

National Personal Protective Technology Laboratory

Chemical Biological Radiological and
Nuclear (CBRN) Combination
Respirator Unit (CRU)

Frank Palya Jr.

**Policy and Standards Development
Branch**

**Hyatt Regency Pittsburgh International Airport
December 9, 2010**

CBRN CRU Presentations

- NIOSH Presentation
- Requested Presentations
- Panel Discussion
- Comments

NIOSH Discussion Topics

- Meeting Objective
- Background
- Panel Discussion Topics

Meeting Objective

Request For Information to:

Discuss the issues related to the development of the NIOSH CBRN Combination Respirator Unit (CRU) performance standard such as the following:

- Anticipated concept of the final performance standard
- Potential ramification of the performance standard on respirator manufacturers and wearers
- Potential challenges due to different types of respirators of the CRU standard with existing Federal rules and regulations and other standard organizations requirements
- User operational requirements

Background

- CRU is a multi-functional unit that employs the technology of two or more different types of respiratory protective devices (RPD) separately. A CRU may be a combination of the following:
 - Open Circuit Self-Contained Breathing Apparatus (OC-SCBA)
 - Closed Circuit Self-Contained Breathing Apparatus (CC-SCBA)
 - Supplied Air Respirator (SAR)
 - Powered Air-Purifying Respirator (PAPR)
 - Air-Purifying Respirator (APR)
 - Others?

Background

- Title 42 Code of Federal regulations Part 84 Section 84.63(b) (42CFR84.63(b) states “Where a combination respirator is assembled from two or more types of respirators, as described in this part, each of the individual respirator types which have been combined shall, as applicable, meet the minimum requirements for such respirators set forth in subparts H through L of this part, and such combination respirators, except as specified in Sec. 84.70(b)(2), will be classified by the type of respirator in the combination which provides the least protection to the user”

Background

- To Synopsize: If a CRU has an APR in combination, it will be classified as an APR (TC-14G or TC-23C)
- Gas masks are designed for entry into non IDLH or escape from Hazardous Atmospheres containing $O_2 \geq 19.5\%$ *
- Chemical cartridge respirators for entry into or escape from non IDLH
- OSHA Regulations (29 CFR 1910.134(d)(2)(i)), entry into an Immediately Dangerous to Life and Health (IDLH) atmosphere (29 CFR 1910.146(b)) requires the use of a full facepiece positive pressure SCBA (Service Life ≥ 30 minutes) or a full facepiece Type "C" or Type "CE" supplied air respirator in combination with an SCBA

* Hazardous Atmosphere can be either IDLH or non IDLH

Background

- Responders expressed a desire to use CRU to customize their respiratory protection needs so they can better perform their primary duties in response to CBRN incidents
- Interested stakeholders desire for CRU to be safely and legally worn in a supplied-air mode while in IDLH atmospheres and in an air-purifying mode when in non-IDLH atmospheres
- NIOSH-NPPTL intends to develop new a CBRN performance standard for the CRU and use the Rulemaking Process to promulgate the standard into 42 CFR 84
- CRU standard may include performance requirements of other types of respirators (OC-SCBA, CC-SCBA, PAPR, APR) described in 42 CFR 84

Information Docket

CBRN Combination Respirator Unit

- **Mail:**
 - NIOSH Docket Office
 - Robert A. Taft Laboratories, M/S C 34
CRU – NIOSH 082A
4676 Columbia Parkway
Cincinnati, OH 45226
- **Email:** niocindocket@cdc.gov
- **Fax:** (513) 533-8285
- **Phone:** (513) 533-8611
- **NPPTL Web Site:** <http://www.cdc.gov/niosh/npptl>