

Defective Airline Respirator Hoses

DOE/EH-0673

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PURPOSE

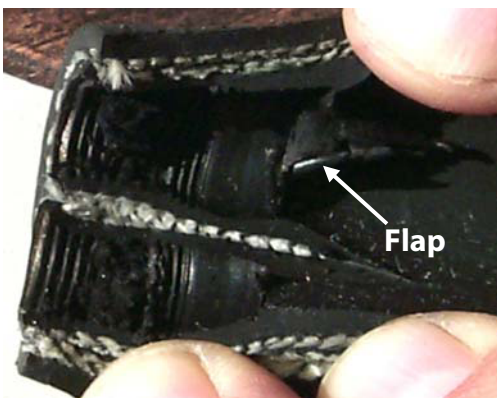
This Safety Bulletin concerns a defect recently discovered at Hanford in airline respirator hoses which can result in severe reduction of air flow. The effected hoses are Scott Health and Safety (H&S) brand respirator airline hoses part number 30020-050. These hoses are commonly used in the DOE complex to allow workers safe access to highly contaminated areas. A sudden loss of air flow due to a defect could require an emergency evacuation and potentially lead to injury or exposure. The reduced flow may also contribute to worker distress and fatigue. This Bulletin provides additional information on the defect and requests sites to report any deficiencies and corrective actions through the Occurrence Reporting and Processing System (ORPS).

PRELIMINARY INFORMATION

This Bulletin contains preliminary information. Both Fluor Hanford (FH) and CH2M Hill (CHG) have suspended use of Scott airline respirator hoses. They are working with Scott H&S to implement a recovery plan to test and accept hoses for use to enable restarting activities which require air line respirators. They are also working to develop a long-term resolution to this issue.

BACKGROUND

On April 21, 2005, a manufacturing defect was discovered on some Scott H&S brand respirator airline hoses (Part Number 30020-050) [ORPS Report No. RL--PHMC-GENERAL-2005-0005]. These hoses are typically used with Scott SKA-PAK respiratory equipment. The defect may block or restrict the flow of air through the hoses. The defect appears to have been created during the assembly process when the ferrules are attached to each end of the hose. The ferrules appear to have gouged the inner surface of the hose. The gouge can form a flap (shown below) inside the hose that can restrict or even block the flow of air through the hose.



Hanford contractors have stopped using Scott respirator airline hoses until the hoses have been proven safe to use. Upon identification of the defect, the FH Respirator Program Administrator

directed FH Issuers to mark any of these hoses contained in

inventory as "DO NOT USE" until further notice. FH inspected 42 similar hoses in inventory and found at least 4 hoses with similar flaps and others with gouging on the inner surface of the hose. The FH Respirator Program Administrator informed Scott H&S of the defect and asked for their support in resolving this issue.

Both FH and CHG wrote essentially identical "Recovery Plans" defining a method to test and accept a small number of hoses to be received from Scott H&S for use. The testing involved a visual inspection using a boroscope of the hose inner surfaces, an audible test that demonstrates that the hose is capable of holding pressure, and a flow rate test, which also removes extraneous debris by blowing air through each hose. This testing is an interim step only and will cease as soon as a new engineering procurement specification can be put in place. Quality assurance and engineering information have been requested from Scott H&S to support development of the new engineering procurement specification.

Scott H&S has been asked to provide FH with a copy of its investigation results and root cause analysis associated with this defect.

Scott H&S will recertify the Hanford inventory of hoses. Contractors and personnel from other DOE sites should contact Scott Health and Safety Customer Service directly at 1-800-247-7257.

ACTIONS

Site managers need to ensure that:

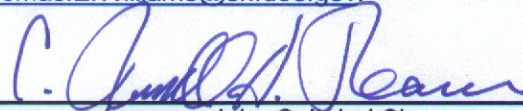
The applicability of this bulletin is evaluated for activities at their sites.

Any Scott H&S part number 30020-050 hoses are inspected prior to use.

Any defective hoses identified are reported in ORPS and are reported to Scott H&S.

Use of breathing air hoses and other accessories is routinely monitored for manufacturing defects.

Questions concerning this Safety Bulletin should be directed to Tom Williams at (301) 903-4859 or by e-mail at Thomas.E.Williams@eh.doe.gov.


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