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Subject: Blue Alert: Silicone Mask Slipping May Affect Respiratory Protection

This Lessons Learned is cleared for public release. John Bickford, Project Hanford Lessons Learned Coordinator (509) 373-7664 <http://www.hanford.gov/lessons/sitell/sitehome.htm>

Project Hanford Lessons Learned

Title: Silicone Mask Slipping May Affect Respiratory Protection

Date: May 6, 1999 Identifier: 1999-RL-HNF-0020

Lessons Learned Statement: Silicone respirators may feel like they are slipping down the wearer's face when perspiration builds up under the seal. The wearer should exit the airborne contamination area if he or she suspects the integrity of the seal.

Discussion of Activities: A Nuclear Chemical Operator (NCO) at the Waste Encapsulation and Storage Facility (WESF) was using a MSA silicone mask for work in the Hot Manipulator Shop when he felt the mask slide down his face. The NCO immediately exited the area and was surveyed by a Radiological Control Technician (RCT) with no contamination detected on his mask, cartridges, or himself. Other employees have experienced similar sensations of their masks slipping.

Analysis: Silicone masks tend to feel like they are slipping on the face in warm weather. As long as the seal is intact, however, there is no problem. All respirators will form a "sweat seal" after extended use and may feel like they are slipping. A final inspection by a responsible worker adds assurance that the mask fits and is properly sealed prior to entering a radiological area with airborne contamination.

The first steps in a respiratory protection program is to establish written standard operating procedures governing the selection and use of respirators, assess the respiratory hazards to be encountered in the workplace, and develop guidelines for the proper selection of appropriate respiratory protective equipment. Proper inspection, maintenance and repair of respiratory protective equipment is mandatory to ensure success of any respiratory protection program. A respirator deficiency can adversely impact the ability to complete work in the field safely.

Recommended Actions: Respirators are for use by trained, qualified personnel only. If any of the following situations occur while in an airborne contamination area, leave the area immediately:

- * If breathing becomes difficult
- * You feel dizzy or otherwise distressed
- * You taste or smell a contaminant.

If an employee feels uncomfortable using the silicone type respirator, they should use a Hycar(tm) model. Hycar is a trade name of Mine Safety Appliances Company.

Priority Descriptor: BLUE/Information

Functional Categories (DOE): Radiation Protection, Occupational Safety and Health

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References: OSHA Respiratory Protection Standard (29 CFR 1910.134).