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From: cecolton@mmm.com
Sent: Monday, October 19, 2009 2:21 PM
To: NIOSH Docket Office (CDC)
Cc: Szalajda, Jonathan V. (CDC/NIOSH/NPPTL)
Subject: NIOSH DOCKET –NIOSH – 083B

Attachments: October 19 Letter on SAR concept.pdf



October 19 Letter
on SAR conce...

(See attached file: October 19 Letter on SAR concept.pdf)

Thanks,

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October 19, 2009

NIOSH Docket Officer
RE: NIOSH DOCKET –NIOSH – 083B
Robert A. Taft Laboratories, M/S C34
4676 Columbia Parkway
Cincinnati, OH 45226
NIOSHDOCKET@CDC.GOV.

**RE: Proposed Concept: Supplied –Air Respirators (SAR) Standard Subpart J
August 10, 2009 NIOSH Docket Number # - 83B**

Dear Docket Officer:

3M Company (3M), through its Occupational Health and Environmental Safety (OH&ES) Division, is a major manufacturer and supplier of respiratory protective devices throughout the world. 3M has invented, developed, manufactured and sold approved respirators since 1972. 3M employs experienced engineers and technical professionals for the development of respirators, including supplied-air respirators. Our sales people have trained and fit tested hundreds of thousands of respirator wearers throughout the world. Our technical staff has performed basic research on the performance of respirators and their uses, presented and published these data in numerous forums and assisted customers with the development and administration of effective respirator programs. In sum, we have substantial experience in all phases and applications of respiratory protection. We are pleased to provide the National Institute for Occupational Health and Safety (NIOSH) with our comments on the Proposed Concept: Supplied –Air Respirators (SAR) Standard Subpart J, dated August 10, 2009.

3M appreciates the opportunity to add our comments and knowledge to docket 83B.
Sincerely,

Robert A. Weber, CIH
Manager of Technical Service and Regulatory Affairs
3M Occupational Health & Environmental Safety Division

Enclosures

**Proposed Concept: Supplied –Air Respirators (SAR) Standard Subpart J
August 10, 2009**

The following comments are in response to the above mentioned draft and comments from the public meeting of September 17, 2009 regarding the supplied-air respirators (SAR) technical performance standard. They are in addition to comments submitted earlier on September 30, 2009 to Docket 083A on the supplied-air respirators concept.

I. General Comments on the Draft Preamble

In this concept, NIOSH proposes to approve combination supplied air respirators (SAR)/SCBA including those for CBRN under this subpart. We believe this proposed change is not in the best interest of respirator users. By including the approval requirements for this combination here, which includes IDLH, these devices will carry the same designation (based on the current approval numbering system) as a respirator not approved for IDLH atmospheres. Based on our experience, users and those responsible for choosing PPE will mistakenly select SAR for IDLH atmospheres. NIOSH should keep the current approval process for combination respirators where a combination respirator is given the approval number that corresponds to the function that provides the lesser protections. As stated in 42 CFR 84.63(b), “Where a combination respirator is assembled from two or more types of respirators, as described in this part, each of the individual respirator types which have been combined shall, as applicable, meet the minimum requirements for such respirators set forth in subparts H through L of this part, and such combination respirators, **except** [emphasis added] as specified in § 84.70(b)(2), will be classified by the type of respirator in the combination which provides the least protection to the user.” The paragraph referred to in the quote is combination SCBA/SAR devices.

Being able to clearly communicate to the end user that regardless of what they called the combination unit (some people would call it an airline respirator) that if it had 19C in the approval number it was not approved for IDLH atmospheres is critical.

We find the reasoning that NIOSH offers for wanting to change this past practice is faulty. While users may not often use the SCBA for entry, they do use the unit for entry into IDLH atmospheres. Based on years of familiarity with respirator use, when some airline/SCBA units are approved as airlines, airlines not appropriate for IDLH atmospheres will be selected. It has been one of the most common errors made on pre-tests in respiratory protection classes.

We agree with NIOSH for eliminating demand airline respirators as well as hose mask and hose mask with blower. In doing so, we submit NIOSH should change the name of both the subpart and the devices to “airline respirators.” Because this should be the only type of device in this subpart, the “supplied air respirator” no longer needs to be used in either the title or the name for the devices. This will eliminate terminology mistakes that are made when people talk about “air-supplied respirators” and “atmosphere supplying

respirators". This change will assist many people in communicating proper selection to end users and simplify material safety data sheets that identify respirators erroneously.

We believe the new proposed optional category of "air source respirator" is not appropriate and should be removed. We disagree with NIOSH that this will fill the void left by OSHA. NIOSH has made two mistakes about OSHA evaluations of "compressors" and "pumps" in the field. OSHA has never evaluated an air source for the quantity of air it puts out. There is no way of measuring it easily in the field. OSHA compliance officers typically review the approval and evaluate the air pressure at point of attachment, length of hose, sections of hose, condition of hose (no leaks fixed, etc.) and proper parts such as valve/regulator. The second mistake is related to air quality evaluations. Air quality is investigated on both systems. The OSHA respirator standard applies to all compressors including pumps. Because of their simplicity, location of the pump is the single most significant factor contributing to poor air quality according to OSHA. OSHA has a compliance directive instructing that the location of the inlet on pumps be checked for carbon monoxide. Both systems must comply with the OSHA respiratory protection standard.

The strength test for harness assemblies on airline respirators should only apply to those harnesses where they are designed to be used as the rescue system or designed for attachment of life lines. If the manufacturer does not design his product for these uses it should not have to go through this test and the manufacturer needs to warn about this fact in the user instructions. To do otherwise turns the standard into a specification standard where every harness assembly is required to be a rescue system.

Hoods should not be required to meet ANSI Z89.1-2003. To do so eliminates hoods from the marketplace. Every loose fitting device will be required to offer head protection and thus this becomes a design specification. This contradicts NIOSH's explanation for eliminating the specification on hose length.

Comments on Panel Discussion Issues

Total Inward Leakage

The proposed TIL table lists "neck" dam as a respiratory inlet covering. "Neck dam" is not a respiratory inlet covering. It is the type of seal that is often used to make hoods and helmets into tight fitting devices. This entry should be changed to full facepieces and tight fitting hoods and helmets.

At the public meeting NIOSH indicated they used the OSHA maximum APF as a starting point for TIL benchmark testing. This benchmark was said to be derived from the maximum OSHA APF for the device multiplied by 10. Two errors were made if this was the starting point.

The APF for both constant flow and pressure demand half mask airline respirators is 50. With a safety factor of 10 this number becomes 500 or a penetration of 0.2%. The slide

used in this discussion indicates a penetration of 0.01 % which is not based on the OSHA APF.

NIOSH groups all loose fitting respiratory inlet coverings into one listing with one maximum APF of 1000 for all devices. This is wrong. OSHA does not group loose fitting respiratory inlet coverings in the same manner as NIOSH. OSHA gives a maximum APF of 1000 to loose fitting hoods and helmets if the employer has data from the respirator manufacturer to indicate performance at this level. The APF is 25 if the employer does not have that information. The maximum APF assigned to airline respirators with a loose fitting facepiece is 25. Manufacturer data can not be used to support a higher APF. Therefore, the maximum TIL values should be based on 250 (25 times 10) or a TIL of 0.4%. NIOSH needs to correct these errors in the proposed concept.

Should NIOSH require marking helmets that do not meet the mechanical compliance test as “not impact and penetration resistant?”

No. This standard is for respiratory protection devices. NIOSH should not set requirements for head protection in a respiratory protection device standard. This requirement should be deleted in its entirety.

As written, this requirement means all helmets would be marked and would most likely have Z89.1-2003 in the marking. This would be confusing as users may not take time to read the marking closely and may assume it indicates Z89.1-2003 compliance. Markings would probably be either:

1. “Meets Z89.1 – 2003 ...” or
2. “Does not meet Z89.1 – 2003 ...”

It is current practice for users and OSHA compliance officers to just look for Z89.1-2003. In addition, marking helmets that are not impact resistant would conflict with Z89.1, which requires marking to identify compliant head protection. NIOSH would be making manufacturers violate the ANSI standard just to get NIOSH approval. Cautionary language in the user instructions will tell users if the helmet does not offer head protection. Marking that the product complies indicates clearly that if it isn't marked, it does not comply. In addition, many users will read the second warning and see the Z89.1-2003 and will not notice the “not” and may believe these devices to meet the standard because that is the way it has been for over 30 years.

Should NIOSH require marking lens that do not meet the mechanical compliance test as “not impact resistant?”

No. This is a respiratory protection standard, not eye and face protection. This requirement means the manufacturer must mark all lenses and will most likely use Z87.1-2003 in the marking. This will be confusing as users may not take time to read the

marking closely and may assume it indicates Z87.1 compliance. Markings probably would be either:

1. "Meets Z87.1 – 2003" or
2. "Does not meet Z87.1 – 2003"

It is current practice for users and OSHA compliance officers to just look for Z87.1-2003. In addition, marking lenses that are not impact resistant would conflict with Z87.1-2003, which requires marking to identify compliant eye and face protection. NIOSH would be making manufacturers violate the ANSI standard just to get NIOSH approval. Cautionary language in the user instructions will tell users if the lens does not offer eye or face protection.

Manufacturer Specified Air Flow Rates

The high flow rate proposed is not practical for supplied air respirators. Being tethered to the air hose, workers are limited in their movements and do not engage in activities that achieve these very high flow rates. We suggest NIOSH look at the type of activities necessary to generate these work rates.

Specific Comments on the Concept

Definitions

Because NIOSH is proposing to reduce SARs to one type of device, the definitions should be changed to reflect this change.

Definition 2.1 should be changed to "Airline Respirator." Definition 2.3 should be changed to "Airline/Self-contained breathing apparatus." Definition 2.4 "Airline" is not needed. Definition 2.5 Air source respirators should be changed to read, "Airline respirator that encompasses a portable/air compressor ..."

Definition 2.8.3 is not completely accurate as written. It should be defined as "... respiratory inlet covering which forms a partial seal with the face..."

It is not clear in definition 2.10 what is meant by "or some combination of these."

Descriptions

First the terms in the description should match those in the definitions. This title should be changed to reflect there is only one type of respirator in this subpart. The title at 3.1 would then read, "Airline respirators." Section 3.1.1 would be airline respirator. Section 3.1.2 should be abrasive blasting airline respirators or air line respirator-abrasive blasting. The first one would be consistent with OSHA terminology in its abrasive blasting standard.

The term "atmosphere supplying respirator" has never been defined by NIOSH. We suggest that it should not be used. Use the definition NIOSH introduced earlier, "Airline respirator/Self-contained breathing apparatus. In addition these descriptions only address escape SCBA when all combinations of this type can be used for escape.

These changes should be reflected throughout the entire concept.

Section 4.1.4.3 (We believe this is mis-numbered) requires eyewear not to interfere with the fit of half masks. It is impossible to meet this requirement. Furthermore, we need to know how NIOSH plans to test this. We assume NIOSH is going to purchase every make and model of eyewear on the market and then perform the TIL test with every member of the fit test panel in every set of glasses. NIOSH will be doing a lot of testing. Perhaps NIOSH should not try to regulate what they can not accomplish. This is already covered by OSHA where they require fit testing of the worker with any PPE that may interfere with the respirator.

Section 4.2.3.2 creates confusion for the user. NIOSH is requiring the employer to supply Grade D air meeting the 2004 CGA standard while OSHA specifies meeting the 1989 version. One can therefore comply with OSHA but "void" the NIOSH approval. We suggest that the NIOSH proposal be changed to the 1989 requirements. We also suggest that before adopting the 2004 standard, NIOSH perform an economic impact analysis of this change on users.

Under total inward leakage, NIOSH needs to explain what is meant by "in the candidate approval design mode."

Section 4.4.3.2 and others. They require a manufacturer to supply a 25 foot section of hose for testing. However, this standard leaves the lengths of hoses to be determined by the manufacturer so some manufacturers may choose to not make this length. We submit NIOSH not specify the length of hose.

Section 4.4.3.8. This section requires the hose to stay together under all conditions of normal use, yet it is tested at 2X operating pressure. This does not reflect normal conditions. We do not understand this dichotomy.

In section 5.1.1 the term "positive pressure, pressure demand" is used. This is redundant. By the requirements of this concept all of these devices will be positive pressure. Delete "positive pressure" and keep pressure demand. This occurs in other places of the standard as well.

5.1.4 There appears to be a discrepancy here. The description of these devices says the SCBA is for escape. However, this section seems to say you can enter into IDLH (IDLH is part of the hazardous atmosphere definition) in order to connect the airline portion, which without clarification, would not be permitted.

In section 6.3.3 NIOSH defines "end user." We suggest this definition be included in 42 CFR 84.2 Definitions. This definition is not unique to airline respirators. We also suggest

this be changed to read, "...the person who wears the respirator." As it is written it says "the end user is the person who receives protection by wearing it." This could mean that a person who wears it but does not receive "protection" from it because they are not trained or they do not use it correctly is not the end user.