

U.S. Department of Labor

Mine Safety and Health Administration
201 12th Street South
Arlington, Virginia 22202-5452



DEC 14 2016

John Howard, MD
Director
The National Institute for Occupational Safety and Health
Patriots Plaza 1
395 E Street, SW, Suite 9200
Washington, DC 20201

Dear Dr. Howard,

We write to express concerns regarding a potential unintended impact on underground coal miners of a January 4, 2017, deadline after which all "CAP 3" closed-circuit escape respirators (CCERs) must comply with new respirator approval requirements at 42 C.F.R. pt. 84, subpt. O. Currently, as well as under the new rule, NIOSH and MSHA jointly approve such respirators used for mine emergencies, which are known in the mining industry as 1-hour self-contained self-rescuers (SCSRs). Because the CAP 3 CCER models approved to date under the new rule cannot reasonably be worn for an entire shift due to their size and weight, we believe that enforcing the January 4 deadline reduces protections currently available to miners and urge that the deadline be postponed.

As you know, on December 10, 2008, NIOSH published a proposed rule titled *Approval Tests and Standards for Closed-Circuit Escape Respirators* intended to "enable NIOSH and MSHA to more effectively ensure the performance, reliability, and safety of CCERs." 73 Fed. Reg. 75027. One of the issues discussed in the preamble to the proposed rule was the potential of the new approval requirements to increase respirator size. The preamble pointed out that "CCERs are commonly worn on workers' belts or stored in close proximity to be accessible in an emergency . . . The greater the oxygen supply capacity of a respirator, the larger the respirator size and the less practical or comfortable it might be to wear during work tasks." Id. at 75028. The preamble stated that "the Federal Mine Safety and Health Act requires that 'no mandatory health or safety standard . . . shall reduce the protection afforded miners by an existing mandatory health or safety standard.' 30 U.S.C. 811(a)(9)" and that "NIOSH must be able to demonstrate that the use of the CAP 3 rating and associated tests to approve equipment for use in underground mines would not constitute a reduction in protection . . . under the current MSHA one-hour requirement for SCSRs." Id. at 75033-34.

You can now file your MSHA forms online at www.MSHA.gov. It's easy, it's fast, and it saves you money!

NIOSH invited public comment on the oxygen consumption rate that should be used for the simulator testing for the CAP 3 rating, stating that an “increased minimum supply [of breathing gas] would be accompanied . . . by a commensurate increase in the minimum sizes of CCERs that could be designed under the CAP 3 rating. This is of concern because the larger that a CCER is designed to be (to supply a greater minimum capacity of breathing gas), the less practical the CCER becomes to be worn on a belt (for availability in case of an emergency) during routine work activities. Limiting the size of CCERs has been a consistent concern of miners. NIOSH is proposing an oxygen consumption rate based on the 50th percentile miner as a reasonable balance between establishing an adequate minimum breathing gas supply for demanding escape scenarios and ensuring that available devices can be worn safely, practically, and without excessive discomfort for the duration of a work shift.” *Id.* at 75034.

Some commenters on the proposed rule expressed concern that, even with the proposed rule’s 50th percentile test rate, the totality of the requirements would result in SCSRs that are heavier and larger than those currently worn by miners. For example, both SCSR manufacturer Ocenco and the National Mining Association expressed concerns that an increase in the size of SCSRs would reduce worker safety by reducing the ability of the SCSRs to be worn by miners. The United Mine Workers of America expressed concern about the size of existing SCSRs and urged that one goal of the re-design should be to reduce their size. These comments were addressed in the preamble to the final rule as follows: “HHS does not expect that a manufacturer would increase the size or weight of a CCER design in response to the new standards . . . [which] afford greater latitude regarding potential variety in the capacity of individual respirator designs This latitude should promote designs that more closely meet the varied capacity, size, weight, and other requirements of different users, occupational settings, and emergency provisions and contingencies.” 77 Fed. Reg. 14170. The preamble acknowledged the requirements of 30 U.S.C. § 811(a)(9) and included a determination that “[t]he use of the capacity rating system and associated tests to approve equipment for use in underground coal mines will not constitute a reduction in protection . . . under the current MSHA duration requirements for self-contained self-rescuers.” *Id.* at 14186.

Under the final rule (published on March 8, 2012), “[a]ll CCERs manufactured and labeled NIOSH-approved and sold by manufacturers after April 9, 2015,” were required to comply with the new approval regulations. 42 C.F.R. § 84.301. However, as that deadline approached and no approvals had yet been granted in certain CCER categories (including CAP 3 CCERs), NIOSH published an interim final rule on January 29, 2015, followed by a final rule on August 12, 2015, extending the deadline. Under the August 2015 final rule, 42 C.F.R. § 84.301 was amended to provide that the continued manufacturing, labeling and sale of certain previously-approved CCERs, including the Cap 3 CCERs, was authorized until 1 year after the date of the first NIOSH approval of a respirator model in the specified categories. The first CAP 3 CCER was approved on January 4, 2016; the new approval regulations will apply after January 4, 2017. After that date, only Cap 3 CCERs that meet NIOSH’s new requirements can be manufactured or sold by manufacturers as NIOSH-approved. The 1-hour CCERs approved under the current approval regulations in 42 C.F.R. pt. 84, subpt. H may continue to be used until the end of their service life.

To date, the following CAP 3 CCER models have been approved under the new regulations in subpart O: Ocenco 75 and CSE SR 2000. The Ocenco 75 CCER is designed to be carried by the miner only when deployed. The Ocenco 75 CCER is 8.6" x 11.9" x 4.6" (width x height x depth) and weighs 8 lbs. The CSE SR 2000 CCER is 8.1" x 10.1" x 5.3" and weighs 8.6 lbs. when carried in its case and 6.5 lbs. when deployed for use. There are no other CAP 3 CCERs that have been submitted for approval.

MSHA standards at 30 C.F.R. § 75.1714(a) require underground coal mine operators to provide miners or others going underground with a one-hour SCSR. Under § 75.1714-1, these SCSRs must be "approved by MSHA and NIOSH under 42 C.F.R. part 84," and may consist either of 1) a 1-hour SCSR (or other approved 1-hour device) or 2) a 10-minute SCSR plus a 1-hour canister. Under § 75.1714-2(b), with certain exceptions "self-rescue devices shall be worn or carried at all times by each person when underground." Under § 75.1714-4, in addition to the SCSRs that are worn, more SCSRs must be stored in caches in a variety of locations, including escapeways, travelways, on mantrips and in hardened rooms.

Many mine operators currently comply with the existing standards by providing miners with a 1-hour belt-wearable SCSR to meet the "worn or carried" requirement and also cache 1-hour SCSRs in strategic locations.

The 1-hour belt-wearable SCSRs currently in use are 6" x 8.5" x 4.25" and weigh 5.9 lbs. when carried. To date, as discussed above, the smallest CAP 3 CCER approved model, which is the CSE SR 2000, is about 3 lbs. heavier, 2 inches wider and 1.6 inches taller than the 1-hour belt-wearable SCSR. While the new CCER units may be appropriate for use in meeting MSHA's SCSR cache storage requirements, mine operators have informed MSHA that they are not miner-wearable over the length of a shift due to their size and weight. There are over 30,000, 1-hour belt-wearable SCSRs in our nation's coal mines, of which over 10,000 are worn by miners. The 20,000 SCSRs that are not worn are cached. Based on MSHA's SCSR inventory records, the Agency estimates that about 90 percent of the 30,000 SCSRs were manufactured in 2012 and 2013. The 5-year service life for the SCSRs that are worn and were manufactured during this time will end in 2017 and 2018, and they will need to be taken out of service at that time. Note, however, that cached units that are worn for any length of time also have a 5-year service life and would therefore not be an option for replacing worn units. (Cached units that remain cached at all times have a 10-year service life.)

For this reason, MSHA believes that, upon the service life expiration of the 1-hour SCSRs that miners currently are wearing, operators will be forced to replace them with a 10-minute SCSR in conjunction with a cached 1-hour SCSR. The option of wearing a 1-hour SCSR to meet the requirement of § 75.1714-1(a) no longer will be available. MSHA believes that, in general (with some exceptions), wearing a 1-hour SCSR is safer than wearing a 10-minute SCSR. Without the protection provided by a 1-hour miner-wearable device, miners will be required to wear a device with a drastically reduced supply of oxygen (that is 10 minutes) and change to a longer-duration device while in a toxic environment.

In an emergency, miners wearing a 1-hour SCSR can begin to escape from the mine immediately. Miners wearing a 10-minute SCSR must first locate the SCSR storage cache and then don the 1-hour SCSR in preparation for leaving the mine. While MSHA allowed for either of these compliance options in its standards, to the extent that operators currently are complying by providing their miners with a 1-hour belt-wearable SCSR, eliminating that option and forcing those miners to switch to 10-minute belt-wearable SCSRs will reduce protections for those miners. MSHA believes that, even with the technical improvements the newly-approved CAP 3 models offer, the fact that the models approved to date cannot reasonably be worn for a shift, results in an overall reduction in the protection afforded to miners who are currently using 1-hour belt-wearable SCSRs.

In addition, miners and mine examiners travel in remote areas of a mine such as bleeder entries. The bleeder entries in some coal mines are several miles long and take hours to examine. To ensure that miners and mine examiners are protected would require mine operators to cache 1-hour CCERs at 10-minute intervals along all travel routes, which may not be economically feasible for many mine operators.

At the time the final rule was promulgated, we understand that both NIOSH and MSHA believed that one or more CAP 3 models submitted for approval would be miner-wearable over the course of an entire shift, even if other CAP 3 models approved were more suitable for cache storage. Unfortunately, at this time, we understand that no miner-wearable CCER applications have been submitted. For this reason, to avoid a reduction in protection for many miners, we urge NIOSH to allow manufacturers to continue to make and sell 1-hour belt-wearable SCSRs under the existing approval regulations at 42 C.F.R. pt. 84, subpt. H until a 1-hour belt-wearable CCER is approved.

We look forward to working with you to continue to provide equivalent or improved SCSR protections for miners.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph A. Main". The signature is fluid and cursive, with a large initial "J" and a long, sweeping underline.

Joseph A. Main
Assistant Secretary of Labor for
Mine Safety and Health