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**From:** Jack McVey [mailto:[jemcvey@suddenlink.net](mailto:jemcvey@suddenlink.net)]  
**Sent:** Monday, August 18, 2008 10:03 PM  
**To:** zzMSHA-Standards - Comments to Fed Reg Group  
**Subject:** RIN 1219-AB58 COMMENTS ON MSHA PROPOSED RULE ON REFUGES

Gentlemen:

I gave this presentation in brief, at the MSHA public comment hearing at Charleston, West Virginia on July 31, 2008. At that time I reserved the right to revise and extend my remarks.

In this report, I have added an addendum that addresses the need for MSHA an **exception** refuge alternatives that use positive pressure breathable air systems with NIOSH approved respirator systems 7.506 (g). just as it has excluded air locks for these positive pressure devices (7.505 (a)(3) ).p.34136.

An **exception** would clear up the ambiguity created by PIB 07 03 relative to free flowing breathable air into a hardened room. The difference as stated by the experts is comparing apples to oranges.

Respectfully,

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AB58-COMM-30
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*Attention: Katelyn Fontaine*

**PRESENTATION OF COMMENTS ON MSHA PROPOSED RULE:**

**REFUGE ALTERNATIVES for UNDERGROUND COAL MINES**

**Marriott Hotel; Charleston, West Virginia, July 31, 2008**

**IN RE: RIN: 1219 AB58**

Thank you for this opportunity to present my comments and concerns about the proposed rule making for underground refuge alternatives that MSHA proposes under 30 CFR Parts 7 and 75.

I join others in this room to thank you for holding one of your important public hearings in West Virginia which has a rich tradition of leadership in all matters related to the mining of coal. This is most certainly true in the emerging mine refuge industry. To that end, I commend Governor Manchin, Director Wooten, Taskforce Chair Jim Dean, technology consultant Randy Harris, the Taskforce and the West Virginia Legislature for their leadership in the past two and one-half years.

As the inventor, developer, principal officer and spokesperson of the Lifepod Emergency Systems, I want to briefly expound on the uniqueness of my product.

- 1) The Lifepod has the distinction of being an un-shelter....a hybrid if you will; it provides each miner with his individual shelter
- 2) The Lifepod has the ability to provide shelter for 4 to 25 miners,
- 3) The Lifepod can provide refuge for coal miners in Kentucky's 37 coal mines that are fewer than thirty inches in coal seam height with its 18 inch model;

- 4) The Lifepod can provide refuge in Alabama's hot temperatures without raising the temperature,
- 5) The Lifepod is mobile, and can be removed from the mine while the miners continue to receive breathable air during egress.
- 6) The future Lifepod can provide miners protection against a flooded mine as was experienced at the Quecreek Mine in 2002.
- 7) The Lifepod has the distinction of being the only refuge system that has been vetted by NIOSH' National Personal Protection Laboratory- for Respirators as a Supplied Air Respirator System under its 13-F designation.....and which carries NIOSH approval numbers for its breathing system.
  
- 8) The Lifepod also has the distinction of not having been approved by the State of West Virginia.....nor have any units been ordered.

**COMMENTS SPECIFIC TO THE PROPOSED RULE ARE AS FOLLOWS:**

- 1) As they now read, the various sections are rather disjointed and difficult to interpret.
- 2) There is no credible rationale as to how MSHA arrived at the 96-hour rule; clearly the average recovery time approximates 42 hours; perhaps for a margin of error the number could be reduced to 60 hours (2.5 days)
- 3) While the Lifepod Emergency System can fully comply with the cubic and square footage requirements; I recommend that these numbers be reduced for the inflatable shelters to enable them to provide refuge for their stated capacities without having to re-engineer their shelter lengths and breathable air and oxygen components.

**4) Section 7.506 Breathable Air Components, Page 34151**

This section under Paragraph (g) with its following four sub-paragraphs almost exactly describe / define the Lifepod Emergency System. I recommend that the paragraph specify the SAR 13-F designation for the type of respirator that must be used. This designation enables a miner to escape from a hazardous environment because of the system's design using a full face SCBA mask with a required "hip pack." air cylinder.

In Paragraph (g), MSHA authorizes the usage of this system, but it is ambiguous if an airlock must also be used. Under Section 7.505; Paragraph (a)(3) at page 34146, column three, states:

" The proposed rule includes an exception for an airlock if the refuge alternative is capable of maintaining adequate positive pressure. The positive pressure would prevent outside air from contaminating the refuge alternative, therefore an airlock would not be necessary."

I interpret this paragraph / statement to directly relate to the Lifepod Emergency System which uses an open-circuit positive pressure / demand full face mask. This system under Paragraph (g) should be recognized specifically as meeting the "exception rule" as discussed herein if it uses a NIOSH approved 13-F positive pressure full face mask.

Perhaps the respirator / breathing apparatus used with a breathable air component system should be relocated in the rule along with the exception, so there is no disjointedness in interpretation of this important section.

In conclusion, my educational and experience background are in the medical and healthcare industry, and my approach to the development of the Lifepod Emergency System ...first and foremost is to do no harm the the coal miner.

Again, thank you for this opportunity to comment on the proposed rule for refuge alternatives for underground coal mine.

I reserve the right to revise and extend my remarks prior to the conclusion of the review and comment period.

Respectfully Submitted,

Jack E. McVey  
Principal Member  
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**ADDENDUM:**

**Section 7.506: Breathable Air Components**

**Paragraph ( c ) of this section discusses the minimal flow rate of breathable air supplied by compressed air, fans, or compressors is misleading.**

**From the definition it appears that breathable air is being blown into a hardened room either by directly opening the valves of a cylinders; by blowing air with fans; or by usage of a compressor, presumably from the mine surface via a steel pipe drilled into the room. This seems to follow the rationale of the MSHA PIB 07-03 regarding MSHA's idea of a safe area.**

**There is nothing wrong with this thinking, but it would be difficult to provide an adequate number of cylinders into a hardened room.**

**However, MSHA must differentiate between this poor system, and a NIOSH approved system that uses an approved positive pressure, demand full face SCBA mask as a component of a SAR system. As the manufacturer of such a system permitted under Paragraph (g), page 34151, MSHA must provide for an exemption for the 12.5 cubic feet recommendation in that it does not related to the NIOSH Approved system. This manufacturer met with NIOSH and MSHA experts on two occasions in the design of the Lifepod Shelter System. NIOSH specifically dictated the type of NIOSH approved SAR / SCBA system to use. The designation of 13-F is the appropriate NIOSH designation. The Chief, National Personal Protection Technical Laboratory – Respirators, Pittsburgh, PA, advised Lifepod to select a mask that meets the 13-F designation from among its many *approved SCBA / Hip Pak systems*, and that *“NIOSH would require that you verify with the manufacturer that your proposed use of the NIOSH approved 13-F Suevivair TC 13F 0287 combination respirators are in compliance with the user Instructions and limitations specified by Survivair.”* (E-mail from Heinz W Ahlers, Chief, NIOSH/ NPPTL dated 10 / 15/ 2007.)**

**On October 18, 2007, Phillip Lowry, Director of Engineering, Survivair, manufacturer of the selected SCBA / Hip Pak wrote to Lifepod Emergency Systems with the following important comments *“ this letter is to verify that Lifepod’s use of the Survivair Hip-Pac is fully consistent with the NIOSH approval for the Hip-Pac. It is approved for ‘ respiratory protection during entry into and escape from oxygen-deficient atmospheres, gases, and vapors when using the air line supply.’ “***

**Mr. Lowry further writes the following *“....concerning the calculation of the number of air cylinders needed : MSHA’s 07 03 PIB document requires 0.022 cubic feet (CF) of oxygen per miner per minute minimum. The air from the Grade***

**E compressed air cylinders { used by Lifepod Emergency Systems} contains 20% oxygen minimum, so each miner will require 0.11 CF of air per minute. For 96 hours, each miner will require 634 CF of air (0.11 X 60 X96). For 16 miners, that's 10,144 CF. Each cylinder contains 509 CF of air, so 20 cylinders (10,144 / 509) would supply 16 miners for 96 hours. With 32 cylinders {the Lifepod system} exceeds the MSHA minimum requirement by 60 percent."**

**Prudencio C. Corro, M.D., a Beckley, West Virginia physician and surgeon specializing in otolaryngology; a Fellow of the American College of Surgeons and a Diplomate of the American Board of Otolaryngology, after having read MSHA's PIB 07 03 and minimum requirements for oxygen provided to miners concludes in his October 3, 2007 letter, ".....finally, I have calculated the breathable air that you (Lifepod Emergency Systems) will provide to miners for the 96 hour period established by MSHA, and I conclude that there is adequate air to meet the needs of the miner."**

**This addendum dated August 18, 2009.**

**Jack E. McVey**

**Managing Member, Lifepod International, LLC**