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MSHA  
Office of Standards, Regulations, and  
Variances  
1100 Wilson Boulevard  
Room 2350  
Arlington, Virginia 22209-3939

RE: RIN 1219-AB58

In regard to the requirements for refuge alternatives in underground coal mines and training of miners in their use, Armstrong Coal Company, Inc. respectfully submits the following comments.

Armstrong Coal Company, Inc.'s, Big Run Mine, ID. 15-18552, has two (2) in-place shelters connected to the surface by a borehole as the refuge alternative. By doing so, we request to extend the distance of 2000 feet from the face as proposed to 4000 feet from the working section for our future refuge alternative(s).

There are several reasons why we feel that the greater distance should be acceptable. As stated in the RESEARCH REPORT ON REFUGE ALTERNATIVES FOR UNDERGROUND MINES by NIOSH dated December 2007, "The location of refuge alternatives is best established in the context of an escape and rescue plan for each mine. Thus the maximum distance from a working section to the refuge chamber or an in-place shelter should be based on the projected travel time rather than actual travel distance. Unless there is a compelling reason otherwise, the refuge alternative should be located within 30-60 minutes from the face under the expected travel conditions, assuming there is smoke-filled entries and a directional lifeline. Arguably, one reason for allowing a greater distance and travel time would be to reach an in-place shelter. Typically, an in-place shelter would have a vastly greater volume of oxygen per occupant, better environmental and sanitary conditions, and might be connected to the surface by a borehole with its attendant services. However, it is impracticable to move these shelters frequently. "Therefore, if the in-place shelter is constructed to offer significant advantage over portable chambers, it may be desirable to allow greater distances that would require a travel time of 60 minutes or slightly more."

In the NIOSH report, survivability focuses on the required characteristics of refuge alternatives to ensure that workers who must use the alternatives will be able to survive for a specific duration. The most crucial specifications address the following issues: establishing and maintaining an atmosphere that will support life; maintaining structural integrity through an

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initial explosion and a possible subsequent explosion; and providing for the most basic human needs, e. g. water, food, and waste disposal. The location and positioning of a refuge alternative can affect its survivability as well.

By using in-place shelters with a borehole to the surface, the following concerns would be eliminated:

- CO<sub>2</sub> (this is eliminated by having fresh air from the surface brought in by a fan and the CO<sub>2</sub> is taken out by vents)
- Deployment Time (this would be minimum by using only specially designed doors to enter)
- Oxygen (fresh air is brought down the borehole by a fan located on the surface)
- Gases are continuously monitored inside the in-place shelter (only CH<sub>4</sub>, oxygen, and carbon monoxide would have to be monitored, CO<sub>2</sub> will be vented out by pressure through check valves and the use of the face from the surface)
- Water (additional water could be dropped down the six inch borehole at any time)
- Food (additional food could be dropped down the six inch borehole at any time)
- Human Waste (disposal can be bagged and placed outside of the in-place shelter)
- Communications (continuously monitored from the outside through the borehole by either a mine phone, phone line, or by monitoring by a camera from underground to the surface through the borehole)
- Temperature (heat would not build up because of the continuous fresh air being delivered underground through the borehole)
- Strain on Miners (there would be less strain or mental fatigue because of fresh air, water, food, and communications coming immediately from the surface)
- Location (miners located in the in-place shelter are found immediately without having to drill or use sound locators)
- Training (the amount of training for in-place shelters is far less than training someone on how to use a chamber; this would eliminate totally having to instruct miners on how to turn on compressed air, turn on oxygen, climb into a chamber box, or inflate a tent, opening soda lime to use for heat absorption, using lithium curtains, and so on).

As stated in the summary of the NIOSH report, in-place shelters can offer a superior environment for refuge. Unfortunately, it is impracticable to move in-place shelters frequently, and as such it would be impossible to keep within 1000 to 2000 feet from the working face. However, their strengths compared to portable chambers are so significant that consideration should be given to allowing extended distances, if in-place shelters are used to provide refuge for face workers.

In conclusion, the testing and research done by NIOSH on four (4) different types of rescue chambers revealed that each one had shortcomings. The time to deploy the chambers ranged from a few minutes to 30 minutes. Three (3) of the chambers were unable to maintain CO<sub>2</sub> below the required level specified. Testing revealed deficiencies with documentation provided by each chamber. Heat, oxygen supply, and the required time duration (96 hours) for the chambers were also issues that needed attention.

After reviewing the NIOSH report and discussing the type of refuge alternatives for the Big Run Mine with management and the workforce, it was evident that everyone at the mine is in favor of the in-place shelter. Due to the evidence presented in the report and the deficiencies given on the rescue chambers, we do not desire to install chambers in the mine only as a means of compliance with a regulation, but rather; to provide a safer and more practical manner of protecting our workforce. It would be far more advantageous for the workers at the mine for us to have an extension of a distance to 4,000 feet so that we can maintain the in-place shelters, using them in case of such emergencies as a fire, explosion, or gas inundation.

Please receive these comments in the spirit that they are offered, ie. as an attempt by Armstrong Coal Company to provide a greater measure of health and safety for our miners.