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Subject: Blue Alert- Risks of Using SCBA during Mock Drills

Title: Blue Alert- Employees Exposed To Excessive Risk While Wearing A SCBA During Mock Drill Evolution

Date October 25, 1999 Identifier 1999-ALO-WID-0006

Lessons Learned Statement: During drills and/or exercises introduction of real factors which pose an element of risk must be evaluated and steps taken to eliminate or control the risk.

Discussion of Activities: A large scale exercise simulating an explosion and fire in the underground was conducted by personnel from the Waste Isolation Pilot Plant and three commercial potash mines in the area. One employee, simulated to have severe injuries that required evacuation from the underground, was placed on a Stokes stretcher and secured in position. A Drager model BG4AP self-contained breathing apparatus (SCBA), provided by one of the commercial mines, was placed on the victim. When the stretcher was lifted, the victim experienced difficulty in breathing as the SCBA apparently ceased to provide breathing air. Being strapped into the stretcher, the employee was unable to remove the facemask of the Drager by himself. A safety observer noticed the struggling employee and removed the facemask. The exercise was terminated immediately and medical personnel summoned to assist the employee. The employee was escorted from the underground for further medical evaluation. The evaluation determined there were no adverse physical effects from his experience. During an investigation, employee interviews resulted in disclosure of another event that occurred about the same time and involved a second Drager model BG4AP SCBA supplied by one of the visiting commercial mines. In this event, a different employee experienced difficulty in breathing while on a stretcher and the SCBA facemask was placed on him. This victim never suffered distress, and did not report the event until the interviews were conducted regarding the first event. An investigation revealed the first event was attributed to a pinched or kinked air hose on the Drager unit. The second event was attributed to misalignment of the breathing air bag on the SCBA.

Recommended Actions: Persons responsible for conducting drills must have an appreciation of the potential for placing people at risk during a drill involving actual use of an SCBA to simulate real life conditions. When people are immobilized on a stretcher and a respirator is placed on their face, they are helpless and entirely dependent on the vigilance of others for their safety. The soft corrugated air hose on the Drager unit can be relatively easy to kink in certain situations. The Drager company has recognized this problem and provides a retrofit, (Drager part number R34316), to make the hoses less susceptible to kinks. Persons using these respirators should install the retrofit kit. Care should be used to ensure the breathing air bag is aligned during maintenance and assembly. If the bag is not carefully lined up and attached to the valve body, the minimum valve can actuate intermittently or not at all.

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User-Defined Functional Category Industrial Safety
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