**Overview Long Term Field Evaluation Process**

- **Generate list of deployed SCSR (MSHA)**
- **Randomly Select 125 of each type**
- **Locate respirators in field**
- **Respirator field inspection**
  - **Pass**
  - **Fail**
  - **Record results, reject from sample**
- **Catalog and Clean**
- **Final pre-test Inspection**
  - **Pass**
  - **Fail**
  - **Record results, reject from sample**
- **Operational testing (Breathing and Metabolic Simulator)**
- **Analyze results**
  - **Record results, reject from sample**

**Testing Performed**
- Duration of protection
- CO₂ concentration
- O₂ concentration
- Breathing resistance
  - Inhalation
  - Exhalation
- Inhaled-gas temperature

**Previous Studies Influenced**
- Temperature indicator
- Non-Destructive Tests
- ASMD

**Observation**
- Many deployed units not maintained
  - Heat • Impacts • Dust
  - Difficult field inspection conditions
  - Poor performance due to environmentally-induced damage or wear
    - Heat degradation
    - Shock degradation
    - Vibration degradation

**Results**
- Training and guidance enhance based on results released in reports covering each phase

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**Disclaimer:** The findings and conclusions in this poster 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.