may make a motion for a vote. Except where otherwise specified in these ground rules, decisions shall be made by majority vote.

Majority. A majority is a simple majority of the votes cast except that abstentions are not counted.

Tie votes. If they occur, tie votes on any recommendation will be considered a split decision and will be reflected as such in the panel's final report. Tie votes on any procedural decision necessary for the panel to proceed will be decided by the chair.

Proxy. A member who, due to illness or personal exigency, cannot attend a meeting may notify the chair or the DFO and request that another member of the panel be given his/her proxy. Each proxy counts as one vote.

Finally, role of the designated federal officer. The DFO serves as MSHA's agent for all matters related to the panel's activities. By law, the DFO must approve or call each meeting of the panel, approve agendas, attend all meetings and adjourn the meetings when such adjournment is in the public interest. The DFO does not vote.

The DFO is responsible for providing adequate staff support to the panel, including performance of the following functions: Notifying members of the time and place for each meeting, maintaining records and minutes of all meetings as required by law, maintaining the records of panel membership attendance;

Maintaining the official transcript of each panel meeting, maintaining official records and filing all papers and submissions prepared for or by the panel, and preparing and handling the annual comprehensive review and the annual report to the General Services Administration required by the FACA.

Now we come to the part where we decide upon the chair, so I'd like to ask if anyone would like to nominate someone to be the chair of this panel?

MR. MUCHO: I'd like to nominate Jan Mutmansky.

MS. ZEILER: All right. Do we have some agreement with other panel members?

DR. TIEN: I'll second.

DR. CALIZAYA: I agree.

MS. ZEILER: Great. Thank you. By voice vote we will accept Jan Mutmansky of the Technical Study Panel.

Dr. Mutmansky agrees, right?

DR. MUTMANSKY: I agree, yes.

MS. ZEILER: Thank you very much.

DR. MUTMANSKY: Thank you.

MS. ZEILER: Okay. Next on the agenda is an opportunity for NIOSH to present to you some material that they wanted to distribute for your review, so I would ask that Dr. Jeff Kohler come forward.

Dr. Kohler is the Associate Director for Mining in the Office of Mining and Construction Safety and Health for NIOSH.

DR. KOHLER: Thanks, Linda.

Good afternoon. After the passage of the

MINER Act we took a look at Section 11. We anticipated a need for the compilation of certain background research materials that we thought might be useful to the panel.

Over the past 20 plus years, the Bureau of Mines, as well as NIOSH, along with other agencies, have conducted a number of research studies that do have direct relevance to the decisions that you will need to make and factors you'll need to consider as part of your panel deliberations.

Toward that end, over the past several months we've pulled together and put into electronic form approximately 85 reports and technical papers, and in the packet that you've been given you have a copy of each of those on the USB stick.

If you'd prefer to have it on CD rather than USB, we can do that as well. In total it's several thousand pages of material, so we weren't inclined to duplicate it and pass it out at this particular meeting.

If you'll take a look in your packet, you'll find that there's a table of contents, a four sheet document, and you'll see that all of the relevant reports and publications have been divided into four categories -- the legal proposed rule related

documents, belt air references, belt flammability references and general references.

Now, in total, as I said, there are more than 85 documents there totaling several thousand pages. I realize that each of you has some expertise in this area, and indeed some of you have worked in this area for a number of years and your interests may vary.

But, I talked to a number of subject matter experts at NIOSH, some who had been involved in the research studies that led to these reports, and I asked them. I said if you could recommend to the panel perhaps a dozen or so documents that would provide maybe an initial starting point to survey the literature and come up to speed in a general sense, what would you recommend?

I'd like to go through the table of contents that you have starting with the page labeled Belt Air Reference, and I'd just like to point out for your consideration some of the documents in that section that you may choose to look at as a starting point.

Of course, there's the Advisory Committee report, which I think you have a hard copy of from MSHA's handout. The report entitled Dust Considerations When Using Belt Entry to Ventilate Work

Areas is a good, general starting point. The next one, Effect of Belt Air on Dust Levels in Underground Coal Mines, is also a nice piece of work for background.

Skipping down to Fire Detection for Conveyor Belt Entries and the two that follow, Hazards of Conveyor Belt Fires and How Smoke Hinders Escape From Coal Mine Fires. Skipping down a few more, Ranking Factors Impacting Survival During Coal Mine Fires. That would be it for that page.

Again, those would just be a suggested starting point. Based on your own experience, you know, you may choose not to re-read those.

On the next page, Belt Flammability References, the second, A Review of Worldwide Requirements for Fire Resistant Conveyor Belting, Comparing Fire Standards on Conveyor Belts, and finally on that page, Conveyor Belt Flammability Studies. Then under General References, the first one on that page, A Comparison of Mine Fire Sensors.

Again, as you get into your analyses, discussions and deliberations you may then find a number of these that I haven't mentioned to be of specific interest to find detailed or more detailed information. We provide that as background for you.

Then the final comment that I would make is that Bob Timko is serving as the NIOSH technical liaison to the panel, and if you find that you have a need for some additional specific information or you'd like some NIOSH interpretation or analysis of something in this literature or anything of a technical nature, Bob would stand ready to bring those requests back to NIOSH so that we could try and meet whatever technical information needs you might have.

MS. ZEILER: Thanks a lot, Jeff.

DR. KOHLER: Thank you.

MS. ZEILER: Next on our agenda we have a presentation jointly given by Bill Knepp and Bill Francart on the history of the belt air issue and rule making in MSHA, and I think Bill Francart will be the first one out of the block.

MR. FRANCART: Good afternoon. Can you hear me in the back?

As Mr. Stickler pointed out in his opening remarks, 2006 was a devastating year for the coal mining industry. The accidents at Sago and Aracoma have caused the Congress to develop the MINER Act. There is little doubt had Aracoma not occurred that belt air would not be studied under your committee.

The Aracoma accident is the subject of three

investigations that are ongoing. Two investigations have been completed. MSHA is conducting an investigation, also an internal review of the accident investigation, and there's a criminal investigation ongoing.

We will not be discussing Aracoma today. We're not prepared to do that. I do hope that in your future deliberations you will be wanting a briefing, a comprehensive and complete briefing on how belt air was or was not used at Aracoma and what that effect had on the accident. We will be preparing that briefing for you at a later date.

Today though we are going to discuss where we have been with belt air. It's an old issue. We need to know where we've been before we can go somewhere else I think, and that's what the first presentation will discuss.

If we can get somebody to reset the computer?

A little bit about my background in belt air. I was part of the committee that finalized the rule, the 2004 belt air rule. Mr. Knepp was the committee chair, and we will both be giving you a presentation on the history today.

I'm also on the Aracoma investigation team,

so I have a little unique background on that that we'll be able to provide you later.

This sure beats overheads, but the technology sometimes isn't real friendly.

DR. WEEKS: Bill, can I make a comment?

MR. FRANCART: Yes.

DR. WEEKS: I appreciate your comments about Aracoma, and I think the sooner we could get that briefing obviously the better.

MR. FRANCART: We'll have to discuss that with our Solicitor's Office --

DR. WEEKS: Right.

MR. FRANCART: -- on whether or not we can do that before the final report is out. We expect the final report to be out sometime after March 30. That's our expectation at this point.

The state report is published, and Davitt McAteer has published a report. They do not address belt air though as an issue. The use of belt air at Aracoma is a very complex issue. I think you need to have another briefing and not rely on those two accident reports to make any decision.

Again, if you do have any questions during the presentations today please don't hesitate to speak up. We'll try to answer them as we go. I think

that's a lot better way to handle questions.

Belt air used to ventilate active working areas of the coal mine was an issue when I was going to the sixth grade picnic. Back in 1969, the Act addressed the use of belt air -- not just belt air, but track air -- and specified that belt air could not be used to ventilate active working areas -- go ahead to the next slide, please -- unless it was authorized to be used by an authorized representative of the federal government.

In those cases it had to be a mine that was opened prior to the effective date of the Act, so pre-Act mines could use belt air if needed with approval. There was one other way that belt air could be used, and that was under a petition for modification of the rule.

The first petition was granted by MSHA in 1975 to use belt air under 75.326, which was the regulations that required separation of the belt and to not use belt air to ventilate active places. Section 326 became Section 350 in subsequent rulemaking in 1992.

Approximately 90 petitions had been granted by MSHA at the time that we did the proposed rule, and I believe there were some pending that were not

approved as a result of the final rule being finally passed. So we have two ways at this point before the final rule came out that you could use belt air. A pre-Act mine could still use belt air with approval of the district manager, and then you had the petitions for modification.

Now, the petitions had evolved over many years after the first one in 1975. There were different provisions that were required in the petitions, and we'll go through some of those today, but as time went on and research had been developed by NIOSH, the former Bureau of Mines, some of the accidents that we've had accident reports on we've learned from the history of using belt air and belt fires.

There were other provisions required in later petitions that weren't required in earlier petitions. For example, the earlier petitions that required the use of a CO system for fire detection required spacing of 2,000 feet on the sensors for a maximum. The later petitions now require 1,000 feet based on research that's been done by NIOSH, the former Bureau, under RI-9380. You have a copy of that document.

Also, warning and alarm levels have been

reduced from 10 and 15 parts per million in early petitions. Now they're down to five and 10 parts per million as a maximum, and we do have lower levels required in some of the petitions the way they were written, so even though these petitions have been superseded it's important to understand how the technology has advanced and how the requirements have advanced in those petitions.

Of course, the final belt air rule that was in effect in 2004, all petitions for modification were superseded in that rule so all the petitions went away.

Also, we decided that it was time to get rid of the pre-Act grandfather clause, so pre-Act mines were not permitted to use belt air without following the regulations under 350, 351, 352. That's where we stand today with the final belt air rule.

Jerry?

DR. TIEN: Just out of curiosity, were there still pre-Act mines around?

MR. FRANCART: At the time of the final rule surprisingly there were, and there still are today.

DR. TIEN: Thank you.

MR. FRANCART: I don't know what that number is, but we can probably get that number for you.

Next, we do have a little bit of a discussion here on a presentation that was made by Don Mitchell to the Advisory Committee, the original Advisory Committee, on a presentation he had given to some coal operator groups. The presentation of his paper was called Ventilation of Belt Conveyor Entries. He wrote that in conjunction with Bill Parisi.

He gives some history on the Act that is not included in some of the other documentation. Basically the Act was based on information of course that was available at that time, which does not I guess provide the level of protection we have today because technology was a lot different back in 1969 than we have today.

There were four research documents that Congress relied on in developing the Act in 1969. The first was Mine Fires and Their Control, and this was a study that was conducted based on 572 fires -- that's a lot of belt fires -- from 1952 to 1965.

The summary of that report specified three discussion points that were used in the congressional proceedings, only one of which was considered to be practical for implementation in coal mining, and that was limiting the air current in the belt entry.

Two others, one was abandoning trolley

haulage. That certainly wasn't practical. That was a staple for haulage in coal mines in those days. Electrical short circuit protection was required. Limiting air current in the belt entry was part of the Act.

Float dust was also an issue in the Act that was covered by a study that the Bureau of Mines did, a 50 mine study. They showed that the float coal dust levels deposited in belt entries was seven times as high as those in returns, which was remarkable. I think it's more of a question of a problem with dust control than a lack of control in the belt entry than anything else. You would expect that that's a rather significant difference, seven times the return.

That same 50 mine study was used for another paper written by the U.S. Bureau of Mines. They determined that there were lower concentrations of float coal deposits in returns if there was a higher air velocity in the return, so it was an inverse relation, and also that float coal dust was not raised into suspension by air velocities between 50 and 550 feet per minute.

The fourth study that was used by Congress is the Fire Hazardous Conveyor Belts. This is going to be covered more by Mr. Verakis in his presentation.

We're not going to get into the flammability of belt conveyors in this part of it, but this is the first document used in regulatory actions in belt air.

Air velocity in the Act was supposed to be limited to the level necessary to provide oxygen to miners and to control methane within the belt entry. The intent of the Act was to mitigate against fanning and propagating of fire and reducing the level of contamination of mine entries so that miners could escape mine fires and to reduce coal dust in the belt entry.

Fire detection technology in 1969 was limited to the point-type heat sensors. We know today that those sensors are very ineffective for detecting belt fires. Although we still allow their use under 30 C.F.R., Mr. Stickler today mentioned it may be one of the things you want to look at.

There are many people that believe that the heat sensors need to be replaced today. We're in the twentieth century. We're not in 1969 technology anymore. The belt air rule does require the use of CO systems, but, like I said, other mines that don't use belt air are permitted to use heat sensors.

The one accident report you'll see in your list of documents is the Dilworth Mine fire. That

accident report was written by Bill Wilson from District 2 in Pennsylvania. That accident report compares, because the mine had both heat sensors and CO sensors installed in the mine. It shows how the heat sensors failed to detect a fire and the CO sensors were very effective, so that's a very good reference for you to use, I think.

Mitchell has some conclusions in his paper, and you can read those in your copy, but his basic premise was that the use of belt air should have been allowed by Congress in 1969. I won't put words in his mouth. You can go back and look at his transcript if you'd like to see what he said, but it was more of a mistake to not allow use of belt air; that it really is a benefit to miners that we allow the mines to use belt air.

DR. MUTMANSKY: Bill, was Mitchell still a government employee at that time?

MR. FRANCART: No, he was not. He was a consultant at that time. He did do a lot of research in the early '60s for the Bureau which was used by Congress, but he was at that point retired.

He did believe that isolating the belt entry from the primary escapeway was key, as we still have in the regulations today, but velocity should be

consistent with safe mining practices. There was a limit of what velocity should be used in the belt entry, and that was a relative velocity that he cited between the movement of the belt and the velocity of the air within the belt entry.

He also said that the levels of 10 and 15 parts per million in the petitions should be reconsidered by MSHA, and we did in the final rule reduce that to five and 10 parts, and we also required that the levels could be reduced based on higher airflow quantities as was required in the petitions for modification.

Now, the petitions included the use of nomograph in RI-9380, later replaced by tables that were produced by MSHA in conjunction with NIOSH. We replaced all of that with the discretion of the district manager to use those as tools in developing what the alert and alarm level should be set at for particular mines.

Mitchell also said that the concentration of CO is based on both the size of the fire and the airflow in the entry. The smaller the fire, the lower the concentrations that are produced, but of course with the rising air quantities those concentrations are further reduced so you have a problem with the

dilution of the CO if you have the higher air quantities. That's why we require the lower alert and alarm levels.

Do you have any questions on that brief overview of the initial 1969 Act?

DR. TIEN: Bill, is Mitchell's paper somewhere in the packet?

MR. FRANCART: Yes. Yes, it is.

Okay. We'll move on to the later history. Mr. Knepp will start with his presentation.

MS. ZEILER: Before you start there, Bill, I just have one comment I'd like to read into the record regarding the Aracoma report.

To follow up regarding that remark made earlier, the Solicitor's Office has advised that due to the public access requirements of the Federal Advisory Committee Act, we would anticipate releasing the Aracoma report to the panel at the same time it becomes available to the public.

Bill?

MR. KNEPP: Thank you. My name is Bill Knepp. I'm Assistant District Manager in District 9 for MSHA out in Denver, Colorado. Unlike you, Doctor, I was told I was going to be chairman of the Belt Air Committee, so there wasn't much of a vote. It was an

interesting experience to say the least.

I like to really emphasize, and that's what I'm going to go over here in a bit, the Advisory Committee report, that rediscovering the wheel thing. I can't overemphasize probably how important that was to our committee and how much we used that as a guide in developing the regulations.

These first couple slides might be a bit elementary I'm sure for many here in the room, but we'll just define what we're talking about here. This is the typical longwall setup with all the intake on the left side as you see it.

The belt entry is obviously the dark line on the No. 3, the entry on the right. This air is going directly to the face, across the longwall face. Some of it splits and goes out the bleeder in the back and over to the return side.

Here's a typical development section, the same deal. This is belt air being used at the face again with the belt in the center and pulling directly to the working face and being used just like the regular intake air.

This comes right out of the compliance guide, which will be reviewed in detail tomorrow or maybe later today even. Here's an example. The first

one on the left, Example A, is belt air going to the face. Example B is belt air where they dump it right from the face down the tailpiece and back out. This is commonly used also, Example C, where you're not using belt air again and just dump it back out the belt.

We'll talk about or you will be involved probably a lot with point feeding, and particularly with Mike Kalich's presentation it becomes a factor. This is where we allow air to be brought in to the belt. This could be 8,000 feet outbye. It could be 4,000 feet outbye.

Our regulations address the need to point feed the belt. It's very difficult to keep that split separate all the way to the surface. You're kidding yourself from a ventilation standpoint if you try that in a large coal mine. So we do allow point feeding, but we require many restrictions when that is done if the air proceeds to the working face.

In this case you can see the blow-up on the right. That could be an intake escapeway where you take air off of it and into the belt, and we require sensors both in the intake upwind and in the belt upwind and also sensors inby, as you can see the red sensors inby, which would be both intakes at that

point.

I'll briefly touch on the historical background. This gives you a pretty good briefing. Through 1985 everything got really heated up and started when belt air was going to be included in the new ventilation rewrite, but it was somewhat of a controversial issue. We had public hearings. I was not involved at this time, but there was a lot of input of other parties, several parties, on concerns about the usage of belt air.

In 1989, MSHA came out with their report commonly referred to as the BEV report, belt entry ventilation review, and then in 1990, after all the comments on belt air and a hearing in Reston, Virginia -- let's go to the next slide -- it was decided that an advisory committee much like yourselves would be formed to study the belt air usage.

This committee was formed and did issue a final report, which I previously mentioned we looked at and studied very carefully, and I would say if there's anything mandatory reading required for you that report would probably be a good place to start.

Okay. Then in 1992, again after the ventilation rule was passed, a separate rulemaking was

placed on the agenda all the way back in 1992. However, nothing really occurred. I can't say nothing. I'm sure there was plenty of work.

I still was not involved at this time until 2001 when we formed a committee again and I replaced the previous chairman, and we took a hard look at the regulations again and got it rolling again and went through the rule process.

A proposed rule was published in January 2003, and again we had public hearings across the country and took into consideration many of the comments and did make some changes to the proposed rule.

Like I said, we reviewed the comments and then sent a final rule to the Policy Planning Board in November of 2003. The final rule was published in April of 2004 with a list of dates of when certain items in the regulations themselves would become final or would be required.

Okay. That last statement on there, we had a velocity cap at one time. However, that was vacated when some operators protested the method in which that cap was developed. I could touch on it a little bit even today.

There are other ways that are available to

the district managers to take a look at that factor when velocities become too high. Our regulations have a broad statement that all the fire suppression systems and detector systems must be compatible with the air velocity being used in the mine.

The district manager has the authority to lessen the sensor distance or require extra sensors wherever the district manager may want. Also through the ventilation plan process there's probably ways if we could justify that the velocity is too high in particular areas that we can address that through the plan review process, the ventilation plans.

Bill touched on Aracoma. All I would say about that is just reserve your judgment until you see the final report on what really happened there.

Some things to consider as far as advantages go. Of course, if you're utilizing the belt entry products in combustion obviously are going to travel toward the face quicker, but, on the other hand, they also are going to be detected a lot quicker even through the sense of smell at times. It's amazing how that can be detected through a mine.

Obviously it increases the efficiency of the ventilation system, and that ties in right with the next one. It allowed better ventilation or more

ventilation at the working face. The same thing with the third and the fourth one. Of course, with more air you can dilute more methane and respirable dust.

Yes, sir?

DR. BRUNE: Other than through the nose, what would speak for quicker detectibility when you went towards the face?

MR. KNEPP: Just the velocity itself with CO detectors. I'm talking about if you have something burning 2,000 feet outbye, if the air was going the opposite direction or real low velocity and you had a CO sensor downwind it may take a longer time for the contaminants to travel to the sensor. I'm just talking about the velocity through the belt.

DR. BRUNE: Thank you.

MR. KNEPP: I think this last thing is very critical too for the western mines where I'm particularly from because we have a lot of mines under 1,500 feet to 3,000 foot of cover, and it's just not a good practice to develop a lot of entries.

The lesser the entries, you can start to combat and try to control the outburst in bouncing conditions. That became a big factor out west in a lot of the deeper mines on trying to ventilate the mines and utilize every entry without having to

develop a lot of entries. Particularly if you get over 2,000 feet to the 3,200 range, which we've had, bounces become the number one factor. It's a real factor.

We already touched on this. These are some of the documents. Particularly the first one played a critical role in our consideration in developing the regulations. The history of granted petitions, which Bill Francart is going to pick up and do a little bit more, gives you a little bit more information on that. Of course, we reviewed and looked at accident reports and various research documents in proposing the reg.

Okay. This is the report itself. I'm going to just briefly discuss each of the recommendations. It's somewhat cumbersome, but I think it probably needs to be read in detail.

Okay. The first recommendation, they actually were supposed to kind of look and see if the belt air can be used or what was needed to use belt air at the face. They actually took the threshold question and took a look at whether belt air should be allowed to be used at the face at any time, whether it can be used.

They studied that question first -- go ahead, Bill -- and basically came up with, as this

unfolds here, the next recommendation and a bunch of items under Recommendation 2. You'll see that they felt that belt air could be used at the face if you follow maybe like 25 items here that they touch on.

The main heart of it and gist of it was an operative AMS system, atmospheric monitoring system, and making sure miners were properly trained and can properly react to this AMS system. That's just what I talked about. Our regulations require under 350, 351 and 352 in great detail the use and response of an AMS system as one of the parts of the requirement of the regulation.

These next items are all items under the second recommendation. I think there's 14 of them. Actions required before using belt air must include ventilation system, as you can read, train miners and personnel for installation, maintenance operation -- go ahead, Bill -- and have MSHA inspect.

All these items are addressed in our proposed regs, including the training detail and also, of course, MSHA does inspect these every quarter as part of a regular inspection and even then some above and beyond that as needed. Some districts use their electrical inspectors. I know we do out in our district.

Okay. Item 2. Go ahead, Bill. I think there's two flashes each time. You may as well just throw them up there. Both of these items are addressed in our regs and also under 1100-3, Item 4 I think, on that four hour requirement.

Okay. Minimum velocity/location of sensor recommendation. All these items, the 50 foot per minute velocity and the sensor spacing, were followed and also all the items you see here plus -- go ahead, Bill -- we also addressed if you fall below the 50 foot in any area you need to decrease the sensor spacing to 350 feet. There was a fairly recent -- 2002, I think -- study that indicated that even in zero air velocity sensor spacing of 350 feet would give you alert and alarm levels of a fire.

Okay. They recommended section alarms. Provide visible and audible warnings capable of being seen or heard by all section personnel. In our rule we did differentiate between alert and alarms. Alert just goes to the surface. That's the five part. The surface person has to notify a responsible person to investigate it immediately, the cause of the alert.

Alarm condition. It alarms on the working section where a miner could either see or hear it. At the same time it alarms on the surface, and at the

same time the surface personnel will direct somebody to go to the working section.

If for some reason the alarm doesn't work in the section or nobody hears or sees it, you still have a second means where we're sending somebody there to check out the alarm and notify the people in the working sections.

Okay. Item 5. There's a whole list of requirements on the responsible person at the surface at all times and some of the things they have to have -- the two-way communication, be thoroughly trained and be able to take appropriate action.

Again, you'll see that all these provisions are either addressed in the 350, 351, 352 regs or in the firefighting evacuation or mine emergency evacuation plan. There's been a lot of changes in that area here in the fairly recent history on emergency preparedness.

Okay. Again, Item 6. Go ahead, Bill. All these actions are included in 352. As I said, there is a little difference between alert and alarm. Under alert, miners withdrawn to a safe location was the recommendation. We elected not to do that. That is one thing that wasn't totally adopted. We do it under the alarm situation, but under alert again the person

on the surface will notify appropriate personnel, investigate that alert and take appropriate action.

Under the alarm you have two systems. One, the section alarm visually, a flashing probe, and also a horn or sound alarm goes off on the section. In addition to that, appropriate personnel are dispatched to investigate the alarm and also to notify the miners at the working section.

Okay. Actions on the surface are included in what the responsibilities are -- I've kind of touched on them already -- under 352. There are three sections, 350, 351 and 352. Section 352 is the part where you react to the alarms. Section 351 is really the nuts and bolts of the system and what has to work and what it has to do.

Okay. We have taken a look at a nuisance alarm. We do allow for delays through the ventilation plan if they can demonstrate to us, and this is mainly there's some problems with diesel even though that has gotten a lot better because of the upgrade in the diesel engines themselves for starters. That has really probably been the biggest progress made.

A lot of these mines will use administrative controls approved in the ventilation plan where they limit the number of diesels traveling in a haul road

and will notify the section when there's somebody in the haul road. There's also diesel discriminating sensors that we feel pretty good about and have been pretty effective.

We've made I think a lot of headway in mines that use diesel equipment. You still have some cases maybe where there might be some welding or something like that going on, and again the person on the surface is to notify the working section and let the miners know that there's a possibility that that alarm may be going off and keep on top of that situation.

Again, there's been some recent regs, particularly in our emergency evacuation and firefighting program, that address these issues on what actions are to be taken, who's to be withdrawn, who's to stay. I think it's quite detailed.

As long as miners and the operators properly train their personnel, I think the plans and the procedures that are out there to address emergencies are as good as probably can be addressed if they're properly trained.

Okay. All these provisions on calibration testing examinations have been included in our regulations.

Okay. AMS malfunction. We've also

recognized this possibility. Of course, that's right in the Advisory Committee report too. We've made it pretty comprehensive. If there are sensors that aren't working, the operator can do the examinations manually even though it's quite cumbersome. They're going to want to get the system fixed pretty quick instead of having the belt continuously patrolled or a person at each location of any malfunctioning sensor.

Okay. The ventilation map requirements posted at the mine. This has all been adopted in the regulations.

We took comments on slippage switches and really never received much comment on it. We have not included a requirement to include slippage switches in the AMS monitoring system.

Of course, they're still out there and they do their thing automatically. They'll be turning the belt off. Believe me, the mine operator will know when the belt is turned off, and I'm sure alarms will be going off then. This is one item we did not adopt and require the slippage switches be included as part of the AMS system.

Smoke sensors should be installed on all belts. Smoke sensors I think at one time we were pretty optimistic might be developed. Maybe you want

to talk on it more than I do, but they haven't really caught on too big. There's a few out there.

MR. FRANCART: NIOSH had done some research. MSA had developed a smoke sensor, and there's some other smoke sensors that really didn't meet the requirements that NIOSH had set forth as far as the detectibility limits of smoke, and they really aren't commercially available at this time, so we didn't include them in the final rule, in the belt air rule. They may become commercially available in the future though.

MR. KNEPP: However, we do have all belt drives monitored with CO sensors and whatnot, as you will see.

MR. MUCHO: Back to the slippage switches, Bill. A question.

When you're saying included in the AMS system, was MSHA talking at that time as part of a system to react, to trigger things, or just talking monitoring, purely for informational purposes?

MR. KNEPP: I think what we were after and maybe what they were after was that the slippage switches are functional because I'm saying once the slippage switch cuts out the belt and takes it out, I mean, you're going to know. Everybody is going to

know as soon as the belt goes down in a coal mine. That's probably better than an alarm system.

We looked at it a little bit. Slippage switches are either on -- I mean working -- or the belt is going to be down, plus they're examined every shift as part of the belt examination and looked at. We just didn't see much benefit of what you were gaining from monitoring the slippage switch.

If a slippage switch would go out, they probably could tie that into the CO alarm system, the AMS system, and tell you that you have a slippage switch down, but I would think your belt line would probably be down at that point the way it's tied in. If that happens, everybody knows.

MR. FRANCART: Integrating that switch into the system you would know if there would be slippage on the belt, but we didn't see a real benefit to knowing that there's slippage on the belt.

If the slippage switch is malfunctioning that's a problem that is not going to be something you can detect with a CO system. Like Bill said, it's either working or not working. If it's not working, you're not going to get a positive signal from the slippage switch that means anything to you.

MR. MUCHO: So you're not talking about and

the background isn't in your mind that there's another monitoring system that's going to tell you that it's out on slip?

In other words, when you talk about the AMS system you can be talking a lot of things. A lot of people of course use the monitoring system to monitor conditions other than atmospheric conditions and things like belt monitoring, et cetera, et cetera, et cetera. You're saying you don't see a concern to monitor slip switches in any way?

MR. FRANCART: Monitoring the slippage switches themselves.

MR. MUCHO: Right.

MR. FRANCART: No, not a benefit to that.

MR. KNEPP: Backup communications were recommended, and again the rule does include a backup communication, a second way of communication in a separate entry.

There was some discussion and concern here that really ties in. Basically bottom line is that your CO sensors and spacing were not going to be compromised by velocity. You know, too much air could make it hard picking up. Of course, that will lessen the CO concentration.

However, again there are other means that we

have through the ventilation plan, and also the district manager has authority to ask for more sensors. Also, the district manager can lower the alert and alarm levels.

I don't think we ever came across that situation yet to where there's so much air through the belt, and we also restrict that to 50 percent of the total intake. No more than that can be put through the belt anyway. By losing that case in Court there, it really doesn't hurt the bottom line I don't feel very much on the velocity cap.

Okay. Back to the recommendations. The rest of them don't have the 14 items under each recommendation.

Miners should be trained, and we adopted that. New miners can't even go in a mine that's using belt air until they've been trained in the AMS system and how it works, what it's there for and that kind of thing. The same with the people responsible for the maintenance and examination. They have to be trained.

We didn't adopt that the AMS operator had to do a competency test, but the bottom line is to be trained. If we go to a mine and find that the person just doesn't know what they're doing, I think we have authority to take some action there from an

enforcement standpoint.

Recommendation No. 4, in mines using AMS as a condition for using belt air, the minimum air velocity in the belt entry must be 50 feet a minute. Again, I touched on this earlier. We adopted that standard, and in addition to that we have addressed the situation where there are some situations sometimes in a certain area of the mine where you may drop below that velocity. If that occurs, then the spacing distance can't be any greater than 350 feet a minute.

Okay. As far as the approval of the system itself, the system is required in all components of the AMS to be listed and certified by a nationally recognized testing laboratory, a NRTL as we professionally called it, or be approved for use by the Secretary. We have not had any big issues develop to date on CO sensors, their performance and whatnot.

Recommendation 6. Velocities, both minimum and maximum, must provide air that will contain methane within the limits and contain dust within the limits. This item and actually I think the next one also talk about methane layering, Bill, I believe, are easily addressed through the current regulations we have, our ventilation system methane dust control

plan, and the numerous other regulations that limit the respirable dust.

The rule does require a designated area for respirable dust in the air split, in the belt air split, be kept below one milligram. That monitoring position has to be near the tailpiece. We also have regulations that don't allow more than one percent of methane anywhere around in the belt entry. The regulations are there. The requirements are there.

Okay. We initially developed lifelines. Of course, recently the new MINERS Act requires lifelines in detail in both escapeways. We required it in return escapeways, the alternate escapeway in the return.

Okay. Recommendation No. 9 talks about the overall ventilation system. It is important to try to balance and develop a ventilation system to where you can keep the integrity of the primary escapeway as clean as possible and as separate as possible.

The committee itself talked about the mines not using belt air. They found and identified many problems with mines that were trying to ventilate back down the belt. They end up inadvertently air gets to the working section anyway, or return air was being drawn into the belt. If you read that report, they

discuss some of those issues.

I think it's probably easier again if you commit to using belt air to be able to keep it separate. With all these monitoring systems that we have required through the AMS system, I think it gives us a pretty good overall safety aspect in keeping the integrity of the intake escapeway.

We did not address this in our rulemaking. That will be discussed later either I think today or tomorrow on flame resistant belting.

Okay. The five and the 10. We adopted these as far as the minimum alert and alarm levels, five parts and 10 parts per million of ambient.

Okay. Again, this is just a matter of enforcement, Recommendation 12, on increased emphasis of belt entry cleanup and conveyor maintenance. All the regulations that are needed are there as far as in the regulations for mandatory standards on coal accumulations and whatnot.

MR. FRANCART: We'll discuss some of the petition for modification requirements that we reviewed in the rulemaking process.

The experience we've had with the petition process has been very valuable to the rulemaking process, and we have included many of the provisions

in the later petitions. I believe that we've improved the protection at many mines from the earlier petitions as a result of the final rule.

Nearly all of the requirements of PDOs that were issued over the last 20 years have been included in the final rule. There are some exceptions, and we'll talk about those now.

Many petitions required automatic activation of section alarms for any sensor within 4,000 feet of the working place. The final rule goes beyond that and now requires that any sensor outbye the section must be capable of activating automatically the section alarms. It's not just 4,000 feet. It could be 20,000 feet.

We also included a provision in the final rule that required any two sensors in consecutive order in alert status would be treated the same as an alarm, which would require withdrawal of miners out to a safe location. This goes beyond any petition language.

Alert and alarm levels, like I said before, were in many petitions required to be set from tables that were developed from RI-9380. We did include that five and 10 part per million maximum alert and alarm level and again require lower levels in some

instances.

Those same tables in the petitions allowed a maximum air quantity of 202,000 cfm. If you can imagine a belt air course with that kind of airflow in a coal mine, it would be an incredibly high velocity.

We don't have any limit in this rule on air quantity or air velocity, but we do have other protections, like Bill mentioned before, on ways that we can reduce alert and alarm settings. We have a ventilation plan approval process that allows us to pull ventilation plans if there are unsafe conditions in a mine based on ventilation.

The final rule also included provisions that must require the air velocities in the belt entry to be compatible with fire detection and fire suppression systems. CO sensors are tested by nationally recognized testing laboratories to work in velocities between zero and 1,000 feet per minute, maybe up to 1,200 feet per minute in some cases. Fire detection systems can operate CO sensors in that range effectively.

We had an issue at the VP-8 mine, and you'll see in that accident report if you read it an instance where a fire suppression system, which is a dry powder system, was used at a belt drive. We had some reports

that were given to us during the investigation and the interviews of miners that that system, because the velocity was so high, blew all the powder downwind of the drive and was not capable of extinguishing a fire at the drive.

We decided as a result of that investigation that we needed to have some protection in here to make that provision that the air velocity would be capable or the fire suppression system would be capable in those velocities.

There is research ongoing at this time. I don't know if Harry will discuss that or not, but we won't be discussing that today. We are conducting research at this time to determine what velocities are compatible with the fire suppression systems.

DR. TIEN: Bill, would you explain the maximum air quality of 202,000 cfm again? What does it mean?

MR. FRANCART: That was developed from RI-9380, Jerry. The nomographs that were produced in that document, if you do the calculations you'll find that the maximum air quantities that you can use according to that document are over 200,000 cfm.

The tables that we developed from that nomograph included the maximum air quantity of 202,000

cfm. Above that level you would have to use smoke sensors in the petitions. We don't have smoke sensors available at this point.

We didn't include a maximum air quantity. We did include a maximum air velocity. We do account for higher air quantities in the reduction of alert and alarm levels in the ventilation plan approval process.

DR. TIEN: I'm not familiar with that particular report, but I'm having a difficult time reading the first line, 202,000 cfm.

MR. FRANCART: That is a provision of the petitions.

DR. TIEN: And a velocity cap of 500 feet per minute?

DR. BRUNE: No. That's independent of it.

MR. FRANCART: Well, the 500 foot air velocity cap was in some petitions. Very few petitions had an air velocity cap, but the final rule did include a 500 foot per minute velocity cap, which of course was later taken out.

MR. MUCHO: Bill, wasn't the 202,000 a section cap? It wasn't a belt line cap, was it?

DR. TIEN: Yes. That's my question, too.

MR. MUCHO: Yes.

MR. FRANCART: I believe it was the air course quantity.

MR. KNEPP: Maybe tracking the belt?

MR. MUCHO: It was a section cap, I'm pretty sure.

MR. FRANCART: I don't think it was, but we can take a look at that.

There is no maximum air quantity for section ventilation except in an extreme case. I wouldn't expect MSHA would ever have a maximum air quantity for a section. If somebody wanted to use more air than they needed, we'd be more than happy to see that.

Many petitions had methods specified in the petitions for determining ambient CO concentrations. In the final rule we did not insist on any particular method to be used because we feel that there are more than one method available for a mine operator to determine what the ambient concentration is.

If somebody came to us and said we have zero parts per million ambient, we'd be hardpressed to say no, we're not going to accept that because that would certainly be on the safe side because alert and alarm level are based on the level above the ambient concentration.

If somebody came to us and said we want 10

parts per million, we'll have to say what's your documentation and why do you need that kind of an ambient level? We did have some ambient levels as high as 25 parts per million in some of the petitions years ago. They have since gone away.

There was also a requirement in many of the petitions to conduct a study on multiple entry use when the belt entry is in common with more than one other entry. We did not require that in the final rule, and that is addressed on a mine-by-mine basis in the mine ventilation plan approval process.

Some of the petitions had a mine design requirement to protect the intake escapeway. Some of the petitions required the pressure differential be from the primary escapeway to the belt at all times. Some required a maximum 50 percent quantity for the second in the belt air course.

We agreed to accept that in the final rule as a method for assuring that you would have a balance between the intake escapeway and the belt entry as far as pressure differential. We know that you cannot require the pressure differential be from the escapeway to the belt air at all times. It's just not going to happen.

There were also some intake escapeway

restrictions on equipment. We didn't require any of that in the final rule because that was all covered under other regulations under this 30 C.F.R.

Bill already discussed the minimum velocity of 50 feet per minute, and we do have that John Edwards study that probably NIOSH has on their list of documents for you. That was a very helpful study.

There were many operators that did not want to use CO systems basically because MSHA would cite them for having less than 50 feet per minute. We had no relief for them, so we went to NIOSH and asked them is there anything we can do as far as a research project. They came through big time for MSHA on this and for the mine operators.

One very significant issue that I want you to pay close attention to when it comes to Aracoma is the automatic activation of alarms for sections on the same split. This was the language that was included in many petitions. It was any sensors in the same split.

We had modified that language in the final rule to be any affected areas because we believed that there were some areas that would be affected by a fire that may not be on the same split of air, so that language is in the final rule, and it is an

enhancement over the petition language.

Nearly every petition required the use of fire resistant belting when it became commercially available. Because that final rule never went into effect, we could not require that in our final rule.

Lifelines and escapeways. There were some petitions -- not many -- that did require lifelines to be installed in escapeways, and we did require them only in the return alternate escapeway, but now they are required in both the intake and the alternate escapeways by other regulations.

In conclusion, the final rule does closely track the Advisory Committee recommendations, and it does include most of the requirements in existing petitions at that time and in fact goes beyond many of the requirements in the petitions.

We believe that the final rule has the potential for improving health and safety while providing cost savings to the mining industry, especially coal mines that must use belt air to be in operation. You'll have some operators I'm sure tell you that they cannot operate their mine without using belt air.

If you have any questions, we'll try to answer those. Jurgen, you go first.

DR. BRUNE: This is a little early to do this, but could you elaborate some more on the statement that you made that you cannot require fundamentally that the belt entry or the intake be pressurized over the belt?

MR. FRANCART: For a mine today to just change their ventilation system to comply with that rule would be a monumental task. I just can't see how it could happen, Jurgen.

You have point feeding that supplies air to belts, and if we're going to allow the ventilation system to be operated through leakage rather than control we're going to have major problems. We don't want to see that happen.

To require that pressure differential in every location in the mine just is not practical. We can't have inspectors out there with magnahelics taking pressure drops across every stopping. If you have a good stopping line, eventually that pressure differential is going to reverse again.

That's what you're trying to get rid of is the contamination in that primary escapeway from a fire in the belt entry, and as long as you have a good stopping line, it's been maintained properly, installed properly and you minimize the effects of the

pressure differential.

We don't want a large pressure differential from the belt to the intake escapeway, but we don't want to say that you have to write a violation of the regulation based on a one-thousandth inch drop from the belt to the intake when we know that three stoppings ahead it's going to reverse and go the other direction.

DR. BRUNE: Thank you.

MS. ZEILER: Yes?

MR. MUCHO: Bill, mine is a follow-up question on that topic. If you don't mind, Felipe, I'll jump ahead of you.

On pressurization, the 1992 Advisory Committee also talked about what I'll call postevent pressurization, pressurizing the escapeway in the event of an event through parachutes and other things talked about. Then I see nothing in the history after that.

Do you know what happened to that idea, concept, et cetera?

MR. FRANCART: I really don't know what happened to that, Tom, if it got lost in the shuffle.

It can be used very effectively I think in some cases, but we don't want to have people making

ventilation changes unnecessarily during a fire because, as you know, if you make the wrong change you can cause an explosion. We've had that happen during mine rescue events.

We don't want to cause a bigger problem than we have if we don't need to. If you needed to escape that would be an issue that maybe needs to be taken up on a mine-by-mine basis, but to require that in every mine I think is setting a dangerous precedent myself, though it is a possible tool.

MR. MUCHO: Of course, we have the point feeding automatic closing now with the present rule. I would just point that out.

MR. FRANCART: We do. We don't require that the point feeds be closed. That is, they must be able to be remotely closed. They aren't closed as a result of a fire.

We felt that you needed to have a remote access to that door in case you did have a fire in your intake escapeway that you get to it to close it if needed, but we are not certainly endorsing ventilation changes if you don't know what those effects are going to be during a fire.

Felipe?

DR. CALIZAYA: My question deals with

stoppings, quality of stoppings. I think in the report you mention about location of monitors, air velocity, but you mention anything about quality of stoppings and leakage. That's an issue. I'm sure you've touched that. Can you elaborate a little bit about it?

MR. FRANCART: Yes. Stopping construction is an issue. Of course, it is covered by other regulations within 30 C.F.R., so we didn't feel that there was a need for additional regulation in the belt air rule.

We have done a lot of work on stopping leakage, and we know that they must be sealed on the higher pressure side. They have to be constructed properly. Those issues can be covered in the regulations and within the mine ventilation plan process. That's where we expected them to be handled.

Yes?

DR. WEEKS: I'm impressed. There has been 25 years of studies and committees and rulemaking and lawsuits and et cetera. What can we add to that? I mean, what's your sense? I guess you and Bill Knepp and Jeff Kohler.

We'll ask the question to ourselves, of course, but what is your sense of what needs to be

fixed?

MR. FRANCART: I think the Aracoma report and the briefing that you get will give you a key to what my feelings will be on that. I'd like to give you that opinion at that time.

I think there is probably room for some improvement within the regulation as far as belt air goes, the use of belt air. I think there were some other improvements that needed to be made.

The use of heat sensors I think is something we should not accept in coal mining today because they just are not effective to be installed along the belt entry. Mr. Mitchell has done considerable work on that. You'll see that in his documentation.

Beyond that, I really would like to hold my comments on the belt air rule until we give you the Aracoma briefing.

DR. WEEKS: What about Bill, wherever you are?

MR. KNEPP: To tell you the truth, I don't know how much I'm free to comment on the situation. I'll give you a general comment that won't cause too much trouble. I think it's a pretty damn good rule and is pretty comprehensive.

MS. ZEILER: Bill, you need to step up to

the microphone actually. Thank you.

MR. KNEPP: You know, we put a lot of work in it. We looked at a lot of different documents, and I think we made a lot of progress from the old days under 326 -- that's for sure -- and with the improved technology on CO sensors.

Of course, it all depends on the mine, the mine operator and the training too. You can have the greatest set of golf clubs in the world. You've still got to be able to swing them, right?

The same thing with this rule. I think it's all there that needs to be there, and if it's properly implemented and the miners are trained and they stay on top of it and with the evacuation procedures I think the system should work.

As Bill said, there probably are some areas that we can maybe improve on. Maybe if I get the okay we can talk about that later some, but I feel we accomplished a lot. It's pretty extensive I think, as you can see here. It's a pretty complex rule and requires a lot to be able to use belt air.

DR. WEEKS: Does Jeff Kohler have anything to add? Where is Jeff? Is he still here? There he is.

DR. KOHLER: What was the question, Jim?

DR. WEEKS: It's sort of a global question. I mean, I'm just looking at this long history. Many people have addressed this issue. It's been debated and cussed and et cetera, et cetera.

I just want to get some sense from the people that have some knowledge about the rule about what kinds of things need to be fixed. What is it that we're supposed to do? Do you have some sense about that? We'll figure it out ourselves, but I want to pick some minds here also.

DR. KOHLER: Well, I guess that I wouldn't want to presume to tell the panel what your job is, but I think that in coal mining health and safety there are often tradeoffs, and there are things that we do in mining and we establish layers of protection to improve the health and safety for mine workers.

I think this is a quintessential example of the tradeoffs in the application of a practice which has the potential to increase safety and health, but if not applied correctly could in fact decrease safety and health.

I think that the expectation of this panel is that you will review the existing regulation, the body of research and the practices and then make an independent assessment and judgment about in what

context does it make sense to apply belt air. That would be my short answer to that question.

MR. FRANCART: Any other questions on this first presentation?

(No response.)

MR. FRANCART: Thank you.

MS. ZEILER: Okay. Thank you, Bill and Bill.

I'd like to suggest we take a 15 minute break at this point and maybe reconvene at 3:00.

(Whereupon, a short recess was taken.)

MS. ZEILER: If we're ready we can restart.

Mike Kalich will now continue the discussion in giving the background and history of MSHA's interest in belt air.

MR. KALICH: Hello. My name is Mike Kalich, and about 90 minutes ago I found out I was part of your staff. Maybe I should start and give you a little bit of background information about myself. You may not want me on the staff.

MS. ZEILER: No, that won't happen.

MR. KALICH: I've been in the mining industry 30 plus years. I began my career with U.S. Steel mining and worked as a coal miner while I attended West Virginia University and graduated in

1974 with a degree in Mining Engineering.

I subsequently went to work for U.S. Steel mining. I worked as a mine foreman, section boss, supervisory electrician, assistant superintendent. I held a number of jobs with them. I am also a certified electrician and former emergency medical technician. I also hold a certification as an elevator inspector and am a former mine rescue team member also with U.S. Steel and with MSHA.

I went to work for MSHA in 1987 and have been employed with them since. I started in Morgantown, West Virginia, as an electrical inspector and worked in Mount Hope, West Virginia, also. I came here to Washington, D.C. three years ago to work in the Division of Safety as a mining engineer. I also have a Master's degree in Safety Engineering from Marshall University. That's pretty much my background information.

Some of the slides I have here are duplicates. I don't know who stole from who, but anyway there's a little bit of background, but we already went over that so I'll just skip through that. I don't think we need to hear that again.

Some of the advantages of using belt air, as we've discussed, allows for quicker detection of any

fires. It represents a potential cost savings for new mines because you need fewer entries and results in lower mining and ventilation cost.

It increases the efficiency of the ventilation system and can allow for greater quantities of the air to be used at the face. When used to increase the total quantity of air, it dilutes methane and respirable dust. Also, the downside to that is it also takes some respirable dust from the belt line and possibly takes it up to the working section, so that is a problem in some mines.

Also, we have some mines that have large methane liberation rates, and the liberation from the belt entry is such that there's a few mines that can't use the belt air at the face because the methane is too high. If you take six or seven-tenths methane up to the face off the belts, you're soon gassed off at the face, so that sometimes is a limiting factor in using belt air at the face.

To get into a little bit of the regulation itself, this is just really an overview of the regulation. It doesn't go into every aspect of the current regulation, but is a summary of the belt air rule that's currently in effect.

75.350 says that the belt air course cannot

be used as a result, and it retains the requirements for separation from the intake and the return entries with permanent ventilation controls and allows use of belt air to ventilate the sections as long as certain requirements are met.

The belt air usage requirements are to install and operate and maintain an atmospheric monitoring system meeting the requirements of 75.351. There's also a training requirement required, establish designated areas for dust monitoring, monitor primary escapeway for CO or smoke, and the sections must be developed with three or more entries.

Let me add that I have as an inspector inspected and tested a number of AMS systems from various manufacturers and found that the systems are very reliable and provide for early detection of fires in the belt lines.

The two entry longwalls that we have out west, and I believe we have maybe three or four operating right now, they require a 101(c) petition to use the belt air at the face because naturally the standard is written for three entries or more, and the two entry longwall still require a 101(c) petition.

The latest petitions that have been issued include all of the requirements of the new belt air

rule plus some additional requirements on top of that even, so they're even more stringent than the belt air rule itself.

Those are a couple slides that we saw before. It's just the typical longwall section that shows the intake air coursed up the belt mixes with the intake escapeway and the secondary intake and is coursed across the longwall face. That slide just shows a typical development section with the belt air mixing with the intake air and being coursed across the face.

Point feeding. Point feeding is covered under 75.350, and point feeding is permitted with the following precautions. You must monitor the point feed for CO or smoke. You must monitor the belt air course for CO or smoke.

You must have means to remotely close the point feed regulator. You have minimum velocity requirements through the point feed, which 350(d)(5) requires 300 feet per minute, and that's in the ventilation plan, through that point feed regulator.

The locations approved in the mine ventilation plan require an AMS system installed, operated, examined and maintained naturally.

75.351, the AMS operation. It establishes

when an AMS must be operated and when a designated operator has to be on duty. One of the key things here is that the AMS operator must be properly trained, and he must respond to all these signals. Problems arise when the AMS operator isn't properly trained or doesn't properly respond to the signals.

The designated location and the operator requires the mine operator to designate a surface location. It specifies the duties and location of the operator, requires a schematic or map of the sensors and requires names and method to contact key personnel.

There are also requirements there for two-way communication systems, the maps required to be updated within 24 hours of any changes that might be made and a number of other requirements that I haven't outlined here, but they are contained in the full version that you can find in 30 C.F.R.

Continuing on, 75.351, minimum operating requirements. It requires that the signal is on the surface, that there's automatic signals. If there's malfunctions, it requires automatic alerts on the surface. It requires automatic alarms on the surface and at the section and at other locations that are approved, and some are contained in the vent plan or

the 1502 plans.

It requires the system to identify the operational status of all AMS sensors. 351(d) specifies the location and installation of the sensors and addresses specific location within an entry. The location of the sensors is 351(e).

The belt air course. Spacing requirements for belt air is 1,000 feet spacing. It permits lower velocities with reduced spacing. You can have 300 foot spacing with velocities under 50 feet a minute. The district manager also may require additional sensors.

351(f), location of sensors in the primary escapeway. There's requirements for CO sensors required within 500 feet of the start of the section and required within 300 feet of the face or the loading point on the section, so as the section advances you will have a CO sensor at the beginning of the section and a CO sensor near the loading point is generally what you find in the primary escapeway.

Locations of sensors. 351 also addresses location of methane sensors, smoke sensors. It doesn't just deal specifically with belt air. It deals with the AMS system as a whole because the AMS system can be used for other functions other than belt

air.

The AMS system, you can use it in the returns to monitor return airways, section returns where it will allow you to exceed the one percent limits in the section returns, allow you to go to 1.5 percent, various other uses for the AMS system.

Some of the questions that you asked Bill about the AMS, typically in the mine you'll find that the AMS system will also monitor slippage switches. If a belt goes out on slip, the majority of the operators have that capability and it's hooked into their AMS system, so it will pop up on the screen on that AMS operator that hey, I've got this belt out on slip. That's what took it out.

They monitor short-circuit and overloads. If a belt trips out on short-circuit, trips out on overload, trips out on ground fault that will also pop up on the screen. The majority of the operators have that capability so that they will know what happened with the belt so it doesn't just monitor smoke. It also monitors a number of other functions with the belts.

Fire suppression. If fire suppression goes off a lot of the systems will tell you that. I mean, it's not a requirement in the law, but to get the full

utilization of the AMS system they will set their system up to be able to utilize these capabilities.

Of course, you can use sensors in the returns, which would be methane sensors, sensors in electrical installations, CO or smoke, to comply with 75.340 regulations.

351(i) establishes alert and alarm levels. For methane it's one and one and a half. For CO it's five and 10. For smoke it's .022 optical density per meter. That's some of the levels for alert and alarms. Also means to establish ambient levels. They're contained in the ventilation plan.

Installation and maintenance. Required system to be installed and maintained by trained people, maintained in proper operating order. Sensors, nationally recognized testing labs or Secretary approval.

There's also provisions for time delays. It permits time delays of up to three minutes to be used. In a lot of cases with diesel equipment, mines that use diesel equipment are permitted to have time delays. Also as Bill had mentioned, administrative controls for their diesel equipment to limit the amount of diesel equipment that may be on a section at any one time.

Examination, testing, calibrations. There's a visual exam required each shift, a functional test required every seven days, calibration required every 31 days in accordance with the manufacturer's specifications. Different manufacturers might have a little different testing procedures, so you would follow the testing procedure for the particular manufacturer of the sensor that you may be using.

Concentration of the test gas has to be sufficient to activate the alarms and calibration gas certified traceable to NIST standards.

Recordkeeping. Records required for alert and alarms malfunctions, seven day test calibrations, maintenance. The person entering the record must include his name, title, the date of the record, the signature. It establishes an AMS log. It can be a book, can be a computer generated type of a file, with a one-year retention period.

Also training is addressed. AMS operators must be trained annually. The record must be maintained for one year. It includes the content of the training, the person that conducts the training, date of the training.

There's also requirements for communications. A voice communication system and the

AMS system must be installed in separate entries.

Required responses. It gets into 352, 75.352, and requires what is required when you receive an alert for an alarm. 352(a)(1) addresses alerts and notification of appropriate personnel by the AMS operator. Alarms would require notification of appropriate personnel, including the miners on the working section and at other areas that may be affected.

352(b), identify the sensor and initiate an investigation if you do get an alert. If you get an alarm, identify the sensor, initiate investigation and initiate the firefighting and evacuation procedures, so if you have an alarm, if you get an alarm, you must initiate the mine evacuation procedures and the firefighting procedures.

There's also responses for methane sensors, which would require you to identify the sensor, conduct an examination and follow your required actions that are required under 323.

75.352(d), immediate actions to return the system to the proper function and establishes procedures to manually monitor the belt air course while you continue belt operation. If you have a sensor malfunction or a number of sensors malfunction

there are various established procedure that you would need to go through in order to continue to operate the belt. You'd have to patrol the belt. You'd have to have people available with handheld CO detectors and patrol or monitor it.

If it's a single sensor, you would monitor at that single sensor location. If it would be a number of sensors then you'd have to patrol the belt through the area that's affected. You could continue to operate the belt line in that instance until you effect the repairs of the system.

Ventilation plan requirements. Under 75.371 there are some requirements that are included in the ventilation plan that's affected by this belt air rule, and it adds six requirements to the ventilation plan approval.

They are a designated area for dust sampling, location of the point feed regulations to be included in the vent plan and approved in the vent plan, additional CO sensors in the belt course if required by the district manager.

The time delays are to be addressed in the ventilation plan. The reduced alert and alarm settings are also to be addressed in the vent plan, and alternate instrument and alert and alarm levels

for monitoring under 75.352 is also addressed in that plan.

We also have the mine ventilation map, 75.372, and the location and the type of the required AMS sensors are included in the mine ventilation map, and then we have the escapeways, the 75.380 section, and that addresses the use of the point feed regulators.

Some of the costs. You have cost savings from using belt air, and the cost savings are primarily from reduced air horsepower requirements for the fan, possibly delay some shaft sinking cost. You might not have to put as many shafts into the mine.

Eliminate the cost of filing and litigating petitions for modifications of the existing standard. Since the standard went into effect, all the petitions have went away except for the two entry petitions, so it reduced the cost of filing for petitions.

Also some safety benefits that we have. By requiring the use of the superior AMS systems and the CO sensors it's a definite safety benefit. The systems provide for an early warning fire detection. This capability will save lives and save mine property.

The use of the belt air with the AMS

provides mine operators with cost savings, detection of fires before significant damage occurs, possibly avoiding the cost of sealing a mine or mine recovery cost, and certainly saves lives also.

It's also a vast improvement over the point type heat sensors, which are still permitted to be used, but the AMS systems and the CO sensors are vastly superior to those point type sensors.

Also, the lowering of the alert and alarm levels to five and 10 parts per million also play a big part in the safety benefit of it.

That brings me to the overview of the compliance guide, so --

MS. ZEILER: Yes. We've kind of reached a natural break point in Mike's presentation. It's a two part, the requirements of the belt air rule and the compliance guide, which probably would be better as the first presentation in the morning.

Do you have any questions for Mike on the belt air rule?

MR. MUCHO: Yes. Mike, you said and I've read where MSHA is talking about the two entry systems that go on to say that there are additional requirements in the petitions for the two entry mines.

What is MSHA saying there? Are any of those

additional requirements related to belt air or belt air kind of issues, or are you talking about, yes, these petitions go on and talk about other things not related to belt air?

MR. KALICH: Well, the petitions go on and talk about other things. I don't know. I would think there's a nexus between that and the belt air possibly.

Some of the things that come to my mind, and without having one in front of me to do a comparison some of the things that come to my mind is the use of the PED systems. The mines out west that are using the two entry have some type of wireless communication system which enables the men to be notified of any sensor alarms. Any diesel equipment even that enters a section the men are notified of it.

Some of the other things that come to mind are the tailgates that are on intake air, so it provides an additional means of escape off the section. That's a couple of the big issues that come to my mind right away, additional requirements that are in those two entry petitions.

Bill, does anything else come to mind?

MR. KNEPP: Well, I would say you ought to mention that fire suppression on the diesel equipment.

MR. KALICH: Yes. There's automatic fire suppression required on diesel equipment. That's another big one.

Naturally with the petition process it also allows us to take a harder look at requiring extra sensors, reduction of alert and alarm levels. There's a number of things in there.

Does anything else come to mind right off the top of your head? I mean, if I just sit down and look through it word-for-word I'm sure there's some other things in there that I've left out.

MR. MUCHO: I just wondered in a general way. I was sure it would take a more detailed answer. Thanks.

MR. KALICH: Yes?

DR. BRUNE: Just one understanding question. The two entry systems, do they automatically ventilate belt air to the face or to the return?

MR. KALICH: To the face.

DR. BRUNE: To the face.

MR. KALICH: Yes. You only have the two entries, so you have the belt and the primary intake escapeway --

DR. BRUNE: Yes, I understand.

MR. KALICH: -- are both located on the

headgate side, and then they run a separate intake split up the tailgate side to provide another means of escape.

DR. BRUNE: And while they're driving on development? Is that the same?

MR. KALICH: When they're driving on development, the belt is the only intake and then you have the return. Yes.

DR. BRUNE: Okay.

MR. KALICH: Yes.

MS. ZEILER: Any other questions for Mike?

(No response.)

MS. ZEILER: Okay. Before we adjourn for the day I would ask the chair, Dr. Mutmansky, do you or the panel have any other requests of the staff for tomorrow?

I've got the contact name and numbers list you asked for. Anything else?

DR. MUTMANSKY: I have no other requests at this point in time. I think we can discuss over dinner tonight any other things that we feel that MSHA might be able to help us with.

We are going to do our very best tomorrow to try to set goals for the next perhaps meeting or two meetings so that we will be able to enable the MSHA

staff members to help us for those meetings.

I have no other questions. Anybody on the panel who would like to ask questions at this point in time?

DR. WEEKS: Well, just an administrative thing. I think it would be useful for all of us on the panel to have contact information for each of us.

MS. ZEILER: Right. That we will get for you tomorrow. Okay. Great.

DR. MUTMANSKY: Any other thoughts? Any other thoughts from the panel?

DR. TIEN: So far, so good.

DR. MUTMANSKY: Okay. Linda, back to you then.

MS. ZEILER: Okay. Great. Thank you very much. With that we'll adjourn for today and pick up tomorrow at 9 a.m. Thanks.

(Whereupon, at 3:40 p.m. the meeting in the above-entitled matter was recessed, to reconvene at 9:00 a.m. on Wednesday, January 10, 2007.)

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REPORTER'S CERTIFICATE

DOCKET NO.: --

CASE TITLE: TECHNICAL STUDY PANEL ON THE UTILIZATION OF BELT AIR AND THE COMPOSITION AND FIRE RETARDANT PROPERTIES OF BELT MATERIALS IN UNDERGROUND COAL MINING

HEARING DATE: January 9, 2007

LOCATION: Washington, D.C.

I hereby certify that the proceedings and evidence are contained fully and accurately on the tapes and notes reported by me at the hearing in the above case before the United States Department of Labor, Mine Safety and Health Administration.

Date: January 9, 2007

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