CBRN Respiratory Protection Program Designs
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OBJECTIVES


- Design respiratory protection program templates based on surveillance, instruction sessions, and on-site inference.

EXTERNAL STAKEHOLDER USERS

- Los Angeles Police Department SWAT, HAZMAT, Bomb Squad, & Counter Terrorism Unit, CA
- San Francisco Police Department SWAT and Bomb Squad, CA
- Pennsylvania Task Force 1, Urban Search and Rescue (PATF1), Harrisburg, PA
- Pennsylvania South Central Task Force (SCSTF), Harrisburg, PA
- City of Mobile, Alabama, Safety Manager: Fire and Rescue Department and Auto Body Repair Shop

STAKEHOLDER RESEARCH TO PRACTICE (r2p) PARTNERS

- U.S. Department of Health and Human Services, CDC, NIOSH Education & Research Center, Deep South Center for Occupational Health and Safety

PPE and Respiratory Program Regulations, Guidance, & Standards

- OSHA 29 CFR Part 1910.120 and NIOSH publication No. 2008-132 state a written PPE program is required.
- OSHA 3352-02 2009, Assigned Protection Factors for the Revised Respiratory Protection Standard specifies that the employer should read the guide if it is likely there is a need to establish & implement a RPP.
- OSHA 3370-11 2009, Best Practices for Protecting EMS Responders during Treatment and Transport of Victims of Hazardous Substance Releases: If EMS responders will need to wear respiratory protection, these guidelines require the employer develop a RPP that explains how the requirements of 19 CFR Part 1910.134 are met.
- OSHA 3328-05 2007, Pandemic Influenza Preparedness and Response Guidance for Healthcare Workers and Healthcare Employees specifies that the establishment of a comprehensive RPP with all the elements specified in OSHA’s Respiratory Protection Standard, is needed to achieve the highest levels of protection.
- NFPA 1404, 2006 edition: Cities Section 7.3 of NFPA 1400 standard requiring an RPP and specifies that respirators used in training evolutions simulating exposure to weapons of mass destruction shall meet the appropriate sections of 42 CFR Part 84 and shall be marked with a CFR rating.
- OSHA Safety and Health Topics RPP link: http://www.osha.gov/SLTC/respiratoryprotection/index.html
- NIOSH/OSHA/USCG/EPA publication No 85-115 states a written PPE program should be established.
- ANSI Z88.2 Respiratory Protection: Cited by manufacturers. Is a consensus standard on science & use art.
- State/County/Local Governments: OSHA Act of 1970 exempts public sector employees from coverage unless specified in an OSHA-approved state plan. Therefore, public safety RPP development is at the local government level.

Research Completed

- Literature Search: As of March 8, 2011, 155 working respiratory protection programs have been collated by NIOSH-NPPTL. 8 business examples, 18 federal agencies, 42 fire service, 4 healthcare.
- City police departments require respiratory protection from the effects of clandestine laboratory hazards, riot control agent devices, hydrogen sulfide suicide incidents, and biological powder incidents.
- Repeated exposures to flash-bang and smoke munitions is ongoing. APR is the predominate technology in use but not always NIOSH-approved. Respirator technology requires law enforcement requirements integrated. Use of industrial hygiene personnel is needed at police department levels.

Interim Conclusions

- Public Safety RPP: NIOSH-approved CBRN respirators are in use by public safety employees but so are military specified, NFPA non-compliant, and NIOSH non-CBRN respirators, see figure 2. How do they complement each other? Medical evaluations and fit testing appear to be marginalized. How can they be required and shown relevant?
- Post Fire and Flashover Simulator Environments: Respirators are not being worn in post fire overhaul and flashover simulator clean-out operations. Supervisors should be empowered to make on-the-spot corrections and enforce respirator use discipline. How can respirator use discipline be maintained?
- RPP Content: RPP should not be streamlined but should be concise and adapted to the workplace?
- Relevance: 1970 OSHA Act exempts the public sector from coverage. How is EPA 40 CFR 311 enforced?

Research to Practice: Agencies have submitted respiratory protection programs or consulted with NIOSH for informal review of new, existing or draft written and partial respiratory protection plans:
- Cities/Boroughs of the South Central Pennsylvania Task Force (SCTF), Harrisburg, PA
- Pennsylvania Urban Search & Rescue (US&R) Task Force 1 (PATF1), Harrisburg, PA
- City of Los Angeles Police Department, California

- City of San Francisco Police Department, California
- Boston Fire Department HAZMAT Team, Massachusetts
- City of Mobile, Mayor’s Office, Safety Manager, Alabama

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GSB Design: SWAT RPP template supplied by Tactical Officer Association

- LER: The NIJ standards-0116.00 requires. NIOSH-certified CBRN respirators for use in incremental protective ensemble postures known as Law Enforcement Response Levels 1 – 4, shown to the right in the top right angle three images.

- Fire: The NFPA 472 committee is evaluating the integration of NIOSH RPP template recommendations in the next generation NFPA 472-XX standard.

- Hazardous Device Technicians: Bomb squad personnel, as shown to the right, require less burden on the user and maximum protection afforded by PPE. Technicians typically rely on one brand of SCBA for chem-bio visor compatibility.

- Wearer Feedback: According to users, NIOSH on-site visits to the described RPP workplaces have shown benefit to the wearer, the supervisor, and the RPP leader.

Disclaimer: The findings and conclusions in this paper have not been formally disseminated by NIOSH and should not be construed to represent any agency determination or policy.

City of Mobile, Mayor’s Office, Safety Manager, Alabama