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Subject: Update of the NIOSH and MSHA Collection and Testing of the CSE SR-100

RESPIRATOR USER NOTICE

On December 7, 2009, the National Institute for Occupational Safety and Health (NIOSH) and the Mine Safety and Health Administration (MSHA) opened the first of two investigations into the performance of the oxygen starter assembly on the CSE SR-100 self-contained self-rescuer (SCSR). During NIOSH tests, the oxygen startup cylinders in two SR-100 units failed to release a sufficient quantity of oxygen.

Subsequently, CSE reported the failure of an oxygen startup cylinder during an in-process quality control check conducted as part of production. CSE voluntarily stopped production of the SR-100. The second investigation was opened on February 23, 2010.

Although the likely cause for failure of the oxygen starter cylinders has been identified as a quality control problem, how widespread the failures may be throughout the population of approximately 70,000 SR-100 units deployed in underground coal mines has not been determined. Consequently, NIOSH designed a plan to test field-deployed CSE SR-100s to determine the extent of the oxygen starter failures.

NIOSH generated a list of 1200 randomly selected units identified by serial number using the MSHA SCSR Inventory database. Assuming that some units would not be recoverable for testing, additional units were included in the random list to assure that the minimum of 500 samples could be retrieved for testing.

On October 4, 2010, NIOSH and MSHA began collecting SR-100s from this list according to the sampling protocol. The agencies have retrieved 80 of the 500 units needed for the evaluation and testing. Of the 80 units tested to date, no units have failed the test. While the early results are promising, NIOSH and MSHA cannot be statistically confident that the failure rate is less than 1% until the remaining 420 units are retrieved and tested. Therefore, NIOSH and MSHA are continuing with the collection of the remaining samples.

Some mine operators have been reluctant to participate in this voluntary program because they are encountering difficulty obtaining replacement units needed to remain in compliance with MSHA standards. To address this concern, NIOSH is now offering to replace listed CSE SR-100 units collected for testing with new SCSRs produced by other manufacturers for those mines that already use multiple types of SCSRs. NIOSH and MSHA will contact those mine operators to offer the exchange.

Until NIOSH and MSHA are able to evaluate the data from the audit of field-deployed units and offer additional guidance based on the results of the testing, mine operators and miners are reminded of the guidance found in the NIOSH and MSHA June 23, 2010 Respirator User Notice: <http://www.cdc.gov/niosh/npptl/usernotices/pdfs/CSEUserNot06232010.pdf>.

This notice provides guidance to miners that they should immediately obtain another SCSR if they encounter any difficulty with the operation of an SCSR.