

Comparison of ISO 16900-1 Test methods for Determination of Inward Leakage FY15 (93902JS)

Objectives

- Compare the inward leakage test methods proposed by ISO 16900-1 (draft) using the same respirators and the same subjects
- Evaluate the applicability of the methods to inward leakage testing requirements as part of possible revisions to 42 CFR Part 84

Applicable Standards

- ISO 16900-1, ISO 17420-1 and 2 (drafts)
- 42 CFR Part 84

Key Partners

- ISO, NIOSH, OSHA, European Standards Organizations

Stakeholders

- Respiratory Protection Standards Organizations
- Respirator manufacturers
- Respirator users

Project Scope (all years)

- Measure the inward leakage using test agents including sodium chloride (NaCl), corn oil and sulfur hexafluoride (SF₆) as specified in the ISO 16900-1 (draft)
- Compare the inward leakage measured by the three different methods

FY15 Milestones

- Q1. Submit a proposal on inward leakage measurement for external review
- Q2. Test FFP1, N95 and P100 filtering facepieces with NaCl and corn oil aerosols
- Q3 Continue testing elastomeric half-facepiece and full-facepiece APRs
- Q4. Continue testing PAPRs (loose-fitting and tight-fitting)

Outputs (completed and/or planned)

- Submit a manuscript to peer-reviewed journal

Outcomes (completed and/or planned)

- Support the respiratory protective devices performance standards ISO 17420-1 and 2 (drafts)
- The study will provide information on which method(s) can be used for NIOSH inward leakage testing

Updated: 21 Feb 2015