

Safety Alert Bulletin

14 December, 2005

PASS Alarm Failure in High Temperatures

The NIOSH Fire Fighter Fatality Investigation and Prevention Program is contacting organizations representing firefighters and rescue workers to tell them that exposure to high temperature environments may cause the loudness of Personal Alert Safety Systems (PASS) alarm signals to be reduced, causing the alarm signal to become indistinguishable from background noise at the incident scene.

NIOSH contacted the International Association of Fire Fighters (IAFF) and the National Fire Protection Association (NFPA) Technical Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment and the NFPA Technical Committee on Electronic Safety Equipment to report that during the investigation of four firefighter fatalities that occurred from 2001 to 2004, PASS alarms were not heard or were barely audible. The PASS alarms had been certified as compliant to NFPA 1982, 1998 Edition, and involved both stand-alone PASS and SCBA-integrated PASS.

Initial laboratory testing of PASS by the National Institute for Standards and Technology's (NIST) Fire Research Division has shown this sound reduction to occur at temperatures as low as 300°F (150°C) and could affect all PASS. However, additional work is required to better characterize the thermal conditions (temperatures and exposure durations) that contribute to alarm signal degradation.

While the NFPA Technical Committee on Electronic Safety Equipment has been working to develop appropriate revisions to NFPA 1982 to address this issue, adequate solutions have not yet been presented. The committee, in cooperation with NIOSH and NIST, will continue to study the issue and will incorporate revisions into NFPA 1982 as solutions are developed and consensus around addressing the issue is achieved. PASS has always been a "last resort call for help" for emergency services personnel who are unable to otherwise notify others that they are in distress. The IAFF is advising firefighters to continue to activate and wear PASS when in hazardous areas of any incident, but to be aware that high temperatures could cause degradation of the alarm signal. Incident commanders should continue to apply all personnel accountability measures at all incidents to assure the safe entrance and exit of personnel from hazardous areas. Direct supervision of operating companies or teams should provide for the safe operating locations of personnel and ensure that members do not "freelance" on the incident scene.

IAFF affiliates should report any PASS malfunctions and other problems with PASS functioning to the IAFF Department of Occupational Health and Safety by email at safety@iaff.org or by phone at (202) 824-9304, as well as the State Fire Administrators Office, of any related issues. The IAFF will maintain this information, as well as notify NIOSH and NFPA.

Non-IAFF firefighters should have their Chief/Chiefs Office notify NIOSH as well as the State Fire Administrators Office of any related issues.

For further information regarding the NIOSH Fire Fighter Fatality Investigation and Prevention Program (FFFIPP), as well as NIOSH FFFIPP investigation reports go to:

<http://www.cdc.gov/niosh/firehome.html>

This also reminds all of us to RESPECT PASS alarms (and applicable SOP's) and to never allow false activation by "laying" SCBA's/PASS alarms down after operating without disabling the system. How many times have any of us arrived on a scene and witnessed SCBA's/PASS alarms sounding while simply "laying" there after the user went to rehab...and when that happens - how do we know if a firefighter is in trouble?

Report failures to: Jessikka Dobert at OFPC: 518.474.6746, by fax to: 518.474.3240, or by e-mail to:

JDoibert@dos.state.ny.us

To report incidents to NIOSH, e-mail information to:

NPPTL_PASS@cdc.gov

or mail written report to:

National Personal Protective Technology Laboratory
National Institute for Occupational Safety and Health
P.O. Box 18070
Cochrans Mill Road
Pittsburgh PA 15236
Attention: Bob Stein

Please provide the following information:

Your Name:

Position / Rank:

Department/Organization (include NYS FDID number):

Mailing Address:

E-mail Address:

Phone Numbers:

PASS Identifying Information

SCBA Manufacturer:

PASS Manufacturer:

Is PASS integrated into SCBA?:

Product Name:

Model:

Serial Number:

NFPA 1982 Certified to What Year Edition?

Explanation of Problem: Design, functionality, operational use, quality, or other

Repeatability:

One time occurrence or Repeated occurrence?

Repair:

Was repair needed to restore unit operation?

What repairs/operational checks were conducted to ensure unit is operational for next use?

Who performed that service?

Have you reported to NIOSH?

Thomas J. Wutz

Chief, Fire Services Bureau



New York State Department of State
Office of Fire Prevention and Control
41 State Street
Albany, NY 12231-0001

- phone: (518) 474-6746
- fax: (518) 474-3240
- fire@dos.state.ny.us
- <http://www.dos.state.ny.us/fire/firewww.html>