

Caution Bulletin

Damaged Bullard Powered Air Purifying Respirator Hoses

August 2, 2007

2007-RL-HNF-0029

Tracking No: 642

Summary: During issuance of a Bullard Powered Air Purifying Respirator (PAPR) it was noted that there was a cut in the breathing air tube. Further investigation determined the air supply tube was being damaged by the sharp edges of the tube connector.

Discussion of Activities: The Bullard Powered Air Purifying Respirator hood uses a breathing air tube PN# PA1BT which is connected to a part with a sharp outer edge that can cause small holes to develop in the composite plastic breathing air tube which supplies air to the hood (See pictures). The holes can be hard to see and may be partially covered by a black outer wrap around the hose.

The outer edge of the plastic fitting, which inserts into the hose, can score the composite plastic hose and cause a line of small cuts penetrating the hose around its perimeter near where the hose contacts the top of the fitting. After cutting apart one of the hoses, it was observed that the outer edge of the fitting against the hose was sharp and rough in some spots. Normal activities of assembling the hose to the blower unit and normal movement could score the hose and then exacerbate the cutting effect; these cuts can be single or multiple. The observed multiple cuts appear to lie in a straight line around the perimeter where they contact the inner fitting.

This issue was discovered at Hanford's K-Basins mask issuance station on August 2, 2007. Once the issue was identified the sample of hoses was examined looking for this specific problem. Twelve of fifty inspected hoses were found to have this problem. Most of the inspected hoses had been in regular daily use for more than a month. No holes were observed in a sample of 100 new hoses. Bullard has been contacted and is working with the Hanford Respiratory Protection Program to eliminate the occurrence of this type of damage.



Note how 3 slits occurred in straight line.

A black marker was used to show the area just above the holes.



Note rough and sharp edge around external edge of the black tube. The adhesive used to hold the tube on also appears to cause some degradation of the plastic which further increases roughness.

Analysis: None

Recommended Actions:

- Immediately stop use of all Bullard PAPR in stock.
- Ensure personnel that issue, repair, maintain, or use these air purifiers understand the issue.

Cost Savings/Avoidance: Not evaluated

Work Function: Occupational Safety and Health

Hazards: Respiratory Protection

Keywords: Bullard Powered Air Purifying Respirator

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References: None

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