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**From:** Tom Daley [mailto:Tom.Daley@microporeinc.com]  
**Sent:** Friday, July 18, 2008 9:07 AM  
**To:** zzMSHA-Standards - Comments to Fed Reg Group  
**Cc:** Doug McKenna; Tom McKenna; Vince Suddard; billkennedy@kennedymetal.com  
**Subject:** RIN 1219-AB58; COMMENTS TO MSHA REGARDING PROPOSED RULE FOR REFUGE ALTERNATIVES FOR UNDERGROUND COAL MINES

Subj: RIN 1219-AB58 REFUGE ALTERNATIVES FOR UNDERGROUND COAL MINES

Comments and request for clarification to RIN 1219-AB58, Refuge Alternatives for Underground Coal Mines

General Comment: MSHA please provide a list of currently approved suppliers of refuge shelters.

Section 7.501 The proposed rule approves those components that have already been approved by States or approved by MSHA in the Emergency Response Plan (ERP). How many ERP's are already approved by the States and MSHA?

Section 7.501 The proposed rule sets 5 years as the maximum life of components. Can this component life be extended to 10 years if a manufacturer can demonstrate acceptability through past experience? Micropore's ExtendAir product has undergone 10 year accelerated age testing and has shown no degradation. US and foreign Navies have approved this product for use for 10 or more years. With simple inspection and weight check of the packaged ExtendAir curtains, exposure to moisture or carbon dioxide is readily detected. The Micropore ExtendAir curtains are fully warranted for 5 years and totally reliable operation can be assured for an additional 5 or more years. The US Navy and the UK Royal Navy intend to store the product indefinitely so long as the packaging is intact and the weight gain is negligible.


Section 7.501 Recommend that all components be required to demonstrate their functionality after exposure to the shock and vibrations associated with transport to and movement through the mine that will occur over the rated life of the component. Granular carbon dioxide absorbents will settle and dust when exposed to shock and vibration. The US Navy has conducted shock test (MIL-S-901) of granular absorbents and reported excessive dusting and bed settling. Long term shock and vibrations common to mining environments including moving components/shelters through the mines and possibly even the shock of a roof collapse may be very damaging to granular systems. As carbon dioxide removal systems can not be operated until they are needed, inherent reliability and stability is necessary.


Section 7.506 paragraph (f) This paragraph defines four temperature/humidity conditions under which carbon dioxide absorbents will be tested. Do these temperature and humidity conditions reflect the stable mine temperature (refuge alternative outside temperature)? Alternately do the defined temperature/humidity conditions only represent the starting temperature inside the shelter?


Section 7.506 paragraph (f) When testing to comply with the requirements of Section 7.506 paragraph (f) is the test chamber to be constantly maintained at the 4 temperature and humidity conditions specified?


Section 7.508 paragraph (c) (1)(i) This paragraph requires 3 carbon dioxide analyzers be mounted inside the test chamber to monitor the atmosphere. The electronics of some precision carbon dioxide analyzers can be affected by high temperature and high humidity. This can negatively impact analyzer accuracy. Recommend that as an alternative external analyzer(s) be permitted and these analyzers must have response time less than 1.5 minutes and that a minimum 99.5% of sampled gases are returned into the refuge alternative shelter.

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