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**From:** Owens, Arthur N (Columbus) [mailto:owensa@BATTELLE.ORG]  
**Sent:** Monday, August 18, 2008 4:55 PM  
**To:** zzMSHA-Standards - Comments to Fed Reg Group  
**Cc:** Olson, Kathy; Givens, Richard W; Reuther, James J  
**Subject:** RIN 1219-AB58

RE: RIN 1219-AB58, Mine Safety and Health Administration (MSHA) Proposed Rule, *Refuge Alternatives for Underground Coal Mines*, Federal Register, p. 34140, June 16, 2008

The following comments are submitted by Battelle Memorial Institute (Battelle) on RIN 1219-AB58, Mine Safety and Health Administration (MSHA) Proposed Rule, *Refuge Alternatives for Underground Coal Mines*, Federal Register, p. 34140, June 16, 2008.

Battelle is the world's largest nonprofit independent research and development organization, providing innovative solutions to the world's most pressing needs through its four global businesses: Laboratory Management, National Security, Energy Technology, and Health and Life Sciences. It advances scientific discovery and application by conducting \$4 billion in global R&D annually through contract research, laboratory management and technology commercialization. Headquartered in Columbus, Ohio, Battelle operates in more than 120 locations worldwide, including seven national laboratories that Battelle manages or co-manages for the U.S. Department of Energy and the U.S. Department of Homeland Security. Battelle also is one of the nation's leading charitable trusts focusing on societal and economic impact and actively supporting and promoting science and math education.

Battelle believes that the requirements proposed in RIN 1219-AB58 represent appropriate minimum performance standards for an alternative refuge. Further, there do not appear to be insurmountable technological challenges that would prohibit implementation of an alternative refuge fulfilling the requirements in the Proposed Rule within the suggested time period.

This position is based upon the results of experimental testing and analysis of Battelle's Mine Barrier Survival System. The novel Battelle alternative refuge system involves the integration of commercial-off-the-shelf materials and technologies and was conceived by Battelle and further developed, in part, under Government funding. The recent experimental testing and analysis of this alternative refuge approach demonstrated that it could fulfill the requirements defined in the Proposed Rule, including, but not limited to:

- Volume and area per miner;

AB58-COMM-25

- 1 Maximum temperature;
- 2 Period of operation;
- 3 Service life of components;
- 4 Location with respect to the mine face;
- 5 Inclusion of a signaling and locating device;
- 6 Training of coal miners;
- 7 Target exposure levels for CO and CO<sub>2</sub>; and
- 8 Capital and operating costs.

Battelle appreciates the opportunity to provide its comments. Should MSHA desire additional information, please contact the undersigned.

Respectfully submitted,  
Neal Owens  
Vice President and Manager  
Energetic Systems and Security Technology  
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Battelle