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VIA EMAIL AND MESSENGER

Ms. Sheila A. McConnell
Acting Director
MSHA Office of Standards, Regulations,
and Variances
United States Department of Labor
Mine Safety and Health Administration
1100 Wilson Boulevard
Room 2350
Arlington, VA 22209-3939

RE: RIN 1219-AB79

**Comments on MSHA's Request for Information on
Refuge Alternatives for Underground Coal Mines**

Dear Ms. McConnell:

Please find below and enclosed the detailed comments of Murray Energy Corporation (and its trade association, the Bituminous Coal Operators' Association ("BCOA")), BHP Billiton San Juan Coal Company (a business unit of BHP Billiton, Inc.), and Interwest Mining Company, (the business unit of PacifiCorp responsible for providing management and support services to PacifiCorp's Bridger Coal Mining Company) (hereinafter "the Companies") on MSHA's Request for Information on Refuge Alternatives for Underground Coal Mines (the "RA RFI"), published in the Federal Register for August 8, 2013.¹ The Companies operate large underground longwall mines located throughout the United States in West Virginia, Kentucky, Ohio, Illinois, Wyoming, Utah, and New Mexico. These mines employ thousands of highly paid miners; and in the rural areas in which they are located, these mines also function as centers of economic well-being and stability for their communities.

¹ 78 Fed. Reg. 48,593.

AB79-COMM-10

In the August 8, 2013 Federal Register notice, comments on the RA RFI were requested by October 7, 2013. However, for a variety of reasons, among the most important of which was the evolving state of research by the National Institute for Occupational Safety and Health (“NIOSH”) on refuge alternatives (“RAs”), at the request of the Companies and others, MSHA extended the comment period on several occasions. We briefly describe this evolving research and MSHA’s sometimes inexplicable reaction to it in the Introduction to our comments set forth immediately below. The comment period is now set to expire today.²

I. INTRODUCTION

At the outset, the Companies want MSHA to know that they are all currently in full compliance with the mandatory safety standards for RAs set forth in 30 C.F.R. Part 75, as published in the Federal Register for December 31, 2008.³ Indeed, BHP Billiton San Juan Coal Mine is one of the handful of coal mine operators nationwide that has voluntarily installed built-in-place outby RAs located underground, for which it has obtained approval by MSHA per the requirements of 30 C.F.R. Part 7.⁴ The Companies also want to remind MSHA that their compliance did not come easily. They invested millions of dollars to purchase, install, and maintain their currently deployed fleets of inby portable RAs, and to train their miners in the use of those portable RAs in the event they would find themselves unable to escape from a mine fire, explosion, or other underground emergency.⁵

In addition, the Companies were intimately involved in working with the National Mining Association (“NMA”), to which all of the Companies belong, in preparation of the NMA’s Emergency Rulemaking Petition (“NMA Petition”) sent to MSHA Assistant Secretary Joseph A. Main on October 22, 2013. That Petition is enclosed with these comments as Enclosure A. In addition, having reviewed the comments of the NMA on this RFI, the Companies are pleased that those comments are generally consistent with this letter.

² See 79 Fed. Reg. 59,167 (Wed., Oct. 1, 2014).

³ 73 Fed. Reg. 80,698.

⁴ Currently, ten built-in-place Part 7-approved outby RAs are in service, with another under construction. Gateroad chambers are built on development and can be utilized during longwall mining as well. After the gateroad becomes a tailgate, the chamber eventually gets consumed by the gob.

⁵ The Companies’ miners are trained, of course, that their first option in the event of any underground emergency is to escape to the surface, if possible. Only if they cannot escape, are they trained to then seek shelter in their RAs.

Central to the NMA Petition were terribly serious concerns (including those of the Companies) about—

- the failure of MSHA to timely address the heat, humidity, and purging hazards identified by NIOSH in its still-ongoing and incomplete RA research discussed in the NMA Petition, and
- the failure of MSHA's Approval & Certification Center ("A&CC") to approve all the breathable air, air-monitoring, and harmful gas removal components of the deployed fleet of inby portable RAs throughout the underground coal mining industry (including the Companies' RAs) that were required by 30 C.F.R. § 75.1506(a)(3) to be approved by January 1, 2014.

The Companies were (and remain) sorely disappointed about the resource-wasting imbroglio generated by these failures, which was further complicated by a series of miscommunications or lack of communications between MSHA and NIOSH. These communications issues often seemed downright hostile on the part of MSHA. Indeed they were so severe that until March 2014, MSHA refused to participate in a NIOSH RA Partnership with the NMA, the BCOA, and the United Mineworkers of America ("UMWA"). Only at a meeting of the BCOA and UMWA Joint Safety Committee called by Assistant Secretary Main on March 20, 2014, did the Assistant Secretary, at the combined urging of the undersigned and UMWA Safety and Health Director Dennis O'Dell, agree to participate in this vital NIOSH Partnership⁶.

Even then the acquiescence seemed lukewarm such that the first NIOSH RA Partnership Workshop Meeting did not take place until May 22, 2014, in Pittsburgh, PA, with several MSHA observers present.⁷ The NIOSH PowerPoint presentations from that meeting are part of these comments at Enclosure C. The Companies believe the Workshop was very useful as a key step toward answering a number of the questions posed by this RA RFI. We urge MSHA to review these NIOSH presentations with that in mind.

In addition to this May 2014 Workshop, during the interval between the filing of the NMA petition and the Workshop, in March 2014, NIOSH had published two vitally important sister Reports of Investigations ("RI") on the aforementioned hazards on heat, humidity, and purging. While the essence of these RIs had been identified in the last half of 2013, it was only when they were published that the Companies and others had the opportunity to study and fully

⁶ See the enclosed letter of May 23, 2014 from Edward M. Green to Assistant Secretary Main at Enclosure B.

⁷ *Id.* Enclosure B.

appreciate their significance. These RIs (which the Companies incorporate by reference in our comments) are as follows:

- RI 9694, *Investigation of Purging and Airlock Contamination of Mobile Refuge Alternatives*; and
- RI 9695, *Investigation of Temperature Rise in Mobile Refuge Alternatives*.

In addition, during this same interval, NIOSH offered for peer review an important draft RI on *Recommendations to Facilitate the Use of Built-in-place Refuge Alternatives in Mines*. Representatives of the Companies served as peer reviewers of the draft RI. The final version of this publication was just posted on the NIOSH website this morning; however, the Companies have not had any time to read and understand in any meaningful way, what the Companies expect will be a seminal analysis.⁸

The last key event that has taken place between the publication of the RA RFI in October 2013 and today was the February 10, 2015 meeting of the NIOSH RA Partnership. That meeting is vitally important for the following two reasons:

1. for the first time (the Companies believe), all stakeholders participated in the meeting
 - RA manufacturers
 - underground coal mine operators
 - the UMWA
 - NIOSH researchers
 - NIOSH contract researchers
 - other academics
 - MSHA observers; and
2. the sum and substance of all the scientific research being carried out by NIOSH and its contractors was presented and discussed by the over 70 participants at the

⁸ The fact that this new RI has just been made public is among the reasons why the Companies urge MSHA to keep the RA RFI Docket open for an extended period of time, as we discuss in Section II of these comments. For present purposes, however, the new RI is RI 9698, entitled, *Facilitating the Use of Built-in-place Refuge Alternatives in Mines*. RI 9698 can be accessed at <http://www.edc.gov/niosh/mining/UserFiles/works/pdfs/2015-114.pdf>. The Companies ask MSHA to make RI 9698 a part of the record of this RFI now, and to subsequently accept comments on it in this docket, as necessary.

meeting, including the undersigned for the Companies. The presentations given at the meeting and other materials (including a roster of attendees) are provided, in Enclosure D, as part of the Companies' comments and are discussed further below. As were the PowerPoint presentations from the May 22, 2014 RA Workshop, these materials, too, are often responsive to the MSHA RA RFI; and we encourage MSHA to review them carefully.

This above-described series of events all led the Companies and others to request the series of extensions of deadlines for comments on MSHA's RA RFI. As we next explain, the ongoing work of the NIOSH RA Partnership is so critical that the Companies believe it will serve as the foundation for the next generation of RAs to be deployed underground. To best inform MSHA, as we discuss below, the Companies urge MSHA to keep the docket of this RA RFI open so that it may serve as a central repository for the benefit of all stakeholders pending completion of the NIOSH RA Partnership's work.

II. URGENT NEED TO KEEP THE RA RFI DOCKET OPEN FOR AN EXTENDED PERIOD OF TIME PENDING THE WORK OF THE NIOSH RA PARTNERSHIP

Because of the importance of the work of the NIOSH RA Partnership, the Companies urge MSHA to promptly and specifically publish a notice in the Federal Register announcing that the docket for this RA RFI will be kept open for an extended period of time pending the work of the NIOSH RA Partnership.⁹

Keeping this RA RFI docket open is vital because the Companies firmly believe that it is the scientific work of NIOSH, through the RA Partnership, that will ultimately lead to the answers to the 31 questions MSHA has posed in its RA RFI. In light of the centrality of the work of this Partnership, the Companies firmly believe the Partnership is best equipped to develop the responses to MSHA's inquiries.

NIOSH Refuge Alternative Partnership Scientific Research—

We say that because the substance of the scientific research being carried out by NIOSH and its contractors is such that we are hopeful it will demonstrate a technological foundation for MSHA to make important improvements to the agency's refuge alternative rules that stakeholders (especially mine operators) can support. Frankly, although the short time constraints dictated by the MINER Act for NIOSH's study of RAs and for MSHA's RA rulemaking were technology-forcing, they were also unreasonable.¹⁰ At this time, with years of

⁹ The Companies will memorialize this request via a separate letter to Assistant Secretary Main.

¹⁰ MINER Act §13, *Research Concerning Refuge Alternatives*, required NIOSH to prepare and submit to the Secretary of Labor, the Secretary of Health and Human Services, and the

experience in dealing with RAs, problems have been identified and are being resolved such that NIOSH's current good science has a reasonable prospect of resulting in sounder RA rules than those now in effect.¹¹

By way of example, we urge MSHA to examine the PowerPoint presentation of an overview of NIOSH's RA research shown at the February 10, 2015 NIOSH RA Partnership meeting by R.J. Matetic, PhD., NIOSH's Director, Division of Mining Research Operations in the Office of Mine Safety and Health Research ("OMSHR"). At slide 7 of his presentation, Dr. Matetic captures succinctly the NIOSH research published to date as "Survivability performance evaluations that examined CO₂ scrubbing, O₂ supply, and heat and humidity over 96 hours . . . conducted on WV-approved chambers at [NIOSH's] Lake Lynn Laboratory." Dr. Matetic's slides are in Enclosure D to these comments.

In addition to that overview, David S. Yantek, NIOSH's Lead Mechanical Engineer for RA Research, presented a more detailed report on the research he led on the aforementioned issues, as well as his preliminary work on inby built-in-place RAs. That presentation is also found in Enclosure D, and the Companies recommend that MSHA carefully review Mr. Yantek's first PowerPoint presentation, entitled "*Overview of Prior OMSHR Refuge Alternative Research on Purging, Heat & Humidity, and Built-in-place,*" especially slides 18 and 19, with regard to potential advantages and disadvantages of built-in-place RAs. We also urge MSHA to study, in its entirety, Mr. Yantek's second PowerPoint presentation, entitled "*Update on OMSHR Refuge Alternative Research; 2014 Heat & Humidity Research and 2015 Planned Research.*" To sum up Mr. Yantek's work, the Companies understand it will be the basis for NIOSH recommendations on: (1) occupancy derating of the currently deployed fleet of inby tent-type portable RAs; (2) testing of rigid portable inby RAs for heat and humidity issues; and (3) the next phase of research for built-in-place RAs. That phase will be greatly augmented, the Companies understand, by construction of a built-in-place RA in NIOSH's Experimental Mine on the Bruceton, PA Campus. That will allow: (1) the examination of in-mine air delivery, purging, and heat and humidity issues; (2) development of a validated thermal solution model;

Congressional Committees of jurisdiction a report "including field tests, concerning the utility, practicality, survivability, and cost of various refuge alternatives in an underground coal mine environment, including commercially-available portable refuge chambers." Pub. L. 109-236, § 13. The MINER Act was enacted on June 15, 2006. Section 13 required the NIOSH report to be submitted in December 2007. NIOSH met that deadline. In turn, per MINER Act § 13, MSHA proposed rules for *Refuge Alternatives for Underground Coal Mines* on June 16, 2008 (73 Fed. Reg. 34,140) and finalized these rules in the Federal Register for December 31, 2008. 73 Fed. Reg. 80,657.

¹¹ The Companies note that even in the MINER Act-mandated December 2007 NIOSH *Research Report on Refuge Alternatives for Underground Coal Mines*, problems were identified. See *NIOSH Research Report* at 12-13.

and (3) investigation of occupancy derating. Mr. Yantek's second presentation then spells out the next phases of important RA research to be carried out in 2015.

Complementing the research being carried out by NIOSH scientists, the agency has contracted with private sector researchers on a variety of RA-related activities, as follows:

- "Design and Construction Considerations for a Compressed Air Line to a Refuge Alternative," Assistant Professor Jhon Silva and Associate Professor Braden Lusk, both of the University of Kentucky;
- "Thermal Control in Mine Refuges," Ed Roscioli of Chembio Shelter, Inc.; and
- "Mine Test of a Cryogenic Refuge Alternative Supply System (CryoRASS)," Donald Doerr, LABTECH Inc., Ed Blalock, BCS Life Support LLC, and David Bus, NASA.

The PowerPoint presentations of these gentlemen shown at the February 10 meeting can also be found in Enclosure D.

Finally, the Companies believe that MSHA will find of great interest the PowerPoint presentation of Dave Hales, Manager, Health & Safety Execution, San Juan Coal Company. That presentation is also in Enclosure D; as is an important compendium of "Discussion Points/Takeaways," compiled by NIOSH Senior Scientific Advisor Lew Wade. The Companies commend all of these materials to MSHA's close attention.

As the Companies note above, the research materials from the May 22, 2014 Workshop and those from the February 10, 2015 NIOSH RA Partnership meeting itself are all deserving of careful study and evaluation by MSHA. Even more importantly, this research will be developed further in peer-reviewed publications. NIOSH has already produced the enormously important sister Reports of Investigation, RI 9694 and RI 9695, and now, today, publication of the new RI 9698 on built-in-place inby RAs has occurred. Furthermore, at the February 10 Partnership Meeting, in response to stakeholder concerns about the significant amount of time expended to finally publish reports of investigations, NIOSH management promised to work at finding scientific conferences and journals in which to present and/or publish NIOSH RA research as quickly as possible.

When all is said and done, therefore, so much is to be gained by MSHA keeping this RA RI I docket open for an extended period that the Companies expect MSHA will welcome our request and agree wholeheartedly to it.

Participation of all Stakeholders--

Very importantly too, the fact that all stakeholders were present at the February 10 Workshop, including key NIOSH and MSHA officials (as Partnership observers), allowed all parties to hear first-hand the mutual commitments from NIOSH and MSHA to work together and to communicate with one another effectively.¹² That commitment is especially vital in light of the discord between the two agencies beginning in the summer of 2013 and the first months of 2014. The Companies believe these commitments are crucial to progress in the area of RAs. During this aforementioned period, not only did it appear to the Companies that the two agencies were hostile to one another, but also both MSHA and NIOSH met separately with RA manufacturers and mine operators. During that time, representatives of the two agencies and the other stakeholders were never in the same place at the same time—hence the significance of the February 10 RA Partnership meeting.

The presence of all parties, combined with the scientific research being carried out under the auspices of the NIOSH RA Partnership, not only will allow the work of the Partnership to be responsive to the MSHA RA RFI, but will also allow the Partnership's activities to serve as the basis for necessary RA regulatory changes. In order to clear the path for this objective, the Companies urgently request that MSHA move quickly to publish a notice in the Federal Register extending the December 31, 2018 deadline for MSHA Part 7 approval of grandfathered RA structures, pending completion of the work of the Partnership and any MSHA rulemaking necessary to modify the current RA requirements of 30 C.F.R. Parts 7 and 75. We next discuss this further.

III. URGENT NEED TO NOW EXTEND THE DECEMBER 31, 2018 DEADLINE FOR MSHA APPROVAL OF RA STRUCTURES APPROVED BY STATES AND ACCEPTED BY MSHA IN APPROVED EMERGENCY RESPONSE PLANS AND THAT ARE IN SERVICE PRIOR TO MARCH 2, 2009

As you know, the current MSHA RA rules at 30 C.F.R. § 75.1506(a)(3) require that grandfathered prefabricated RA structures must be replaced after December 31, 2018 unless they are approved by MSHA, per the requirements of Part 7. That date may sound like it is far off; but experience teaches this 33-month period will speed by and the deadline will be upon us all too quickly. The research described at the February 10 RA Partnership meeting will need time to gestate, bear fruit, and be implemented even if the road ahead runs smoothly. And we must recognize the distinct prospects of pitfalls along the way—as is so often the case.

¹² A list of attendees is contained in Enclosure D.

No Part 7-Approved Portable RA Structures--

Furthermore, the Companies understand that currently *there are no Part 7-approved portable RA structures*. Based on the experience in 2013 of untimely Part 7 approval of RA components, without blaming any one party, the Companies believe it would be wildly optimistic to conclude that the MSHA A&CC could test and approve all of these structures by December 31, 2018. Additionally, in light of the research presented at the February 10 Partnership meeting, the representatives of manufacturers of currently deployed portable RAs present at the meeting seemed to be distinctly troubled by the prospect of having to spend time and resources on approval of grandfathered structures when these RAs were likely to be supplanted by a new generation of RAs. As for the Companies, MSHA should hear loud and clear that we, too, will have great difficulty in bearing the costs of retrofitting the grandfathered RA fleets now deployed underground, only to then be required by MSHA to purchase and install a new generation of RAs. Such “double-dipping” would be entirely inappropriate at a time when the underground coal mining industry is under great economic stress.

The Companies, therefore, urge MSHA to publish a notice in the Federal Register now, quickly announcing that this deadline will be extended until the completion of any MSHA rulemaking generated by the NIOSH RA Partnership platform. That will remove the pressure on all parties to meet this unnecessary deadline, conserve the important, but scarce resources of MSHA’s A&CC, allow the NIOSH RA research underway to accomplish its objectives, and in no way diminish the protections afforded to the Nation’s underground coal miners.¹³

Scope and Specifics of any New Rulemaking---

As for the scope and specifics of any new rulemaking that may be shown to be useful and necessary by the activities of the NIOSH RA Partnership, it is too early to say; but the Companies believe that NIOSH’s RA research and the work of the NIOSH RA Partnership are trending toward a fleet of RAs significantly different from those currently deployed. Indeed, the frank and candid discussion at the February 10 Partnership meeting showed that all participants recognized that the NIOSH research to date and ongoing this year has identified the need for improved RAs. To the extent any common threads appeared in this discussion, there appeared to be a view toward avoiding any cookie-cutter rules in favor of performance-oriented requirements suitable for the conditions at a given mine.

¹³ The Companies will include this request in the earlier noted letter to Assistant Secretary Main regarding keeping the RA RFI open pending completion of RA rulemakings resulting from the work of the NIOSH RA Partnership. See footnote 9, above.

A Word about Built-in-Inby Refuge Alternatives--

Participants at the February 10 meeting also showed great interest in built-in-place inby RAs. There was a general recognition that the need for greater spacing between such RAs would be an important issue on which to focus. Mindful of the need to address that problem, however, it is the experience of the Companies that its miners have little, if any, confidence in the efficacy of portable, pre-fabricated RAs. It appears to the Companies that built-in-place units offer considerably more attraction to miners than the current fleet of portable inby RA. These discussions and the experience of the Companies provide all the more reason to avoid having the A&CC spend its limited resources on hewing to an obsolete deadline. Instead, the A&CC should spend its energies on testing and approving new and improved RA technologies.

Need for New Rulemaking--

Whether such improved RAs require regulatory changes was a question on which consensus was not achieved at the February 10 RA Partnership meeting. Most participants were not familiar with MSHA's rulemaking process. However, even those who were (including the undersigned) had mixed views. The MSHA observers present, for example, suggested that everything necessary to be done could be handled under the existing provisions of Part 7—and, that, in any event no rulemaking could be completed by the end of 2018. The Companies do not agree that Part 7 is a panacea for the next generation of approved RAs. We do, however, agree that any new rulemaking is highly unlikely to be completed by December 31, 2018. But a good start in developing new rules can be made within that time frame, with the following concepts in mind.

- First, a thoughtful, careful examination of the general requirements of Subpart A of Part 7 and the specific provisions of Subpart I. (requirements for approval of RAs and components for use in underground coal mines) will be necessary to ensure Part 7 can accommodate the research being performed by NIOSH and its contractors. For example, since it appears that NIOSH research has or will identify survivability issues regarding CO₂ scrubbing, O₂ supply, and heat and humidity over 96 hours, then the Companies must insist that any necessary occupancy deratings must be done via rulemaking in a transparent, understandable fashion, with an opportunity for notice and comment by stakeholders and the public. This approach would be far more preferable than, for example, the *ad hoc* "Refuge Alternative Safety Alert," hurriedly issued by MSHA on February 26, 2014.¹⁴

¹⁴ A copy of this Refuge Alternative Safety Alert is found at Enclosure F to these comments.

- Second, and on a related note, to MSHA's credit, the agency has a Part 7 provision designed to accommodate new knowledge or technology (*e.g.*, a cryogenic RA supply system) in section 7.510 stating that: "MSHA may approve a refuge alternative or component that incorporates new knowledge or technology if the applicant demonstrates that the [RA] or component provides *no less protection than those meeting the requirements of this subpart.*" (Emphasis added.) The Companies believe this provision is akin to an informal petition for modification. However, it is bereft of any due process protections designed to protect stakeholders from arbitrary decision-making. Such due process must be provided.
- Third, the Companies can envision a need for specific rules applicable to the approval and deployment of inby built-in-place RAs. Both the current Part 7 and the RA rules in Part 75 are designed for and aimed at portable inby RAs. Trying to use the current Part 7 and Part 75 rules to approve built-in-place inby RAs is like trying to bang square pegs into round holes – they just do not fit! And the Companies understand that MSHA has not allowed section 7.510 to be applied in this situation.
- Fourth, any new RA rules, whether amendments to Part 7 or Part 75, should be performance-oriented to the extent possible. MSHA should avoid cookie-cutter solutions and should be mindful of the fact that each underground coal mine has features that are distinct to the given mine.

These ideas are just for starters. The Companies expect that we will have additional thoughts as NIOSH RA Partnership research continues and should new RA rulemaking be undertaken by MSHA, as the Companies believe should take place.

Finally, the Companies note that any MSHA consideration of RAs must be considered holistically in the context of the overall problems associated with the escape of coal miners from underground coal mines in the event of a mine fire, explosion, or other life-threatening emergency. In that regard, the Companies note that the seven recommendations on improving self-escape from underground coal mines made by the National Research Council's Committee on Mine Safety: Essential Components of Mine Escape, have not received as much attention from MSHA (and NIOSH) as they should.¹⁵ These recommendations should be considered by MSHA as part of its work on this RA RFI.

¹⁵ *Improving Self-Escape from Underground Coal Mines*, the National Academies Press, 2013.

The Companies also wish to call MSHA's attention to the very important work being done with regard to a new and improved generation of respirators. On this point, the Companies incorporate by reference the entirety of their comments of March 30, 2015 sent to the NIOSH Docket Office in connection with NIOSH's Interim Final Rule re Extension of Transition Period for Introduction of Closed-Circuit Escape Respirators ("CCERs"). A copy of the cover letter to those comments is included as Enclosure 1.

IV. CONCLUSIONS

In conclusion, the Companies are pleased that the relationship between MSHA and NIOSH with regard to RA research has been repaired from its earlier broken state in the last half of 2013 and the early months of 2014. Specifically, the Companies are happy that MSHA is cooperating as an observer of the NIOSH RA Partnership because, as partners themselves, the Companies are convinced that NIOSH RA Partnership research is the foundation for the ultimate answers to MSHA's RA RFI questions and other RA questions.

To allow the most effective application of the NIOSH RA Partnership research, the Companies urge MSHA to keep the RA RFI docket open for an extended period of time so that the work of the NIOSH Partnership (especially peer-reviewed work published by NIOSH itself or in other peer-reviewed journals) can be deposited in the docket. This will allow the docket to serve as the foundation for any necessary changes to the RA rules currently found in 30 C.F.R. Parts 7 and 75.

Likewise, the current regulatory deadline in 30 C.F.R. §75.1506(a)(3) of December 31, 2018, after which grandfathered RA structures must be approved by MSHA under Part 7, should be extended now by MSHA in order to not allow this deadline to detract from implementation of the NIOSH RA Partnership research and squander the scarce resources of MSHA's A&CC, RA manufacturers, and underground coal mine operators.

Finally, the Companies wish to remind both MSHA and NIOSH to employ a holistic approach to crafting RA solutions. In that regard, the Companies urge the agencies to consider the recommendations of the National Research Council's Committee on Mine Safety: Essential Components of Mine Escape, as contained in the Committee's report *Improving Self-Escape from Underground Coal Mines*. When all is said and done, improving the chances of successful self-escape from underground coal mines or sheltering in RAs if escape is impossible is what this MSHA RA RFI is all about.

Ms. Sheila A. McConnell
April 2, 2015
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The Companies hope MSHA finds these comments to be helpful. Please know that representatives of the Companies are available to meet with MSHA at any mutually convenient time should the agency wish to discuss our views.

Sincerely,

A handwritten signature in blue ink that reads "Edward M. Green". The signature is written in a cursive style and is placed on a light-colored rectangular background.

Edward M. Green
Counsel to the Companies

Enclosures

Copies w/o enclosures

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