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# National Personal Protective Technology Laboratory

## Introduction Standards Development Efforts for CBRN CC-SCBA

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# CBRN Respirator Standards

The findings and conclusions in this presentation have not been formally disseminated by the National Institute for Occupational Safety and Health and should not be construed to represent any agency determination or policy.

# CBRN CC-SCBA Standard

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- **Goal**

- Develop a NIOSH/NPPTL full-facepiece, closed circuit, self-contained breathing apparatus (CC-SCBA) standard that addresses CBRN materials identified as inhalation hazards or possible terrorist hazards for emergency responders.

- **Use**

- For long-duration missions, involving entry into an atmosphere where contaminant concentrations are IDLH, and which may not contain adequate O<sub>2</sub> Levels.

# CC-SCBA



# Effective CBRN Standards Development

## Public Process

- Transparent
- Identify Key Stakeholders
- Form Partnerships

## CBRN Standard

## Best Practice

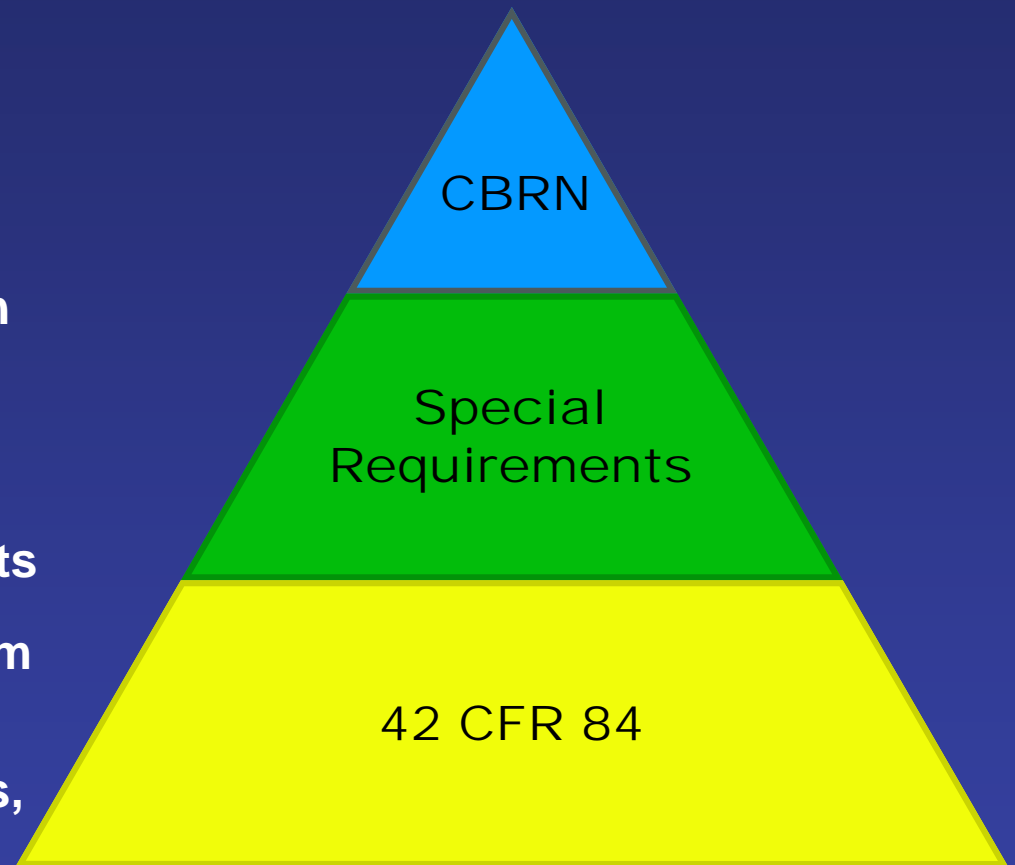
- Good Science
- Benchmarking
- Research
- Peer Review

## Focus on Performance

- Hazards Analysis
- Human Capabilities
- Quality Assurance
- Reliability
- Practical Use

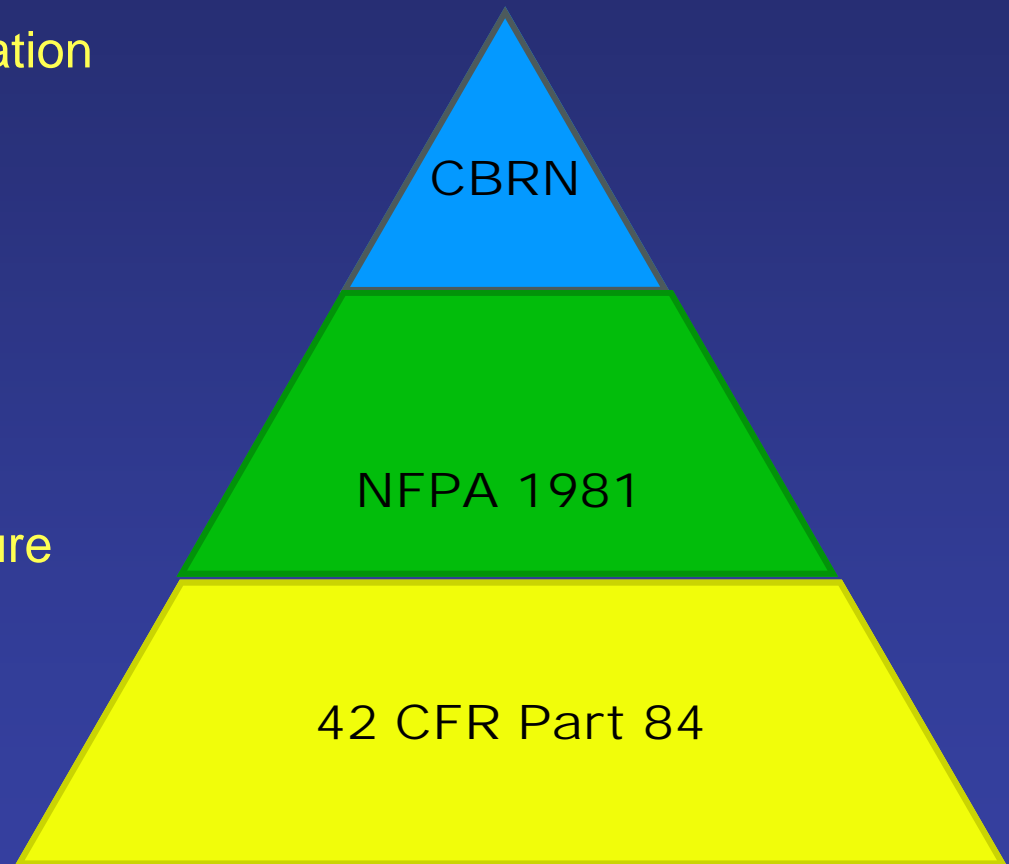
# Model for CBRN Standards Development

- **Three tiers**
- **NIOSH approval under this program will signify that a respirator is expected to provide needed protection to first responders in situations where an act of terror has released harmful chemicals, pathogens, or radioactive materials into the air.**
- **Approvals will be based on positive results from rigorous tests on sample units submitted to NIOSH by manufacturers, and from stringent evaluation of manufacturers' quality-control practices, technical specifications, and other documentation**



# CBRN CC-SCBA Concept Standard

- Tier 3: Special CBRN Requirements
  - CWA penetration and permeation resistance
  - Practical performance
- Tier 2: NFPA 1981
  - High Work Rate Performance
  - Operational Performance
    - Environmental Temperature
    - Heat and Flame
- Tier 1: 42 CFR, Part 84
  - Applicable sections



# CBRN CC-SCBA Requirements

- **Concept calls for adapting the:**  
NFPA 1981 Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire and Emergency Services  
**to CBRN CC-SCBA**
- **Use of an Automated Breathing and Metabolic Simulator (ABMS) for performance testing**



# Quality Partnerships Enhance Worker Safety & Health

Thank you !

