
Multifunction PAPR (Powered Air Purifying Respirator)

Marriott Key Bridge, Arlington, VA
April 10, 2003



Workplace
Safety and Health



Project Goals

- To develop new comprehensive test standards for certifying multifunction PAPR's (Powered Air Purifying Respirator).

Description

- Respiratory protective devices may include protection against other types of threats or hazards.
 - vision protection,
 - hearing protection
 - head protection
 - isolation from environmental contaminants
- Besides providing respiratory protection, multifunction PAPR's must allow wearers to perform their assigned duties without posing additional burdens
- The problem is how to objectively evaluate candidate equipment.
 - scientifically valid tests in order to be certified by the Government as reasonably meeting minimum standards.
 - Appropriate standards are not available

Technology



Workplace
Safety and Health



Team/Resources

- **NPPTL assets**
- **Human Performance Laboratory at the University of Maryland**
 - long history of research in all wearability issues of respirators
 - bioengineering approach
- **MSHA collaboration**
- **Stakeholders**
 - equipment manufacturers
 - BCOA, NMA, UMWA

Approach

- Phase 1:
 - Stakeholder interviews
 - determine the relative importance of various equipment qualities (vision, communication, head protection)
 - define likely work scenarios
 - 3 months
- Phase 2:
 - Develop test criteria
 - Validate
 - 15 months
- Phase 3:
 - Follow-up stakeholder interviews
 - determine if any unforeseen problems should modify the proposed standard tests.
 - 3 months
- Phase 4:
 - Final report
 - results
 - draft standards
 - 3 months

Current Status

- Sole source procurement contract to the University of Maryland
 - Contract 200-2002-00531
- MSHA support