

## CBRN Related Topics

- Flow Investigation
- Structural Collapse
- R&D Program
- Estimated Certification Fees
- Next Public Meeting





# CBRN Related Topics

## Inhalation Flow Investigation

- Docket Information Concerning High Physiologic Demand (Work Rate)
  - Submitted Data Indicates Peak Inhalation Air Flows In The Range of 700 to 900 l/min,
  - Recent Submitted Data Suggests Peak Inhalation Flow Rates of 400 to 500 l/min,





# CBRN Related Topics

## Inhalation Flow Investigation

- Submitted Data Also Suggests:
  - Peak Inhalation Air Flow Increases Significantly (Approx. 10%) During Speaking Exercises,
  - Peak Inhalation Air Flow May Effect Respirator Performance
- Independent Data Also Suggests Peak Inhalation Air Flow of 400 to 500 l/min





# CBRN Related Topics

## Inhalation Flow Investigation

- NIOSH Investigation to Address Issues Concerning High Physiologic Demand
- Three Part Investigation
  - Literature Research
  - Respirator Testing / Data Analysis
  - Protection Analysis





# CBRN Related Topics

## Inhalation Flow Investigation

- Literature Research
  - Published Research and On-Going Research
  - Maximum Ventilation Rates Experienced at High Work Rates
  - Shape and Form of Breathing Cycle at High Work Rates
  - Influencing Factors (Speaking)





# CBRN Related Topics

## Inhalation Flow Investigation

- Respirator Testing / Data Analysis
  - Testing As Required to Fill Gaps In Research
  - Respirator Performance at High Flow
    - Self-Contained Respirators
    - Particulate Respirators
    - Gas & Vapor Respirators





# CBRN Related Topics

## Inhalation Flow Investigation

- Protection Analysis
  - Self-Contained Respirators
  - Particulate Respirators
  - Gas & Vapor Respirators
- Impact Analysis





# HEALTH AND SAFETY GUIDELINES FOR EMERGENCY WORKERS: POST-STRUCTURAL COLLAPSE HAZARDS

- NIOSH/NPPTL has established an Interagency agreement with the National Science Foundation and the RAND Science and Technology Policy Institute to assist in developing health and safety guidelines for emergency responders required to work near or on the remains of recently collapsed buildings





# HEALTH AND SAFETY GUIDELINES FOR EMERGENCY WORKERS: POST-STRUCTURAL COLLAPSE HAZARDS

- The NIOSH/RAND team is using a three-part approach to develop the guidelines:
  - Characterize the response mission and hazards (airborne, biological, thermal, physical, and other) to emergency responders at building collapse sites.
  - Assess the short- and long-term health effects to emergency responders of exposure to the hazards identified in step 1; duration and level of exposure will be considered.
  - Identify personal protective equipment options that will protect the various groups of emergency responders from the hazards that they are likely to encounter.





# CBRN Escape Respirator

## CBRN R&D Program

- March 4, 2003 NIOSH Letter to All Manufacturers
- CBRN Respirator Research and Development Test Program
- Access To Chemical Agent Testing
- Limited To Applicants with a Quality Control Plan Evaluated as Acceptable by NIOSH





# CBRN Escape Respirator

## CBRN R&D Program

- 3 Days of Agent Test Time @ SBCCCOM
- Letter Application to NIOSH
- R&D Testing Can Not Count As Certification Test
- Applicant Can Witness Test
- Data Belongs To Applicant





# CBRN Escape Respirator

## CBRN R&D Program

- Maximum 4 Live Agent Tests:
  - 2 – GB Smartman Tests and/or
  - 2 – HD Smartman Tests
- Maximum 10 Agent Material Swatch Tests





# CBRN Escape Respirator

## CBRN R&D Program

- Test Menu Fees:
  - Smartman GB Test: \$4500 / test
  - Smartman HD Test: \$4500 / test
  - Material Swatch Test: \$ 50 / swatch
- Example:
  - 2 GB Smartman Respirator Test - \$9000
  - 1 HD Smartman Respirator Test - \$4500
  - 10 Material Swatch Tests - \$ 500
  - Total - \$14000





# CBRN Escape Respirator

## Estimated Certification Fees

- Estimated at \$ 90000
- 120 Days Estimated Certification Processing Time
- Based on CBRN Air Purifying Respirator





# CBRN Escape Respirator

## Next Public Meeting

- End of June
- To Be Announced in Federal Register
- Location – Pittsburgh, PA

