

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

From: Szalajda, Jonathan V. (CDC/NIOSH/NPPTL)
Sent: Friday, June 19, 2009 3:44 PM
To: NIOSH Docket Office (CDC)
Cc: Rehak, Timothy R. (CDC/NIOSH/NPPTL)
Subject: FW: Proposed Rule on Approval Test and Standard for Closed-Circuit Escape Respirators - RIN 092-AA10
Attachments: Comments on proposed rule-making for CCERs - Tommey H. Meyers - 6-19-2009.doc

Please include with comments submitted to # 005.

From: Tommey H. Meyers [mailto:tommey.meyers@seafirstsolutions.com]
Sent: Friday, June 19, 2009 3:41 PM
To: Szalajda, Jonathan V. (CDC/NIOSH/NPPTL)
Cc: elliot.rosen@seafirstsolutions.com
Subject: Proposed Rule on Approval Test and Standard for Closed-Circuit Escape Respirators - RIN 092-AA10

Mr. Szalujda,

Please find attached my comments on the subject rulemaking.

I am available via e-mail or phone should you have any questions.

Thank-you,

Tommey H. Meyers, CIH
Managing Partner

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19 June, 2008

Mr. Jonathan Szalajda
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Delivered via e-mail: zfx1@cdc.gov

Subject: Proposed Rule on Approval Test and Standards for Closed-Circuit Escape Respirators

Dear Mr. Szalajda,

I am pleased to have the opportunity to provide comments on the proposed rulemaking for Approval Test and Standards for Closed-Circuit Escape Respirators (CCER's) published on 10 December, 2008, in the Federal Register (73 Fed. Reg. 75027).


I am a Certified Industrial Hygienist (CIH) and a retired Coast Guard officer who was responsible for the service-wide selection of escape devices, respiratory protection, and other personal protective equipment.

This rulemaking on CCER's only very recently came to my attention and I am concerned that if enacted, it will actually increase worker risk, a direction that clearly runs counter to NIOSH objectives.

For the reasons outlined in the attached comments, I urge NIOSH to withdraw the proposed rule. NIOSH should issue a new rule that applies to all emergency escape respirators, allows the size and weight of CCER's to be minimized within a given duration of protection, and addresses critical safety issues associated with use of CCER's.

If you have any questions or need additional information, please contact me at (410) 570-8625 or tommeymeyers@seafirstsolutions.com.

Sincerely,


TOMMEY H. MEYERS, CIH
SEAFIRST SOLUTIONS LLC



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COMMENTS TO PROPOSED RULE ON APPROVAL TESTS AND STANDARDS
FOR CLOSED-CIRCUIT ESCAPE RESPIRATORS

73 Federal Register 75027, December 10, 2008

RIN: 0920-AA10

42 CFR pt. 84

NIOSH Docket #005

Provided by Tommey H. Meyers, CIH

SeaFirst Solutions LLC

19 June, 2009



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One of NIOSH's objectives is to ensure that the best possible respiratory equipment is available to workers. Unfortunately, the rulemaking as proposed runs counter to such a goal. As the opportunity to establish new standards and guidelines are relatively infrequent events, I believe NIOSH should withdraw the proposed rule and use some additional time to issue a new rule that applies to all emergency escape respirators, allows the size and weight of CCER's to be minimized within a given duration of protection, and actually addresses critical CCER safety issues in a manner supported by sound and appropriate evidence. Working towards such a set of rules would then truly be in accordance with their laudable objective.

A key deficiency in the rule as proposed, and one that should be properly reflected in any new rule, is application of standards to ALL self-contained respirators, not just Closed Circuit Escape Respirators (CCER's). NIOSH provides several reasons in the proposal in order to explain the need for changes to the standards. These reasons include storage in harsh environmental conditions, non-uniform testing devices, and duration specific certifications, all of which apply equally to Open Circuit Escape Respirators (OCER's). However, CCER's and OCER's are used in the same hazardous environments, are both utilized by identical populations traveling identical escape routes, and ALL breathing apparatus that are exposed to hazardous conditions are susceptible to damage and performance degradation. NIOSH correctly indicates that the current performance testing requirements for CCERs relies upon a non-uniform testing regime; however they fail to note that ALL self-contained breathing apparatus – open and closed circuit- are currently tested by NIOSH using a non-uniform test regime. If uniformity in testing is an important objective, then OCERs will also benefit from a consistent test regime. NIOSH also asserts the rulemaking is needed because duration ratings may be misleading to employers and users. However, every self contained breathing apparatus in the world, open and closed circuit, is currently certified by duration and not by oxygen capacity, as would be required in the proposed rulemaking. While the proposed rulemaking suggests that there is confusion over duration-specific certifications, a great deal more confusion would result if employers, users, and safety professionals must chose between an OCER rated by duration or a CCER rated by capacity. Finally, since both CCER's and OCER's are addressed together as self-contained respirators in a single Code of Federal Regulations section, NIOSH should address all self-contained respirators in a single rulemaking. To go forward with rule-making that only addresses CCER's has the potential to create two user classes for self-contained respirators – both of which would be using equipment that meets CFR requirements -- with differing protection levels. Different rules for CCER's and OCER's will create significant confusion and misunderstanding among manufacturers of equipment, employers charged with providing protection to their workers, the workers themselves, and the safety and health professionals advising both employers and workers.

Among the proposed requirements, there are a number that are not supported by evidence in the record and/or will not improve worker safety but will lead to the opposite result. In particular, the proposal to implement a new capacity rating system that would establish work rate requirements for Capacity 1 and 2 devices is not only not supported by any underlying



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data, its new requirements would also require large increases in the size of the units, in many cases making them too large to store and substantially less likely to be worn. Size, weight, and wearability will have more to do with whether an escape device provides the protection it was designed to provide than almost any other factor. A device that provides slightly less than the advertised duration of oxygen because of very high usage rates is much more likely to allow someone to survive during the rare need to escape than the device that provides an excess of oxygen but isn't carried into the hazardous environment because it is too cumbersome and unwieldy.

As example of this principle, I offer my involvement with the U.S. Coast Guard's selection of a CCER as an operational escape respirator:

While on active duty with the U.S. Coast Guard, as the Chief of the Afloat and Marine Safety Division within the Office of Safety and Environmental Health, I had to frequently navigate the plethora of requirements, rules, and performance characteristics associated with personal protective equipment in order to provide recommendation regarding service-wide purchase of protective equipment for Coast Guard men and women. One of the more difficult tasks during my seven years at Coast Guard Headquarters was selection of Emergency Escape Respirators that could be easily carried and used by operational personnel, whether conducting regulatory and compliance inspections of very large commercial vessels, making law enforcement boardings on fishing boats and other small craft, or providing security in situations in which chemical, biological, or radiological hazards might be present. These devices needed to protect the users in situation where environmental conditions might change very quickly and where a very wide variety of respiratory hazards could exist, from simple oxygen deficiency to complex toxic environments. A major challenge was finding equipment that provided adequate protection in terms of duration and applicability to the wide variety of hazards, while still being able to withstand punishing daily use in the maritime environment; having a size and weight sufficiently small enough to carry in conjunction to weapons, body armor, and other boarding equipment; and capable of being easily used and maintained. The USCG's ultimate selection of a CCER (Ocenco's M-20.2 EEBD), was based upon a number of factors. One was the result of a set of head to head real-life escape tests conducted upon a number of potential escape devices, including different CCER's and OCER's, in which subjects were placed in the most difficult to escape areas of a vessel, were required to don the applicable device, and then egress. Ease of use, duration of protection, and facilitation of this egress through tight and constraining pathways were specifically evaluated for each of the devices. Another factor was the fact that the M-20.2 was already in widespread use across the U.S. Coast and U.S. Navy as the standard shipboard escape respirator for berthing and engineering areas. Although the version selected for boarding and security personnel came with a slightly different casing to support it's wearability and need for durability given the increased level of handling, functionally they were the same device. Although the M20.2 was a good choice based upon these two factors, it was its size and weight



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that made it the best overall choice. In fact, it was size and weight concerns associated with 5 and 10 minute OCER's – Draeger and Survivair EEBA's that had previously provided much of the emergency escape capability throughout the Marine Inspection arena –that provided much of the impetus for the Coast Guard to look at devices like the M20.2 in the first place. A number of compliance audits had identified extremely low usage of the EEBA's as a significant risk factor to personnel safety. The large bottle and cumbersome configuration were frequently cited by users as a reason to leave them in the office, in the trunk of a car, or in a boarding bag – all locations where if needed by the inspection personnel, they would have been completely useless. But because the M20.2 was an escape device that was much more likely to be carried, it was considered by far the best overall choice by both operators and by U.S. Coast Guard safety and the health professionals. Notably, the M20.2 was still considered to be at the very edge of acceptability by many boarding personnel; if it was required to be any larger, it would go from being relatively easily carried on a belt with with other belt worn equipment to being treated like the EEBA's were previously.

Indeed, even NIOSH acknowledges on Page 75034 of the Proposed Rulemaking that any change to a capacity rating system that would increase the size of the devices would REDUCE worker safety because of the greater likelihood that workers will not wear the CCERs.

The proposed rulemaking also does not address known critical safety issues associated with CCER's. These would include the lack of a requirement for first inhalation performance; no test in the proposed rulemaking for humidity resistance; no addressing of the known hazard of compressed oxygen starter failure in chemical oxygen CCERs and no requirement for oxygen starters to include a pressure gauge; no specificity as to requirements for chemical bed integrity indicators; no addressing of the known fire hazard of chlorate candles that are used in some chemical oxygen CCERs; and a lack of applicable test protocols for the proposed requirements.

I think NIOSH would be well served by withdrawing the rulemaking in its current form and reissuing it in a more comprehensive, complete form that applies to all escape respirators, doesn't require an increase in the size of the devices, and includes requirements that address known safety issues. Such an approach would be consistent with the current regulatory framework, which addresses all escape respirators in the same regulation; would allow the size and weight of escape respirators to be minimized within a given duration of protection, increasing the likelihood of their availability when actually needed; and would use existing evidence to address critical safety issues in an appropriate manner. A retreat away from the current flawed rulemaking and subsequent work towards a more comprehensive, evidence-supported set of rules would very much be in NIOSH's strategic interests and would allow them to truly translate knowledge into the protective equipment for America's workers.