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

From: Sell, Robert [Robert.Sell@draeger.com]

Sent: Thursday, September 27, 2007 11:40 AM

To: NIOSH Docket Office (CDC)

Cc: Palya, Frank (CDC/NIOSH/NPPTL); Drews, Wolfgang; Bahr, Axel; Hodson, David; Ammann, Klaus; Rueck, Klaus-Michael

Subject: Comments: NIOSH Docket No.: 082

Attachments: Combination Respirator Docket 082 Comments.pdf

Hello:

Attached please find Draeger Safety's comments on the Concept for Open Circuit CBRN SCBA in Combination with Non-Powered CBRN Air-Purifying, tight-Fighting Respirators and/or Powered Air-Purifying Respirators – NIOSH Docket No.: 082.

If there should be any questions concerning these comments, please do not hesitate to contact me.

Regards

Bob Sell

Sr. Project Engineer - Protection

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September 26, 2007

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Reference: NIOSH DOCKET NUMBER – 082: Concept for Open-Circuit CBRN SCBA in combination with Non-Powered CBRN Air-Purifying Respirators and/or Powered Air-Purifying Tight fitting Respirators – October 6, 2006

Dear Sir / Madam:

Draeger Safety manufactures respirators for various markets and applications therefore we offer the following comments in response to the NIOSH Concept Paper: Proposed Industrial Powered, Air- Purifying Respirator (PAPR) Standard posted September 19, 2006.

The following Draeger Safety comments are being submitted for consideration and we will comment step-by-step through the draft protocol:

II. Combination Unit Specific Requirements:

B. The indicator must be distinguished and be readily apparent to the user without manipulation of the respirator by the user.

Based upon the above statement, any type of operation mode indicators (visible, tactile, audible, etc) is valid to meet the intention of this requirement. Please clarify if the touching of a mode knob is considered a manipulation of the respirator? Would closing the cylinder valve, when in air-supplied mode, and turning on the PAPR or opening the cylinder valve and turning off the PAPR be considered as manipulation of the respirator?

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III. Breathing Resistance, Canister:

A. Breathing Resistance ~~will use criteria~~ shall be in accordance with ~~established in~~ the CBRN APR standard.

Draeger suggests changing the wording as indicated above which makes the requirement mandatory. In addition, we would prefer that the complete requirement as detailed in the APR CBRN standard be included in the document.

VI. Carbon Dioxide:

A. ~~Maximum~~ An Allowable average inhaled carbon dioxide concentration less than or equal to 1% when operated in SCBA mode and ~~in any mode including~~ PAPR blower ~~off~~ on or APR mode as tested in accordance with ~~existing~~ NIOSH ~~STPs~~ Carbon Dioxide Test Procedure RCT-APR-STP-0064.

B. An allowable average inhaled carbon dioxide concentration less than or equal to 2 % in PAPR blower off mode when tested in accordance with EN 12942:1998 + A1:2002 § 6.13 (Power assisted filtering devices incorporating full face masks, half masks or quarter masks).

Reason: An average value has no maximum limit other than the Pass / Fail value. We also feel that the specific operation modes be identified due to our interest in adding Section IV B which utilizes an existing EN standard.

XI. Service Life Testing, High Flow:

A. Each canister of non-powered systems to provide minimum service life time of 5 minutes when tested at a flow rate of 100 liters per minute, 50+- 5 percent relative humidity and 25 +-5 ^{0}C for each of the gases/vapors when tested in accordance with the CBRN APR standard requirements.

Reason: No reference was provided for the test concentrations and breakthrough requirements and we felt that the intent was for the CBRN APR standard was planned to be used.

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XII. Low Temperature/Fogging:

A. The low temperature/fogging requirements will be in accordance with ~~established using~~ the CBRN APR standard criteria.

Reason: Draeger believes that the additional wording makes it a mandatory requirement whereas the use of the term "established" only appeared to be a guideline.

B. Respirator must perform properly in all operating modes.

Clarification of the intent of this statement is necessary, is this evaluating the fogging performance while switching operation modes?

C. All indicators, alarms, etc. must function as intended, ~~remain accurate~~, and clearly indicate desired information.

Reason: The accuracy of indicators will be tested in other relevant clauses

XIII. Communications:

A. Communication requirements will be in accordance with ~~established using~~ the CBRN APR standard criteria.

Reason: Draeger believes that the additional wording makes it a mandatory requirement whereas the use of the term "established" only appeared to be a guideline.

XIV. Durability Conditioning (environmental, transportation shock and survivability):

C. Containers: subjected to conditioning in manufacturer-specified minimum packaging configuration. Reword this section in line with §1.1.2 of the CBRN-PAPR Standard

F. Over cases may not be a substitute for the minimum packaging configuration and will not be used in durability conditioning of the application Reword this section in line with §1.1.2 of the CBRN-PAPR Standard

Reason: The current wording is vague whereas our requested wording provides more information and would be consistent with existing requirements.

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XV Gasket, Mechanical Connector:

A. Applies to non-powered only in accordance with the CBRN APR standard requirements

Reason: Draeger believes that the additional wording makes it a mandatory requirement whereas the use of the term "established" only appeared to be a guideline.

XVI. Canister Dimensions and Weight

A. Applies to APR for face mask mounted canisters ~~only for compliance with APR Interoperability~~ and tested in accordance with the CBRN APR standard requirements

~~B. Meets requirements identified in the CBRN APR standard~~

Reason: By inserting reference in A to the CBRN APR standard Section XVI B this statement is no longer needed. In addition, there is no reference to interoperability in the CBRN APR standard and NIOSH has already established that interchanging components from other manufacturer's approved product would void the NIOSH certification.

XVII. Tolerance Analysis:

A. Criteria will be ~~established~~ in accordance with ~~using~~ the CBRN APR standard criteria.

~~B. Combination SCBA/APR/PAPR will require interoperability.~~

Reason: By inserting reference in A to the CBRN APR standard Section XVI B this statement is no longer needed.

XVIII. Practical Performance: ~~Modified~~ Laboratory Protection Level (LRPL) Test:

B. For ~~non-powered~~ APR: LRPL ≥ 2000 ~~for requested configuration~~

Reason: The section title conflicts with the paragraphs contained in it and we believe that a general title should apply. In addition, for paragraph B Draeger fells that the term "non-powered" has always been associated with one of the operational modes for a PAPR and would suggest making a distinction between the APR and PAPR for the document.

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XVIII. Practical Performance: ~~Modified~~ Laboratory Protection Level (LRPL) Test:

C. ~~For non-powered for compliance with APR Interoperability:~~ Modified LRPL performed using additional respirators fitted with a canister weighted to 500 grams and sized to the maximum (8 additional tests same as APR) LRPL ≥ 2000

Reason: Draeger fells that the term "non-powered" has always been associated with one of the operational modes for a PAPR and would suggest making a distinction between the APR and PAPR for the document. In addition, Section XVI Canister Dimensions and Weight specifically references that this requirement is only for face mask mounted canisters and therefore would not apply to a PAPR. Finally, there is no reference to interoperability in the CBRN APR standard and NIOSH has already established that interchanging components from other manufacturer's approved product would void the NIOSH certification.

E. The PAPR shall also be tested in a non powered mode: LRPL ≥ 2000

Reason: Add new section E to cover LRPL test for the non powered PAPR mode

XIX. Chemical Agent Permeation and Penetration Resistance Against Distilled Mustard (HD) and Sarin (GB) Agent Test Requirement

A. ~~Requirements will be established using the CBRN SCBA standard criteria~~ Two SCBA-PAPR units will be tested in SCBA mode and two of these units shall be tested in PAPR mode against each agent for each test condition identified in the respective standards.

New section B:

B. Two SCBA-APR units shall be tested in SCBA mode and two of these units will be tested in APR mode against each agent for each test condition identified in the respective standards

Reason: The current statement does not identify the testing for the other operational modes of the combination unit and we fell that these other modes should be tested to verify compliance to their respective requirements.

XX. Other areas

Add the following sections:

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Switching mode
During switch mode from SCBA to PAPR or APR or from PAPR or APR to SCBA pressure spike(s) are acceptable.

Reason: The current document does not identify any performance or practical requirements when switching modes of operation and we would like to see it addressed. We only proposed the above requirement because during mode transition pressure spikes will occur.

Mass
The total mass of a combined respirator shall not exceed 18 kg.

Reason: In line with international standard harmonization e.g. EN 137, this allows an extra mass of a second mode operation over and above the existing limit of 16 kg for SCBA as described in 42 CFR Part 84 Subpart H

General Document Comments:

1. *Draeger suggests that any requirements which reference an existing CBRN document that the complete requirement as detailed in the standard be included in this document.*
2. *Along with the release of this standard, we also suggest that NIOSH have a Guidance Document prepared and released at the same time.*

Draeger Safety thanks NIOSH for the opportunity to provide comments. Please consider our comments concerning the ongoing changes to the standard.

If there should be any questions concerning this matter, please do not hesitate to contact me at 412-788-5685 or via e-mail at Robert.Sell@Draeger.com.

Respectfully,

Robert Sell

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