paper explores the Noise Pollution Clearinghouse's ongoing and planned product noise testing, evaluating its advantages, disadvantages, and limitations.

10:25

3aNCd3. Sound power measurement techniques for powered hand tools. Edward L. Zechmann (Constella Group) and Charles Hayden (Natl. Inst. of Occupational Safety and Health, 4676 Columbia Parkway C27, Cincinnati, OH 45226)

As part of a project to reduce noise induced hearing loss in the construction industry, NIOSH developed a database of sound power level measurements of electric powered hand tools typically used in the construction industry. The tool testing jigs and setups specified and illustrated in ANSI S12.15 were modified to accommodate the higher precision ten-microphone arrangement used in ISO 3744. ANSI S12.15 is sometimes vague regarding the tool testing jig design, so test jigs were designed to supplement existing specifications in the standard. In the course of the project, test jigs were designed, techniques were devised to improve repeatability of measurements, to reduce waste materials, to reduce measurement setup time, and to reduce data acquisition time. Several types of tools were tested including circular saws, grinders, screw drivers, drills, jig saws, reciprocating saws, miter saws, hammer drills, belt sanders, and impact wrenches. The test jig designs and measurement techniques may help others to save time, reduce waste material, and improve measurement repeatability. Additionally, a microphone was placed in the nominal hearing zone of the tool operator to acquire a time series to assess other sound metrics.

10:45

3aNCd4. Measurement of noise from toys. Robert Altkorn, Scott M. Milkovich, and Gene Rider (RAM Consulting, 2107 Swift Dr., Ste. 200, Oak Brook, IL 60523)

Noise from toys is an issue receiving increasing attention in the toy and consumer product safety communities. Concern over loud toys is motivated both by reports of increasing hearing loss among children (the U.S. CDC estimated in 2001 that 12.5% of U.S. children 6 to 19 years old have permanent or temporary noise induced threshold shift in one or both ears) and by technological advances enabling sound and noise producing toys of increased play value at lower and lower cost. Consumer watchdog groups such as PIRG routinely identify excessively loud toys in their yearly lists of most dangerous toys. In 2003 ASTM revised its toy safety standard (F963-03) to include A and C weighted sound pressure level measurements and specific play or use dependent measurement geometries. RAM Consulting measures noise from toys as part of a comprehensive product safety program. Sound measurement equipment, geometries, and procedures used at RAM for different types of toys will be discussed. Unusual problems in noise measurement will be considered, as will the appropriateness of A and C weighting for the youngest age groups.

WEDNESDAY MORNING, 19 OCTOBER 2005 SALON E, 9:45 A.M. TO 12:05 P.M.

Session 3aNCe

NOISE-CON and Noise: Predicting and Assessing Community Responses to Noise I

Jim Barnes, Cochair
Acentech, 29 Isaac Davis Rd., Concord, MA 01742

Lawrence S. Finegold, Cochair
1167 Bournemouth Ct., Centerville, OH 45459-2647

William A. Russell, Cochair
U.S. Army Center for Health Promotion and Preventive Medicine, Army Operational Noise, 5158 Blackhawk Rd., Aberdeen Proving Ground, MD 21010–5403

9:45

3aNCe1. Case study: The environmental process at Logan International Airport. Nancy Timmerman (Consultant in Acoust. and Noise Control, 25 Upton St., Boston, MA 02118-1609)

For a facility like Logan International Airport in Boston, the Environmental Impact Analysis is performed annually; it is an ongoing activity. The effort is not performed by any one person or any one company. This paper will present the analysis, reporting, and review process for Logan as far as noise is concerned. Examples will be drawn from the 2003 Environmental Data Report (submitted to the Commonwealth of Massachusetts) and from the author's personal experience.

10:05

3aNCe2. Demonstrating adequacy of railroad warnings: A case study. John Erdreich (Ostergaard Acoust. Assoc., 200 Executive Dr., West Orange, NJ 07052) and Victor DiFrancesco (New Jersey Div. of Law, Trenton, NJ 08625-0116)

Frequently a jury is asked to evaluate a claim that a device provided adequate warning of a hazardous condition. Although there is extensive research on which basis an expert may evaluate such claim, the layman is unprepared to integrate such information into a decision. Previous attempts to produce courtroom demonstrations of warnings have been easily challenged by opposing experts. In a recent case involving a pedestrian accident on a railroad right-of-way we produced a jury demonstration that