

National Personal Protective Technology Laboratory

Air-Fed Ensembles

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Topics

Introduction

Jonathan Szalajda, NPPTL

Concept Overview

Colleen Miller, NPPTL

O₂/CO₂ Physiological Response

W. Jon Williams, NPPTL

Supplied Air Suit Overview

Heather Farrer, WSRC, DOE

Panel Discussion

Public Comment Period



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Air-Fed Ensemble Product Performance/Evaluation Concept

- Objective is to create criteria to ensure appropriate protection for a configuration where national standards do not currently exist
- NIOSH certification for the respiratory protection criteria will be based on the results of the respirator performance evaluation with and without the ensemble dermal protection performance evaluation



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Air-Fed Ensemble Product Performance/Evaluation Concept

- Initial focus based on stakeholder interest will be air fed ensembles that are comparable to supplied air hoods currently certified under 42 CFR subpart J.
 - NIOSH certification for respiratory performance would be under this subpart
 - Approval for protective characteristics would be based on National consensus standards
- Compliance with the appropriate subparts of 42 CFR Part 84 will be required regardless of the evolution of the ensemble performance criteria



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Air-Fed Ensemble Product Performance/Evaluation Concept

- Present:

- Respiratory Protection

- Compliance with appropriate 42 CFR Part 84 subpart
 - Additional requirements per para. 84.60(b) and para. 84.63(c)
 - Reasonable test standard need to be developed for CO2 buildup in suit
 - Reasonable test standard must be developed for ensemble TIL

- Dermal Protection

- ASTM (2009) or other SDO consensus standards

- Future (circa 2012 and beyond):

- Respiratory Protection

- Compliance with appropriate updated 42 CFR Part 84 subparts
 - Air Fed Ensemble Module
 - SAR Module
 - PAPR Module
 - SCBA Module(s)
 - Additional requirements per para. 84.60(b) and para. 84.63(c)

- Dermal Protection

- ASTM or other SDO consensus standards



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Air-Fed Ensemble Product Performance/Current STP Development

- Modifications to the new CO₂ dead space test configuration continue
- Human subject breathing STP development requires enhanced probe methods
- Facility and equipment updates ongoing to facilitate preliminary TIL testing and STP development



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Air-Fed Ensembles

Stakeholder Input can be submitted by

– Mail:

NIOSH Docket Office

Robert A. Taft Laboratories, M/S C 34

Reference: Docket 148 – A Air-Fed Ensembles

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