Hearing Protector Fit Testing: Practical Implications

Panel Discussion Format

- Non-commercial
  - CEU disclaimers
  - Commercial information is available in the exhibit hall
- Each presenter will have 10 minutes
- Balance of time devoted to Q & A from YOU!
The Panel

Fit Testing and Regulation: State of the State 2013
Laurie Wells, 3M Corporation

Convincing the Bosses: Selling Fit Testing to Management
Theresa Schulz, Ph.D. - Honeywell Safety Products

Making it Work in the Workplace
James Jerome, CCC-A, M.S. - Workplace INTEGRA

On the Ground, Working with the Systems: End Users
Describing their Experience and Findings with the Systems
Kathryn Crane Thielen - Pepperidge Farm
Fit Testing and Regulation: State of the State 2013

- Regulations
- Standards development in North America
- Best Practice Document
Fit Testing and Regulation:
State of the State 2013

- Regulations

  - There are no U.S. regulations specific to HPD fit testing.
  - Hager requested a Letter of Interpretation from OSHA, however none has been issued to date.
  - Currently, the only applicable regulatory language is in a 1984 compliance directive:

    QUESTIONS AND ANSWERS RELATIVE TO CPL 2-2.35A
Regulations:

Question 10: How should a CSHO* calculate the hearing protector attenuation?

Answer 10: Explanation of \((NRR-7)/2\) calculation followed by:

**Remark:** “If the employer can satisfactorily demonstrate that the protection he provides is better than these calculations \([(NRR-7)/2]\), you may use his attenuation in place of the CPL method if the affected employees do not exhibit STS's.”

*Compliance Safety & Health Officer
Fit Testing and Regulation: State of the State 2013

- Regulations
  - Germany has a regulation for testing acoustic seal of custom molded earplugs
    - Prevention Guideline for Custom Molded Earplugs, 1/2010
Standards Development

- In the U.S.
  - ANSI S12 (Noise), Working Group 11, Hearing Protector Attenuation and Performance
  - DRAFT ANSI S12.71 – 201x: Performance criteria for systems intended to estimate the attenuation obtained by individual users of passive hearing protectors
    - FAES: Field Attenuation Estimation Systems
    - Intended to enable direct comparison of output among systems
With identical octave band attenuation, different systems yield different Personal Attenuation Rating (PAR) values.

- Calculation protocols are based on different frequencies or combinations of frequencies.
- No standardization for reporting uncertainty information.

<table>
<thead>
<tr>
<th>Freq</th>
<th>125</th>
<th>250</th>
<th>500</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
<th>8000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Att</td>
<td>11</td>
<td>13</td>
<td>12</td>
<td>17.5</td>
<td>27.5</td>
<td>33</td>
<td>22</td>
</tr>
</tbody>
</table>

Data and chart courtesy of Murphy, NIOSH, from NHCA 2011

© 3M 2013. All Rights Reserved.
Standards Development

- **DRAFT ANSI S12.71 – 201x**
  - Minimum performance criteria for systems intended to estimate individual REAT
  - Guidance in the development of systems and how to specify their performance
  - Procedures for computation of PAR (Personal Attenuation Rating)
  - **FAES-derived data do not:**
    - replace S12.6 or S12.42, nor are such data suitable for product labeling
    - apply to electronic hearing protectors in their active mode
    - apply to passive level-dependent HPDs
Standards Development

Canada:

- **DRAFT CSA-Z94.2-13 (Proposed) - Hearing Protection Devices - Performance, Selection, Care, and Use**
  - Will define FAES and recognize its use for individual attenuation measurement
  - Not intended to replace existing attenuation measurement and rating procedures (ANSI S12.6 or S3.19).

- **DRAFT CSA Z1007 - 14: Hearing Loss Prevention Program Management**
  - Will include a section on FAES recognizing it as a tool in individual hearing protection fitting and training.
  - Projected publication in 1st quarter 2014.
Best Practice Document

- Recognized by OSHA as Best Practice in 2008
- OSHA Alliance with NHCA/NIOSH publication:
  - Hearing Protection-Emerging Trends: Individual Fit Testing
- This document asserts that regardless of which test method is used (REAT or F-MIRE), there are multiple positive purposes in HCPs for implementing individual fit testing in a hearing conservation program.