TRANSCRIPT OF PROCEEDINGS

IN THE MATTER OF: )
) )
PUBLIC HEARING ON PROXIMITY )
DETECTION SYSTEMS FOR CONTINUOUS )
MINING MACHINES IN UNDERGROUND )
COAL MINES )

Pages: 1 through 53
Place: Denver, Colorado
Date: October 18, 2011

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IN THE MINE SAFETY AND HEALTH ADMINISTRATION

IN THE MATTER OF: )
 )
PUBLIC HEARING ON PROXIMITY )
DETECTION SYSTEMS FOR CONTINUOUS )
MINING MACHINES IN UNDERGROUND )
COAL MINES )

Denver, Colorado
Tuesday
October 18, 2011

APPEARANCES

MSHA Panel:

PATRICIA W. SILVEY, DAVE CHIRDON, MATT WARD, JOHN
ARRINGTON, WILLIAM BAUGHMAN

Speakers:

ARIC PRYOR, President, Matrix Design Group
PHILIP ROSENSTERN, Associate Electrical Engineer,
Joy Mining Machinery
MIKE BERUBE, CEO, Strata Worldwide
P R O C E E D I N G S

(9:04 a.m.)

MODERATOR SILVEY: Good morning. My name is Patricia W. Silvey, and I am the Deputy Assistant Secretary for Operations for the Mine Safety and Health Administration.

I will be the moderator for this public hearing on MSHA's Proposed Rule on Proximity Detection Systems for Continuous Mining Machines in Underground Coal Mines. On behalf of Assistant Secretary of Labor for Mine Safety and Health, Joseph A. Main, I would like to welcome all of you here today.

I would like to introduce the members of the MSHA Panel at this time. To my right, Dave Chirdon, who is with MSHA Approval and Certification Center and Technical Support and is the team leader of the Rule Making Committee. And to his right, is John Arrington with Coal Mine Safety and Health and who represents coal on the committee. To my left, Matt Ward, who is our lawyer on the project with the Department of Labor's Office of the Solicitor, the Mine Safety Division, and to his left, is Bill Baughman, who is with the Office of Standards.

In response to requests from the public, MSHA is holding public hearings on its Proposed Rule.
for Proximity Detection Systems for Continuous Mining Machines in Underground Coal Mines. This is the first public hearing on the proposal. The second hearing will be held in Charleston, West Virginia, on Thursday, October 20th in Washington, Pennsylvania, on the following Tuesday, October 25th; and Evansville, Indiana, on the following Thursday, October 27th.

The purpose of this hearing, as many of you know who have participated in MSHA rule making, is to receive information from the public that will help MSHA evaluate the requirements and the proposal and produce a final rule that will improve safety conditions at underground coal mines.

As most of you know, the hearings will be conducted in an informal manner. Formal Rules of Evidence will not apply. The hearing panel may ask questions of the speakers and speakers may ask questions of the panel.

Speakers and other attendees may present information to the court reporter for inclusion in the rule making record. MSHA will accept written comments for the record from any interested party, including those who do not make oral statements.

We ask that everyone in attendance sign the attendance list, and it seems as though everybody has
done that.

MSHA is proposing to require the use of proximity detection systems on continuous mining machines in underground coal mines according to a phased-in schedule. The rule would help protect miners from pinning, crushing, and striking hazards that result from working too close to continuous mining machines in underground coal mines.

The proposed rule would also establish performance and maintenance requirements for proximity detection systems and require training for miners conducting installation and maintenance of these systems. The proposed rule is an important part in the Department of Labor's "Plan, Prevent, and Protect" strategy for protecting workers.

MSHA requests comments from the mining community on all aspects of the proposed rule and is particularly interested in comments that address alternatives to key provisions in the proposed rule. Commenters are requested to be specific in their comments and submit detailed rationale and supporting documentation for any suggested alternatives.

At this point, I would like to reiterate some of the requests for comment and information that were included in the preamble to the proposed rule:
1. As stated in the proposed rule, MSHA proposes to phase in the use of proximity detection systems over an 18-month period. Continuous mining machines manufactured after the date of publication of a final rule would be required to be equipped with a proximity detection system three months after the date of publication of a final rule.

Continuous mining machines manufactured on or before the date of publication of a final rule would be required to be equipped with a proximity detection system 18 months after the date of publication of a final rule. The Agency requests comments on the proposed compliance dates, considering the availability of systems, the time necessary to process approvals for proximity detection systems, and projected time needed to install systems.

2. MSHA proposes to require the use of proximity detection systems that cause a machine to stop no closer than 3 foot from a miner. The continuous mining machine operator would be allowed to be closer than 3 foot only when the machine is cutting coal or rock. However, the proximity detection system would be required to prevent contact with the machine operator. MSHA considered proposing other specific stopping distances and considered proposing a
performance-oriented requirement that would not have included a specific distance.

MSHA requests comments on this proposed provision, including whether a greater distance or a performance-based approach would be effective alternatives to the proposed 3-foot stopping distance requirement.

3. Some proximity detection systems on continuous mining machines are installed to stop machine tram movement and the conveyor swing function when the system is activated while permitting other machine movement, such as rotation of the cutter head and movement of the gathering arms. MSHA requests comments on whether all movement should be stopped or under what, if any, circumstances it would be acceptable for continuous mining machines to continue moving.

4. The proposed rule does not cover full-face continuous mining machines. A full-face continuous mining machine includes integral roof bolting equipment and develops the full width of the mine entry in a single cut, generally without having to change locations.

The Agency is interested in whether full-face continuous mining machines should be equipped
with a proximity detection system and, if so, why.
And, again, please be specific.

5. Each of the three proximity detection systems approved for underground coalmines in the United States require use of a miner-wearable component. These systems cannot detect a miner who is not wearing the component.

MSHA solicits comments on which miners working around continuous mining machines should be required to have a miner-wearable component.

6. Most proximity detection systems alert miners who get within a certain distance of a machine before causing machine movement to stop. This provides an added margin of safety and is consistent with most standard safety practices. The Agency recognizes that the use of a proximity detection system that causes frequent machine stops can result in: Frustration to miners; miners ignoring warnings; and can possibly lead to unsafe work practices. MSHA believes that an appropriate warning signal is necessary to optimize the safety of miners when a proximity detection system is used.

MSHA requests comments on this provision, including whether a greater distance or a performance-based approach would be effective alternatives to the
proposed 5-foot stopping distance requirement for the
warning signals.

7. MSHA's estimates of the benefits and
costs of the proposal are given in detail in the
Preliminary Regulatory Economic Analysis and
summarized in the preamble. MSHA requests comments on
the proposed estimated benefits and costs.

As you address the proposed provisions,
either in your testimony today or in your written
comments, please be as specific as possible. We
cannot sufficiently evaluate general comments.

As I said earlier, please include suggested
alternatives, including those of a performance-based
nature, your rationale, the benefits to miners, any
technological and economic feasibility considerations,
and data to support your comments. The more specific
your information is, the better it will be for MSHA to
evaluate and produce a final rule that would be
responsive to the needs and concerns of the mining
group.

You may submit comments following the public
hearing by any method identified in the proposed rule.
Comments must be received or postmarked by November
14, 2011.

MSHA will make available a verbatim
transcript of this public hearing approximately two
weeks after the completion of the hearing. You may
view the transcripts of all the public hearings and
comments on MSHA's website at www.msha.gov and on
www.regulations.gov.

We will now begin today's hearing. If you
have a copy of your presentation, please provide it to
the court reporter. Please begin by clearly stating
your name and organization and spelling your name for
the court reporter so that we will have an accurate
record.

Our first speaker today is -- and my paper
says no one. It really doesn't say no one, but I
don't have anyone on my papers. So with me seeing all
these people in the audience -- and you're not putting
all this down in your record, I hope. You can stop
right there for now. I'll tell you when.

(Off the record.)

(On the record.)

We will go back on the record.

MR. PRYOR: My name is Aric Pryor with
Matrix Design Group -- that's A-R-I-C, P-R-Y-O-R --
Matrix Design Group, and this is Phil Rosenstern with
Joy Mining.

MR. ROSENSTERN: That's P-H-I-L,
MR. PRYOR: And we, I think like the rest of the audience, came out here to hear what was said today and help prepare our written comments. So we don't have a prepared presentation. We do have some comments that we can share on some of the points that we think are important on the proposed rule. Again, we haven't put this in formal -- in writing, so it may not come off as well as it's going to when we submit the proposal to you so --

MODERATOR SILVEY: No, we understand.

MR. PRYOR: But just in the interest of being good sports here, we're trying to maybe spark some other folks to talk.

A couple of comments. You know, obviously, we've been working on proximity detection, Matrix has, since 2005, partnered with Joy in 2009, now, the system is licensed by Joy. We have a lot of interest in the rule and how it plays out.

A few of the concerns -- and, Phil, jump in any time you want or stop me if I say something -- is on the 3-foot -- the absolute 3-foot stopping the machine within 3 foot; we see that as -- as tough to control from our part. You know, we have a system,
you know, fairly similar to the competition's when someone gets in, quote, unquote, the red zone, we institute an -- open a relay; we stop function of the machine.

What we do right now is the way our relay's wired; we stop the tram and the boom movement. All we can do is when I say stop those movements, is disable the functions of the miner. We cannot control if the miner continues to move. My point on this is if --

MODERATOR SILVEY: And when you say "the miner," you're talking about the machine.

MR. PRYOR: Yeah, I'm sorry. The machine. I'm sorry.

MODERATOR SILVEY: Please -- because this has happened, just so all of you all know, in other situations -- and I know that when you talk about -- when you speak to the miner, I know you're talking about the machine, but some people looking at this, lay people, they take it to be the mine -- the person in the mine --

MR. PRYOR: Okay.

MODERATOR SILVEY: -- and that's the only reason I'm saying that, yeah.

MR. PRYOR: We'll make that clear. Okay.

So when we --
MODERATOR SILVEY: Okay.

MR. PRYOR: -- on the continuous miner, on the operation of the machine, when a person or operator encroaches on the red zone, our system disables function of the continuous miner. And what it does, basically the relay opens circuits that inhibit tram function and boom.

If the machine is sitting on a bad bottom or uneven grade, we can't control what happens due to physics from gravity, and the machine would keep moving. With this being said, the 3-foot -- we have no way of -- no matter how large our red zone is aside from if the machine has proximity detection, totally never letting it move, we have no way of ensuring that we can stop it from moving.

So in our proposed -- we'll propose something back to MSHA on how we think it should read. I don't have that thought out yet as to how it should be written. But the bottom line, we can stop -- we can tell it to quit tramming, but there are higher powers than us that will cause it to keep moving downhill or keep moving if we try to stop it. With that being said again, to reiterate, we could make it a red zone of 50 feet. When someone encroaches upon that red zone, if that machine's on a grade, we can't
ensure it stops.

So that's -- that's kind of overly --

overly -- overbearing on us --

But anymore on that, Phil?

MR. ROSENSTERN: Yeah, I mean, I would also

like to add that, you know, the electromagnetic
technology, you know, it's not one hundred percent
guaranteed that every time it's going to -- basically,
it's going to read the tag the same.

The personal-wearable device may be read
differently at different times based on environmental
conditions or even some height can vary it. That
could affect this 3-foot stopping distance even on
perfectly level ground.

MR. PRYOR: And I think -- I think there are
ways around that, and that's basically enlarging the
red zone. If it just said you have to disable machine
function when the person gets within 3 foot, then 3
foot may not be the right number because you're going
to have -- the machine's still going to have inertia;
it's going to move forward potentially after you
breach that red zone.

So we'll have to take into consideration the
anomalies, the air, and the system to adjust for that;
but I think our system is not a lot different from the
competition's. It's not a perfect absolute distance
to signal measurement all the time. It's very
repeatable in certain environments, but it is possible
to interfere with it.

That brings up another point, the comment, I
think it's Number 5, must be installed such that no
interference -- hold on. Let me see if I can find it
here.

Yeah, be installed to prevent interference
with or from electrical systems. So that's Number 5.
I think I know the intent of that. It sets that it's
installed so that it doesn't -- that it still
operates. I think that's pretty vague and broad
saying that it cannot -- there cannot be any
interference from other systems. Because if I install
it on this table, there would be interference of some
sort. You could get into the science of it and
everything's going to interfere with it. Everything
on the miner has interference with something else.

So, you know, we'll propose verbiage on
that, something like, must be installed such that
electrical interference from other devices doesn't
inhibit functioning or, you know, alter the
functioning of it.

So that's kind of -- I think I understand
the intent of that, and I understand the intent of the
3-foot, too. I know it's hard to sit and write a rule
like this and cover everything, and that's our purpose
back as the inventors and the manufacturers and,
hopefully, the operators to comment back on how it's
going to tie the hands of the -- tie the hands of the
operators.

Because when it comes time for MSHA
inspector enforcement to be out there, they've got a
tough job, too. They're going to have to come out
there with a yardstick or a tape measure to measure
this, and it's going to be open to a lot of
interpretation.

So what else is high on our list?

MR. ROENSTERN: Well, the stopping distance
for the continuous miner operator. The fact that it
is -- the machine must stop before it comes into
contact.

Currently, we have no way of knowing the
position of the conveyor boom. If this -- you know,
if it has to stop before it comes into contact with
the operator, then either the operator must be
completely excluded from the area around the conveyor
boom, which is typically where he performs his mining
practices and that's where he can get in to see the
base. He's also out of the way of the shuttle cars.

The other thing is some sort of sensor on
the conveyor boom and, right now, there is no such
sensor that can be reliably placed there just due to
the harsh conditions.

MR. PRYOR: All right. That brings up one
more comment after Phil.

Phil mentioned that, you know, we -- since
we've started working on this project and have
advertised and preached this to be a training system
to train operators to stay out of the red zone, and I
think even the intent of MSHA in the rule making by
calling it a proximity detection system and not a
protection system is clear that somebody at some point
thought the same thing.

I think there's a lot of -- a lot of people
that expect this system to be a fail-safe, always-
going-to-work safety system. I think it's important
that we treat it as a training tool and we train the
operators to stay out of the red zone and not train
the machine to stop when someone encroaches on the red
zone.

The warning zone, I think, is important for
that to be that first feedback to the operator that,
hey, you're, you know, approaching the red zone, and
then the shutdown be the "F" on the report card that means they got into it, and slowly train the operators to not get in that red zone and not rely on the system for a -- it's not a lanyard; it's not a -- I mean, even with a hard hat on, you don't get under -- you don't get under things that could fall on you.

Safety glasses don't always protect you. I weed eat my -- around my lake and I can put safety glasses on and inevitably every time I use them, something flies up underneath them. Now, I don't throw them away and say, this system isn't valuable anymore, but I know their limits.

So I think it's important that somehow we portray in this rule that it is still up to the operator of the machine to ensure their safety. This system is strictly to help them learn those areas.

What else you got, Phil?

MR. ROSENSTERN: Oh, in addition, I mean, just by using the system, it's -- you know, he's not going to be in a tight spot where he can start the machine tram towards himself. I mean, there's where a lot of the pinching and fatalities occur is when he's in a tight location up against the rib and he accidentally turns the machine the wrong direction for example. Well, I mean, just by having proximity
detection, whether it's 3 foot or it's more or less, he's not going to be able to get into the tight spot where he can enable the machine tram.

And one of the other issues we have is the functionality that gets disabled when there's a red zone breach. Currently, we just -- as Aric said, it's just a -- we do the conveyor swing and tram. If every machine movement was disabled, it would cause a significant impact on production, as well as operator frustration.

I mean, what would eventually happen, I mean, most likely it would be the drop of a pump. That would require a pump restart and then to turn the cutters back on, there's a pre-start delay on that and there's -- it's several -- you know, probably close to 15 to 20 seconds every time, and that would have a significant impact on the production. And then, of course, it would be frustrating trying to find ways to defeat it.

MR. PRYOR: Yeah. And we -- you know, miner operators are very, very sharp. They will try, unfortunately, to continue to do their job. If we impact them to where it's detrimental to their job, you know, they're going to -- they're going to get creative. We have to -- I don't think we should not
put the system on the machines. I think we just got
to be careful and consider all the downside of it for
that and treat it as a training system to train them
to stay out of the red zone.

We're not for shutting off the cutter, you
know, and we'll comment on that, too, in our written
response. We -- looking at the statistics, we don't
see from our study that the accidents aren't happening
around the cutter during cutting mode.

Now, if you go into the maintenance side,
you see the accidents that have happened around the
cutter. There's really no way to ensure the person's
going to walk up there and work on the cutter on the
maintenance side of it. I think the system needs to
be a system when the machine is set -- you know, place
changing, setting from place-to-place and not
necessarily to protect them when they're in
maintenance mode. Since the personal-wearable device,
like you mentioned, Pat, in your opening comment, you
can't tell when the person has it on them or not. It
can only protect them if they have it on them.

I think we're going to open up ways for
people to figure out ways to not have their personal-
wearable device when they're doing maintenance so --

MR. ROSENSTERN: Well, along those lines, we

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do require that there's at least one in the area for
any --

MR. PRYOR: For it to operate.

MR. ROSENSTERN: -- you know, to be enabled
so that helps deter it. But if there are two people
in the area and only one person brings theirs, you
know, then only one person can stop the machine when
they get nearby.

And the other major issue that we have is
the time line. Three months is a stretch. It's not
impossible. The 18 months would be impossible to get
all -- to install the system properly. It requires
significant fabrication work, as well as cabling
requirements. That's to make the system licensed in
performance functions.

We can't get all miners out of the machines
for rebuild within that 18-month period. The mines --
you know, a lot of machines are in there for four or
five years sometimes; and if they have just shipped
recently, there's not going to be any practical way to
install the system on there.

MR. PRYOR: Yeah, I think those point on the
three months. I know we kind of saw some eyebrows
raise, but that one's not as arduous as the 18 months.
We can manufacture the product. We can manufacture as
many as we need to put it on every machine in the 18 months.

The problem is shop time, scheduling of getting it through the shops. I think even if you have not looked at all of our competitors' capacities, but between Bucyrus, Phillips Rebuild and all the different rebuild shops and Joy, I don't think it's feasible to even run them all through a shop in 18 months. Even if they were scheduled to be through, I don't think you could get it done.

So -- and I say here, I don't think that. I haven't sat and put the numbers down and ran all the calculations, but in my simple brain, it doesn't seem like it's feasible.

MR. ROSENSTERN: I mean, I can say that we're just about out of rebuild slots anyways for the next 18 months. And that's -- I mean, we're only talking a couple hundred machines that will be coming through.

That's all we could install then. I mean, we could do it on every machine that comes through but that's -- I think if worked out, we could install about 30 to 40 percent from a manufacturing standpoint.

Now, from a training standpoint and
commissioning and verification standpoint, it's going
to be even less. I mean, we have a large service base
and training base that, you know, goes out in the
field. But to train properly for the systems used and
to even train our service guys to service the systems
and maintain it, it's going to end up taking
significantly longer than 18 months for all machines.

MR. PRYOR: I can't think of anything else, can you? I don't see people standing in line behind
us to talk. Hopefully, we warmed --

MODERATOR SILVEY: Thank you.

MR. PRYOR: Hopefully, we warmed it up for
somebody.

MODERATOR SILVEY: Yeah. I have a few
comments.

MR. PRYOR: Sure.

MODERATOR SILVEY: First of all, and as an
overall comment, thank you for coming up, but -- and
the second one would be -- and you did say this at
various points. When you made various points and that
is when you send in your written comments, please be
specific if you propose an alternative.

For an example, to the 3-foot -- to the
phase-in schedule. Please be very specific.

And, right now, I'm going to talk about the
phase-in because I'm thinking about it. And when you are specific, you said, I don't have the numbers, but you just think. But if you could include the numbers to support why you think the 18 months is impossible, including all the requirements that would have to be done including the training and the -- as you said, the retrofitting, the time, you know, there are so many units out there -- so many machines -- continuous mining machines. Now, I'm talking about that are manufactured prior to date of the rule, these would need to be retrofitted. They would take so much time. They would need to be scheduled over a certain amount.

I'm telling you now, but include all those things in. The training would have to be done because, otherwise, we cannot -- as I said in my opening statement, we cannot do a property valuation of your comments if you don't have all those things in there for us to take into consideration.

Now, back to your specific comment -- and I'm going to use a word you said on the second page. You used "absolute" where you're still talking about the 3-foot distance. And I -- that's funny. I wrote that down on my first page. And I was saying, in a way, you are more -- when you were talking about the machine, you can't control the machine movement if the
machine is sitting, depending on where the continuous
mining -- was depending on where it's sitting.

Then I wrote down that you were treating the
-- you were talking about the 3 foot as an absolute.
But in terms of the example you gave me that the
continuous mining machine may proceed with some
movement after, you know -- after you have told it to
stop, in my humble opinion, I'm thinking that you --
that this movement is a de minimis movement. Is that
you or not -- and I guess in most situations -- let me
put it this way, and I'm not sure -- in most
situations, it would be de minimis movement. It would
not be any movement that would be a lot of movement
generally. Or am I wrong?

MR. PRYOR: I think for the most part that
that's true.

MODERATOR SILVEY: Uh-huh.

MR. PRYOR: But there are times, and it's
probably a very small percentage of times, I throw out
the number of 95 percent of the time, the machine's
going to stop within a certain distance based on, you
know, inertia and, you know, it's not going downhill
all the time.

MODERATOR SILVEY: Right.

MR. PRYOR: But there are times -- and I've
seen the machine stop. You try to stop them and they just -- and they shift sideways. They slide. They -- you -- we just can't control -- my point is we can't control where the machine's sitting and the bottom -- the conditions of the bottom or the -- the degree of angle that the bottom is. So it makes that tough.

So I'm just saying most the time, we can put criteria around it to say, okay, we'll take into consideration the errors of the system, the potential anomalies; we'll move our red zone out a foot or two to adjust for that. Now, our red zone may be 5 feet from it, but there will be times that we can't -- it might be very few, but there will be times we can't control how far it goes once you tell it to stop.

MODERATOR SILVEY: And not to put anybody on the spot here, but in terms of the units that you have, in terms of the continuous mining machines where you have your systems on them, I assume you have some -- and I probably should have known this before I asked -- I assume you have some in the U.S. mines.

MR. PRYOR: Correct. We have between us and Joy, 41.

How many do you guys have, four?

MR. ROSENSTERN: We have eight.

MR. PRYOR: You have eight installed until
now? So 37 -- we have 45 systems installed in the
U.S.

MODERATOR SILVEY: Okay.

And in terms of this first issue that you
raised, and you said you can't control the stopping
distance. As I said, I wrote down when you look at 3
feet, you are thinking about that as an absolute, 3
feet, like hypothetically, if an inspector were to
come out at the very moment that you had to activate
the system. But with respect to the ones that you
have in use in mines, how often do you see that
happening in terms of that movement and percentage
wise of the time --

MR. PRYOR: Well --

MODERATOR SILVEY: -- like 5 percent of the
time or --

MR. PRYOR: -- I think we're going to have
to study that because, right now, what we do is we
build the red zone around the machine. We, as Matrix
and Joy, decide what that red zone is based on our
best knowledge of how the system works and because the
operator, the customer, who has the machine, they
don't really want to tell what the red zone is, nor do
they like the red zone that we tell them either.

But -- so we prescribe that to them and then
we don't really study much how far the machine keeps moving. We just -- we keep logs of how often they've encroached on the red zone and breached the system, but we'll have to study that to get that number. Now, we have done studies --

MODERATOR SILVEY: Okay.

MR. PRYOR: -- on how far the machine moves once you disable tram, and it varies whether it's on concrete in the shop, rock in the parking lot, or mine bottom. So we'll come up with some numbers on that.

MODERATOR SILVEY: Okay. And even how far it moves after you disable the tram, even if you could give us that too, that will be useful. Okay.

MR. ROSENSTERN: And we've done -- we've included those -- you know, how far would it nominally move into our calculation of a red zone plus, you know, additional margin of distance, but it's not going to cover for 100 percent of the scenarios.

MODERATOR SILVEY: Yeah.

MR. PRYOR: You've got a question, Dave?

MR. CHIRDON: Can I ask one?

MODERATOR SILVEY: Uh-huh.

MR. CHIRDON: You said that you have the data available that when the proximity detection system initiates stopping of the tram movement, how
far that machine travels after that activation occurs?

MR. PRYOR: We don't have -- we've just done
tests on our shop floor but --

MR. CHIRDON: Oh, okay.

MR. PRYOR: -- we're -- what we do have -- I
mean, I don't see any reason we can't share it. I
mean, it just -- it's the machine -- you know, it's a
little different on a DC machine and every machine's a
little different based on where and the resistance of
the tracks, the whole dynamics of the system. It
doesn't travel that far but --

MODERATOR SILVEY: Yeah, I understood what
you were saying to think that you weren't talking that
far. But in terms of a requirement, a requirement is
a requirement.

MR. PRYOR: But it is easy to say that if
the machine's in high speed tram, I know for a fact
that it will travel a few feet to stop.

MODERATOR SILVEY: Yeah. Okay.

MR. PRYOR: You know, it's a big, heavy
machine --

MODERATOR SILVEY: -- machine, right, sure.

MR. PRYOR: -- moving. And granted, there
is a lot of resistance; there are a lot of things
helping it to slow down. You know, it is a big heavy
machine so --

MODERATOR SILVEY: Right.

MR. PRYOR: But back to some of the comments in the discussion of the rule making on how to test that 3 feet, you know. One way is mentioned in there, hanging that personal-wearable device from the ceiling or from the roof and moving the machine into it and then measuring how far it is. That would obviously take into account the movement of the machine. The other way would be, don't move the machine; walk up to it and measure 3 feet and see if it moves. Those are two totally -- they're going to give you two totally different results on the size of the red zone.

So I think when this comes out, it's going to have to be clearer to enforcement how this is to be tested and how we are to set that red zone up because we can make the red zone any size we need to, you know, to an extent. You don't want to get it so large the guy can't operate, or the person can't operate, without moving himself or herself into harm's way of the shuttle car.

MODERATOR SILVEY: Yeah.

MR. PRYOR: So -- and that's -- you know, I spent a lot of time with the West Virginia Task Force over the last few years working on this. One of the
big concerns was when we put a rule in place that
makes this big bubble around the tail of the machine;
it's going to now move this operator out and we're
going to start seeing accidents from shuttle cars that
we haven't seen.

So, you know, we'll see the miner accidents
go down; we'll see shuttle cars go up and that is a
concern. And I'm not saying that will happen, but it
is something to think about there.

MODERATOR SILVEY: Phil, I think you raised
the issue of the personal-wearable device may be read
differently, you said, due to physics. Now, I'm going
to ask you -- and I understand a little bit about
physics, not a lot. Are you -- when you say may be
read differently, are you talking about just a little
difference, again, like a de minimis difference, or
are you talking about it could be a lot?

MR. ROSENSTERN: Generally, it's not going
to be major --

MODERATOR SILVEY: It's not going to be a
lot.

MR. ROSENSTERN: -- differences, but it
could be enough that, you know, it's going to affect
the machine stopping distance by 6 inches or a foot.

MODERATOR SILVEY: Do you all have -- in
terms of the machines you have, do you have any data on that?

MR. ROSENSTERN: Yeah. We've done -- basically, on all eight machines that we have right now, we've done tests underground and on the surface of stopping the machine, you know, having a high-speed tram and then having the unit in the fixed position, measuring stopping distances, and the variations in the stopping distances, and that can be both to bottom conditions and, you know, the system response. And it does vary over a range of about 2 feet generally --

MODERATOR SILVEY: But can you provide --

MR. ROSENSTERN: -- for stopping distances.

MODERATOR SILVEY: -- some of that to it and us would be -- really, when it comes to the 3-foot issue and to this one, if you could provide us the data. But if you could provide along with the data the kind of conditions cause this thing to happen, that would be useful to us, too. All of that would be useful to us in crafting a final rule.

MR. ROSENSTERN: Okay.

MODERATOR SILVEY: That would be better for our enforcement people, too. So we don't want -- we obviously don't want to -- we do not want to craft a rule that gives us unintended results, I guess that's
what I'm trying to say. Because we want one that's
going to be, you know, the most that provides for the
optimum safety, but does it in a way where it's
feasibly implemented.

MR. PRYOR: Well, back to your opening
question to us about being specific. We will -- our
intent isn't just to fire back and say, no, we don't
like that; yes, we like that. We do want to give you
something to work with so we'll work hard to do that.

MODERATOR SILVEY: Okay. We appreciate
that.

MR. ROSENSTERN: Going back really quickly
to your comment about, you know, time that it takes to
install and train --

MODERATOR SILVEY: Yeah, I was -- I'm going
to get to that again.

MR. ROSENSTERN: -- for -- well, yeah, I
have a number. I mean, I can give you a number on
what we determined we can train for. That's 206
miners over the 18-month period.

MODERATOR SILVEY: Okay.

MR. ROSENSTERN: That's how many we could
get operators trained for, maintenance personnel of
the mine trained for, as well as verifying system
performance.
MODERATOR SILVEY: Okay. Now -- but make sure you all include all of that. This is good. On that issue, you just gave me the number of miners to be trained. That's a good segue into another question we asked, and that question was with respect to the amount of wearable components. I think if I remember correctly -- we asked how many -- which miners did you believe should wear the miner-wearable component, because that will tie right into the miners who need -- who should be trained.

MR. ROSENSTERN: Okay.

MODERATOR SILVEY: So if you -- you know, I'm not asking you for that now, but if you could give that to us.

MR. PRYOR: Yeah. And that's going to be honestly coming from the manufacturer's side. That's going to be a tough one for us to call.

MODERATOR SILVEY: Yeah. Yeah, and you probably --

MR. PRYOR: That's probably going to be one you're going to hope that the --

MODERATOR SILVEY: -- the operators give us some comments on that --

MR. PRYOR: -- the -- yeah, the coal companies and the operators.
MODERATOR SILVEY: You -- no, you're absolutely right. That's absolutely right. Or -- and I don't know how -- maybe you all are working with them but you are absolutely right. I can see that now. That's going to be one probably that the operators would have to provide for us, yeah. Okay.

MR. PRYOR: You know, if I had to right now make a statement, it -- there's only a few people that work around the machine and they definitely need it, you know, you have the --

MODERATOR SILVEY: Right.

MR. PRYOR: -- cable handler and the -- or the helper and the operator and then you could argue who else should be around it.

MODERATOR SILVEY: Yeah.

MR. PRYOR: So it kind of goes back to the -- you know, the miner bolter -- there's a whole lot of things that are kind of a gray area that --

MODERATOR SILVEY: Yeah.

MR. PRYOR: -- you know, is there much benefit to adding.

MODERATOR SILVEY: Adding, yeah. Yeah. And with -- and, obviously, the one that you talked about being installed to, and you sort of gave it in your be installed to prevent interference with or from
electrical systems if you provide an alternative suggestion, alternative to that one.

We talked about the training. On the training one, do you all have a training module or a training program that you provide to the operators for your system?

MR. ROSENSTERN: Yeah, we have a program in place right now and we're looking -- I mean, we're going to have to expand it drastically.

MODERATOR SILVEY: Are you? When you say, drastically; what do you mean?

MR. ROSENSTERN: Well, right now, we're just training the operators on the use of the system and --

MODERATOR SILVEY: You mean, the continuous mining machine operator?

MR. ROSENSTERN: Continuous mining machine operator, yeah --

MODERATOR SILVEY: Right.

MR. ROSENSTERN: -- on how the system functions and, you know, how to -- basically, how it's going to perform and the limitations to the system and also some basic diagnostics, you know, what it will indicate if there's a problem.

But we haven't done any mine maintenance personnel training to the effect of, you know, this is
how you replace this, and this is when you replace this component if -- you know, if it's telling you this and this.

There are a lot of different things, as well as pre-shift checks. I mean, we have some stuff we give them but we don't have, you know, to the extent of what the proposed rule indicates, the pre-shift, the seven-day checks and such.

Right now, we've been handling it through our service guys and that's -- I mean, we can't do that as we go forward with everything. That's something we have to branch out for the mines and it takes a good bit of training at the mine level.

MODERATOR SILVEY: We probably would want to hear from the operators on training, too, then, to be honest. So for all of the operators who are in here and who -- you know, whether you talk today or whether you provide comments before the record closes, we will probably -- I say light, and light is kind of putting it mildly. We will probably need to hear from you on training because you have experience with your miners being trained.

I mean, I assume that -- I'm thinking now -- installation and maintenance. You know, the maintenance could be done by an agent of the
manufacturer or the maintenance could be done by, I guess, an employee of the operator. I mean, I don't know how it's done.

MR. PRYOR: What we're hoping is that the operators -- the coal companies take ownership and what we call -- what I would call first-level support because when you get this many systems out there --

MODERATOR SILVEY: You can -- you don't have enough people.

MR. PRYOR: -- and now it's such that the system has to be operational or they can't run that unit they can't run that machine. They're not going to want to wait. Even if we're two hours away, they're not going to want to wait two hours to get somebody there.

Right now, we have -- just a real quick side on how Matrix and Joy operate. Matrix is a wholly owned subsidiary of Alliance Coal. So all of Alliance Coal Systems come from Matrix --

MODERATOR SILVEY: Oh, okay.

MR. PRYOR: -- it's the same system that Joy is putting on, minus a few things on the way that the diagnostic lights are but the exact same components; so, right now, Matrix has staff that supports Alliance Coal.
MODERATOR SILVEY: I got you.

MR. PRYOR: It's pretty -- it's fairly arduous to support them; however, they only have 70 miners. Now, Joy's going to be putting it on, hopefully, a lot of miners. It's going to be a very tough job to support all those. So, right now, we're getting with the 37 machines we have in the field -- or 38 actually it is, 37 or 38, it's full-time. We've got guys underground on third shift all the time just going down, checking with the operators: How is it working? What's your feedback? It's a full-time job.

MODERATOR SILVEY: Okay.

MR. PRYOR: And it's going to be -- it's going to be tough. So that's another thing I think you're going to hear from operators, the coal operators, the coal producers that the absolute of, if the system isn't functioning, is the miner down until it's up and running again. I think you're going to see some push back there, maybe a grace period.

And I think if we treat it as a training system, maybe there is room for a grace period that -- log it when it goes down; you can operate it for "$X" time before it's up and running again and let them run it. I know right now it can be bypassed as such that it can be moved out to be worked on.
MODERATOR SILVEY: Right.

MR. PRYOR: I think that's going to be tough. I think we're going to see a drastic decrease in coal production and my competitors here may argue that they're never down. Our system will go down. I mean, if a shuttle car comes flying in and runs into one of our components on the machine, they're protected fairly well, but they're not -- they're not bullet proof. They're almost bullet proof, but they're not coal miner proof, I guess, so --

And then that goes back to what Phil mentioned earlier too about installation. You know, we are not recommending anybody install our system in the field, and I know a lot of people are pushing to have field-installed systems. We can install ours in the field --

MODERATOR SILVEY: Okay. When you say you do not recommend anybody installing them in the field, you mean either you or the mine operator?

You -- what do you mean --

MR. PRYOR: I mean, it needs to come through a rebuild shop to be installed properly.

MODERATOR SILVEY: That's what I -- that's what I understood you to mean. You mean, it should be taken out and installed.
MR. PRYOR: And I'm not going to say it's going to be impossible to install it underground because coal miners are very ingenious; we could figure out a way to do it. It's going to be extremely difficult.

And the reason we want to do it in a shop is we want to make sure it's installed properly, the cable's protected, and the system's protected properly.

We could drape our system on a machine right here in this room and in a few minutes, hang things on it, but it wouldn't last the rigors of the mine, you know, of roof falling on it, machines running into it. And that's very important that the system be functional and not have nuisance faults because of cable issues or system failures.

You know, it needs -- we've got a machine running at Mettiki Mine that's got 80-plus weeks of operation with zero component failure. Nothing's failed. Period. Now -- and we've got some that we've had some failures that, you know, electronics fail, but it's all because of the way it's installed. I guarantee you our system, Joy System, won't last like it should if it's slopped on there.

So that's very important to us that we're
going to push our customers to take the time to do it
and, unfortunately, with the time frame on this, it
makes it hard to not want to say, hey, let's retrofit
them. So --

MR. CHIRDON: Do you have data available on
how long -- based on your experience with your system,
I think your oldest one's been installed for about two
years now.

MR. PRYOR: Two years at Riverview.

MR. CHIRDON: Do you have malfunction data
available?

MR. ROSENSTERN: We do have all that. Randy
has all that in an access database.

MR. CHIRDON: That would be helpful.

MR. ROSENSTERN: And I can speak from the
eight machines that Joy has in the field right now,
and it's been very few failures.

MR. PRYOR: And usually when they're
failures, it's out-of-the-box component failure or --

MR. ROSENSTERN: Well, visible damage
failures. I mean, we've had really only one mine
where we've had -- out of those eight where we've had
visible failures and that's due to -- they run ram
cars, and they ram into the back of the machine hard
and will hit it in a bad position.
MODERATOR SILVEY: And all -- and back to
the phase-in period, because this is very important
with respect to the phase-in period -- the proposed
period for retrofitting for the machines that -- for
the continuous mining machines that are in service on
the date of the final rule prior to -- on the date or
prior to the date of the final rule.

As I said, please be specific on any
alternative time frame that you suggest, but in so
doing, please include your rationale, which would
include whatever requirements you think are necessary
to do that and why.

MR. PRYOR: Okay. We'll be on that. We'll
research the industry -- or the numbers of the
industry, but most of it's going to be based on what
Joy knows as Joy, not taking into account all the
other machinery builders. There are pretty good
statistics out there of how many machines are being
rebuilt in the total industry and what Joy's part of
that it is. So it's going to be hard to pinpoint
exactly the number we can come up with, but we'll be
specific.

MODERATOR SILVEY: Okay. I don't have
anything.

MR. PRYOR: Phil, have you got anything else
you just can't wait to say?

MODERATOR SILVEY: Well, Aric, thank you very much; and, Phil, this has been very useful, really, to us. We look forward to your written comments and also the specific follow-up information in support of your written comments.

But, again, thank you.

MR. PRYOR: Well, thank you.

MR. ROSENSTERN: Thank you.

MODERATOR SILVEY: Okay. Anybody else who would like to speak?

Anybody else?

If nobody else wishes to speak right now,

I'm going to take a 10-minute break. We'll come back in 10 minutes and we'll either hear from somebody else or -- let's see, okay.

(Off the record.)

(On the record.)

MODERATOR SILVEY: Okay. I know that somebody wants to ask a question of the panel, or at least has a comment so you can -- Can you come up and make -- have your comment?

(Off the record.)

(On the record.)
MR. BERUBE: Thank you. My name is Mike Berube from Strata Proximity Systems. Last name is --

MODERATOR SILVEY: Oh, my goodness. I knew a Mike Berube once.

MR. BERUBE: You did?

MODERATOR SILVEY: Yeah.

MR. BERUBE: B-E-R-U-B-E.

MODERATOR SILVEY: Oh, no, not that spelling. Not that spelling.

MR. BERUBE: So, in general, we're okay with the majority of the proposed rule and we'll submit detailed comment in writing. But I just have one clarifying question.

Can you explain the difference between specific and performance-based with regard to the stopping distance?

MODERATOR SILVEY: So, for everybody in the room, his question is: Can I explain the difference between a specific and a performance-based requirement with respect to the stopping distance?

And I'm going to give you an analogy first, and then I'll go to the specific, which may seem to everybody here like a long way around, and somebody might have heard this.

I'm trying to remember the name. Are the
UMWA people gone? They have gone. They may have
heard it, as well as Earnest Shaw. Is he still here?
Yeah.

I've made this comment at rule making
hearings a long -- I remember a long time ago, I said
this.

It would be as if I would say to one of you,
I want you to make me a chocolate cake. And I'm going
to give you -- the performance-based requirement would
be I telling you, bake me a chocolate cake, but I
don't tell you how to do it. Just my end result is; I
want a chocolate cake. And maybe I might even say a
chocolate layer cake, but that's it.

You go out and you do it in the manner in
which you think it should be done, as opposed to me
telling you -- and I'm making this in a real
simplistic way. As opposed to me telling you to make
me a chocolate cake, then give you all the ingredients
to put in it, then to say make it three layers and
then put icing on it. The latter would be the
specific design requirement, and the former is I
telling you a chocolate cake is the performance-based
requirement.

Now, to the specific question you asked,
stopping distance, stop the machine -- the stopping
distance, let's go to that now, no closer than 3 feet
-- I think, if I'm not mistaken, the proposed rule
says that 3 feet from the person. No closer than 3
feet for a miner with the exceptions. That's pretty
much design-oriented, specific.

A performance base would say -- would
prevent machine movement or cause the machine to stop
without -- I'm making this up, okay, right now. You
asked me and I'm making it up -- without contacting a
person. The end result is you don't want the
continuous mining machine to contact a person and
cause injury or death to a person. So, however, you
want to word a performance-oriented standard to result
in that performance, and that is to prevent the
continuous mining machine from contacting a person
that's in close proximity to use proximity detection.
That's when the person that's within close proximity
to the machine to prevent that person from being hurt.

MR. BERUBE: Okay.

MODERATOR SILVEY: And that's the
difference.

MR. BERUBE: Okay. I mean, the other way
that it could be looked at, which is maybe even more
specific, is to not look at the stopping distance but
the red zone. Say red zone shall be "X" feet away
from a continuous miner in different modes because depending on the mode, whether it's, you know, cutter heads and coal or rock or it's in medium tram or high tram, those distances vary.

MODERATOR SILVEY: You could do that, but then you're going to introduce another element because you're going to have to define the red zone. Then you're going to hear people saying, well, what about this and what about this? I'm just saying, I can see it coming.

MR. BERUBE: Okay.

MODERATOR SILVEY: So that's kind of just so everybody -- and if anybody has, you know, any comments or questions, feel free to say it.

MR. BERUBE: Okay. And then the other question, and this is it, and it's just because I didn't see it in the proposed rule but interested in how -- what your view is, in a super section where you have two continuous miners, do you see it necessary for a single personal-wearable device to work on both of those continuous miners or a specific personal-wearable device per a continuous miner?

(Off the record.)

(On the record.)

MODERATOR SILVEY: Yeah. I assume, in the
scenario you gave, you're going to have a system on both continuous mining machines, right?

MR. BERUBE: Correct.

MODERATOR SILVEY: And one person, you know, in -- one person in proximity to both machines?

MR. BERUBE: Yeah, potentially you could have a miner operator that moves from one machine to the other in a super section.

MODERATOR SILVEY: Okay. Then you would have one --

MR. BERUBE: You would, like, one device --

MODERATOR SILVEY: Right.

MR. BERUBE: -- that would work on both machines.

MODERATOR SILVEY: Right, right.

MR. BERUBE: Okay. That's all.

MODERATOR SILVEY: Yeah.

MR. BERUBE: Thank you.

(Off the record.)

(On the record.)

MODERATOR SILVEY: Right.

Okay. Now, Aric, okay, would like to come up and have a clarifying comment. Matrix. Thank you.

I want to clarify something that was -- I said in the -- when we were up here earlier. I made the comment of installation and it was on the record that during -- that I believe installation should only be done in the shop and a rebuild, and I want to clarify my intent on that, that if it is forced that this time frame is met, we will have to come up with alternatives to install in the field. I am for that if it's done in a manner that it is installed properly.

I think my point that I was trying to get across is installation and the way it is installed on a machine is very crucial to the performance of the machine.

Right now, we've had the liberty -- because of our time frame, we haven't had many of them being installed. We haven't had to put them on in the field. If we do get to that point, it's going to be definitely a difficult task. I think that the point being is we have to think about how it's done in the field, the field installation. I would support that, and I think Joy would support that also if it's done properly.

So, I wanted to make that clear that I'm not saying I'm totally against that. I'm just against it
being slopped on so --

Any questions to that clarification?

MODERATOR SILVEY: I don't have any.

MR. PRYOR: Okay. Thank you.

MODERATOR SILVEY: Thank you. Okay.

Does anybody else have any comments?

Anybody else?

Okay. If nobody else wishes to make a
presentation, then I am going to tentatively close
this hearing.

We will be around until about noontime so --
but, right now, which means that I'm going to
tentatively close it.

If nobody either wants to discuss or has any
-- or shows prior to noon, then I, at least, don't
have to go back on the record.

So at this time, I would like to say that
the Mine Safety and Health Administration appreciates
your participation at this public hearing.

I want to thank everybody who made a
presentation, as well as those who were in attendance
who may not have presented but came to this hearing
today, because the ones who were in attendance and may
not have presented, that evidences to us of your
interest in this rule making and we appreciate that.
I want to emphasize that all comments must be received or postmarked by November 14, 2011.

As you know, we have three hearings left, as I stated earlier, in Charleston, West Virginia, this Thursday; next Tuesday in Washington, Pennsylvania; and next Thursday in Evansville, Indiana. MSHA will take your comments and your concerns into consideration in developing the Agency's final rule.

I want to encourage you to continue to participate throughout this rule making process and in all MSHA's rule making.

At this point, the public hearing is concluded. Thank you very much.

(Hearing concluded at 10:19 a.m.)
REPORTER'S CERTIFICATE

CASE TITLE: Public Hearing on Proximity Detection Systems for Continuous Mining Machines In Underground Coal Mines

HEARING DATE: October 18, 2011

LOCATION: Denver, Colorado

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

Date: October 18, 2011

ANTHONY & ASSOCIATES, INC.

ROGER MEYERS
(Official Reporter)