

Miller, Diane M. (CDC/NIOSH/EID)

From: Kelley Posey [kposey@essexind.com]
Sent: Tuesday, June 16, 2009 1:54 PM
To: NIOSH Docket Office (CDC)
Subject: RIN: 0920-AA10 and 42 CFR pt. 84 - Comments
Attachments: 2009-KP-007 (NIOSH 42 CFR Part 84 Chg Comments).pdf

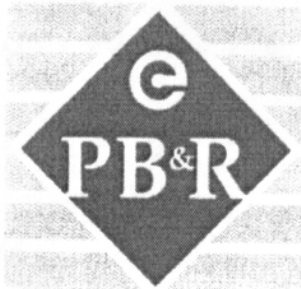
To Whom it May Concern,

Attached are Essex PB&R Corporation's comments for the proposed changes under Docket NIOSH 005, Approval Tests and Standards for Closed-Circuit Escape Respirators.

<<2009-KP-007 (NIOSH 42 CFR Part 84 Chg Comments).pdf>>

Yours truly,

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AS9100 & ISO9001-2000
CERTIFIED

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Contract No.
GS-07F-0483N

NIOSH Docket Office
Robert A. Taft Laboratories, MS C34
4676 Columbia Parkway
Cincinnati, OH 45226

June 16, 2009
Ltr #: 2009-KP-007

Subject: RIN: 0920-AA10 and 42 CFR pt. 84

To Whom It May Concern:

Essex PB&R appreciates NIOSH's effort to provide a section that deals exclusively with closed circuit escape respirators, separate from open-circuit designs. There is enough difference between open and closed systems that we agree that a separate section is warranted. The shift from human subjects testing to machine testing for quantitative analysis is certainly a shift in the right direction to remove some of the inevitable subjectivity that is inherent with human subject testing. Essex is in agreement with most of the requirements of the proposed Sub-part O. There are a few sections, however, that we ask NIOSH to reconsider.

The proposed new section 84.303 calls for a maximum average carbon dioxide concentration of 1.5%, and makes no distinction between CCERs for long term use and those expected to be used for short escape routes. Section 84.97 of the current Sub-part H calls for machine testing with a 2.5% maximum average carbon dioxide level for escape respirators lasting up to 30 minutes, 2.0% for units lasting up to one hour, 1.5% for units lasting up to two hours, and 1% for longer duration units. Essex believes that the different concentrations in the current regulations should remain. Humans can breathe elevated concentrations of carbon dioxide for short periods without any physiological damage. Studies from Penn State supporting this position are included in the discussion that precedes the proposed changes to 42 CFR. Tightening the carbon dioxide concentration from 2.5% to 1.5% for short duration CCERs, in light of the physiological studies, appears unwarranted. Further, unless NIOSH is proposing to change the requirements of section 84.97, Essex requests NIOSH's justification for requiring 1.5% for CCERs while allowing 2.5% carbon dioxide concentrations for the same duration open-circuit designs. We believe that the carbon dioxide concentrations shown in section 84.97 should prevail, but at the least they should be the same for both open and closed-circuit designs.

Also within this same section, Essex requests that NIOSH reconsider sub-section (c) that states "Capacity and performance tests will conclude when the stored breathing gas supply has been fully expended." This sentence ignores the ability of hooded products to store unused oxygen within the hood for use after the gas cylinder or other source of oxygen has been expended. For example, the Essex PBE, approved for use by the FAA, contains two cylinders of compressed oxygen that are depleted in 8-9 minutes, but sufficient

unused oxygen remains stored in the hood surrounding the user's head that the unit is certified for 15 minutes of use. Essex requests that NIOSH simply use the criteria listed in the table of stressors that the inhaled oxygen content must not fall below 15%, and the average oxygen content must not fall below 19%. Essex believes that retaining (c) restricts the design options available to manufacturers.

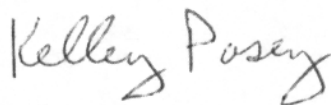
Essex requests clarification as to the condition in which the units will be tested under the proposed section 84.307. Is all testing to be done while the unit is packed in its stowage container? In particular, will the 1-meter drop test be performed while the unit is still packaged, or is this test to mimic the user dropping the unit while removing it from the packaging? Your clarification would be appreciated.

The proposed new Sub-part O, section 302 (a)(3) would require some type of indicator to show the user that the carbon dioxide scrubber has not been compromised. Exactly what this would be is not obvious. Essex believes that all reputable manufacturers will include quality control steps to assure that the carbon dioxide scrubber is capable of working effectively at the time the unit is packaged, and, further, will have done enough testing to be able to assure that the scrubber will continue to be effective as long as the package has not lost its integrity. The manufacturer would be required to submit detailed information to NIOSH on both of these points before certification would be given. NIOSH's proposal to periodically retrieve units from the field to verify continuing effectiveness would be added assurance that the product will work well when actuated. Therefore, Essex believes that the requirement to add some type of device to monitor carbon dioxide scrubber capability while the product is packaged and in the field is unwarranted and would add unnecessary expense to the product.

Proposed section 84.305 calls for testing products through a minimum 30-minute cycle of varying workloads. It states that for product designed for less than 30 minutes, multiple units would be used. Essex is concerned that this type of test will not provide accurate performance data for shorter duration units. For example, some carbon dioxide scrubbers absorb less in the first minute or so of operation, until sufficient moisture infuses the system. To require testing of multiple units would show high concentrations of carbon dioxide every time that a new unit was put on the machine, skewing the test results. Essex would prefer to see the tests called for in this section be designed for the duration of the unit being tested, rather than requiring multiple units be tested. For example, for a unit designed to provide protection for a 15-minute escape, Essex encourages NIOSH to call for a 15-minute test.

Thank you again for your efforts to provide a section specifically for CCERs. I look forward to your response to these comments.

Sincerely,



Kelley Posey
Engineering Manager
Essex PB&R Corporation