Received 3/27/06
MSHA/OSRV

From: eScott Cass [escass@dejazzd.com]

Sent: Monday, March 27, 2006 12:57 PM

To: zzMSHA-Standards - Comments to Fed Reg Group

Subject: Regulatory Information Number (RIN) 1219-AB44

To: MSHA, Office of Standards, Regulations, and Variances

Thank you for the opportunity to work with you in establishing standards for enhancing the effectiveness of mine rescue equipment and operations in the interest of improving miners' survivability in the event of a mine emergency.

This response will address the questions presented in section III-D (Key Issues on Which Comment Is Requested relative to Rescue Chambers) of RIN 1219-AB44.

1. **Rescue chambers should be used because they are the most economical and technologically viable way of providing miners with extended refuge in the event of a life-threatening emergency that prevents them from escaping the mine.**
2. **Key factors and considerations for evaluating the intrinsic value of a rescue shelter include:**
   - **Reliability of life-sustaining air supply – First, the air processing system must have proven reliability. Secondly, it must provide for continuous monitoring of inside and outside air quality and temperature. This ensures that trapped miners are secure and will be able to take appropriate action as conditions change.**
   - **Mobility – Mobility is critical to positioning and repositioning the shelter close to the active workings.**
   - **Protection duration – Recent tragedies indicate the need for more than 48 hours of shelter protection. In some instances, considerably more time is required to enable rescue teams to reach trapped miners.**
   - **Power requirements – Since external power may be interrupted, the shelter can not rely on external sources of power for operation. Relying on batteries is also problematic... they may not be fully charged when needed; and the number, size and cost to supply required power can be excessive. Therefore, systems that can operate without electrical power are the most reliable.**
   - **Ease of operation – The set up and operation of the system must not provide any technical challenges. Workers arriving at the shelter are likely to be exhausted, in a panic state and may be injured.**
   - **Availability – The system should be commercially available now and the suppliers should have adequate production capacity to meet demand quickly. Systems that are merely conceptual and may require months or even years to engineer and produce should not be used to set current standards – conceptual models are frequently flawed.**

- **Maintaining integrity of air quality – The shelter must provide entry without compromising the integrity of the safe inside environment (i.e., permitting unsafe levels of life-threatening gases to contaminate the breathable air supply inside the shelter).**
- **Durability – The shelter must be rugged and durable enough to withstand the mining environment – dust, falling debris, and humidity, etc. for 10 years or longer. During this period it must also withstand repeated movement to various locations so that it is ready and available when needed.**
- **Shelter capacity and size – Shelter capacity should be flexible to reflect the typical number of workers near the active workings with some allowance made for workers that may arrive from other areas of the mine. Modular design would enable customization to expand capacity at any particular location in the mine. The capacity for manufacturing shelters in varying heights so that they can be sized based on the minimum seam height of a given mine is crucial.**
- **Cost – Placing a value on saving human life is difficult, if not impossible. However, the cost of equipping a mine with rescue shelters can not be so prohibitive as to make it impractical from a commercially economical standpoint. To ensure protection and access in an emergency situation, multiple shelters will be required for each mine. The exact number depends on various factors like the number or active crews, etc. Therefore, the per shelter cost is important.**

3. **How does the ChemBio Mine Rescue Shelter solution stack up against these criteria?**

   ChemBio (CB) shelters meet or exceed all of the above criteria. The CB sheltering system was designed and developed to meet the demanding military standards for protecting combat troops and command unit personnel from the life-threatening effects of chemical and biological warfare agents as well as toxic industrial chemicals. It has undergone extensive testing by the U.S. Department of Defense.

   Briefly, the revolutionary and ruggedly constructed ChemBio Mine Rescue Shelter provides an impermeable barrier from the life-threatening atmosphere created by high concentrations of carbon monoxide and other toxic gases.

   Engineered to shelter up to 18 workers per unit, the hermetically-sealed "Safe Haven" provides a life-sustaining supply of air for 96 hours, or more, using a proven proprietary process — without the need for any external power.

   The shelter's compactly-stored, rugged membrane uses air-beam construction technology for rapid deployment in emergency situations – less than 60 seconds — when time is critical.

   Cart or skid-mounted for portability, the self-contained system can be strategically pre-positioned and/or pre-deployed within the mine (e.g., near the active workings).

   Once inside, starting the air-processing system creates a breathable air supply by generating oxygen and removing carbon dioxide, carbon monoxide and other pollutants from the air, as needed.

Additional information is available upon request.

Again, thanks for the opportunity to help you formulate standards and procedures that will enhance the survivability of mine personnel in emergency situations. We applaud your efforts and stand ready to assist you in any way.

Best Regards,

Scott
E. Scott Cass
VP, Sales & Marketing
ChemBio Shelters, Inc.
1-800-344-6275
ESCass@ChemBioShelter.com