NORA Construction Sector Perspectives on "Buy Quiet"

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NIOSH Buy Quiet Workshop
11.09.11
Overview

A. Construction and NOISE

B. NORA and Goals

C. Opportunities for Buy Quiet in Construction

Disclaimer – The findings and conclusions in this presentation 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.
A) Construction and NOISE

- Major construction OSH focus is safety..... given high burden of fatalities and serious injuries.

- **CHALLENGE:** Health hazards get less attention.
  - Noise (and dust) viewed as normal part of construction
  - Low awareness and expertise
  - Chronic health effects → no feedback loop for employers to easily notice (vs. injury)
• **CHALLENGE:** Lack of US noise regulation
  - Construction not covered by the 1983 OSHA Hearing Conservation Standard
  - Affects how issue is perceived by contractors
  - No hearing test results to raise awareness of workers or contractors

• **NOTE:** Voluntary 2007 standard

ANSI A10.46: *Hearing Loss Prevention in Construction and Demolition Workers*
Body of Knowledge

• Many NIOSH and other research studies showing:
  – High noise levels for various tasks and trades
  – Hearing loss among many construction trades
  – Examples of noise solutions and controls

• Existing R2P products for industry use

• Impact noise as research gap

U Washington booklet series
B) NORA and Goals
(National Occupational Research Agenda)

- 2006-2016
- Industry stakeholders identified “top problems” → converted into national goals with performance measures
- Intent:
  - Steer researchers to NORA topics
  - Partner with practitioners on most important issues
NORA Sector rationale?

- Research increasingly being judged by impact.
- Moving research into practice through partnerships is key to making an impact.
- Industry and employee group partners are organized by sector.
- Many solutions are sector-based.
NORA National Construction Agenda

15 Strategic goals addressing top construction problems

Strategic goals (SG) → desired worker and contractor end outcomes

Intermediate goals (IG) → intermediate steps needed to influence workers/contractors

Research/R2P goals (RG or R2PG) → research and actions to support intermediate goals
Strategic Goal 4

Reduce hearing loss among construction workers by increased use of noise reduction solutions, practices, and hearing conservation programs in the construction community.

Performance Measure: A PM cannot be set for this SG until better baseline information can be obtained and analyzed.
Intermediate Goals

- **IG 4.1** - Develop a baseline on current noise control and hearing loss practices in construction.

- **IG 4.2** – Increase awareness about noise hazards and solutions among workers, contractors, owners, and suppliers.

- **IG 4.3** – Increase the availability and adoption of quieter tools and equipment in the construction industry via research and implementation of a “Buy Quiet” campaign.

- **IG 4.4** – Develop and promote the use of model programs and practices by construction owners, governmental groups, professional groups, and best practice employers.
Buy Quiet Subgoals

4.3.1 – Develop a researcher/tool manufacturer partnership to improve engineering knowledge of noise reduction options and design approaches for construction power tools and equipment -- leading to an increase in the number of commercially available tools and equipment with noise reduction features.

4.3.2 – Support research to develop methods to improve the measurement and understanding of impact noise in construction. Partner with field researchers and safety and health professionals to use these improved methods to further characterize impact noise in construction settings.
4.3.3 – Develop, evaluate, maintain, and promote methods to collect tool and equipment manufacturing data by quiet technology characteristics to facilitate “Buy Quiet” efforts by construction tool users. Examples might include expanding the use of equipment noise labels, and the inclusion of noise requirements in project specifications.

4.3.4 – Analyze market barriers and opportunities and develop, evaluate, and publicize a “Buy Quiet” Construction Campaign using social marketing techniques to increase the availability, adoption and use of quieter construction tools and techniques.
Interest/comments on Buy Quiet Goals

• Much interest in Chuck Hayden’s project

• Presentation to ACCSH Health workgroup:
  Discussion: What comes first: Buy Quiet or Sell Quiet?

• AIHA Construction Committee Buy Quiet workgroup

• BQ scope: Be sure to include larger machines not just tools
C) Opportunities for Buy Quiet

1) Can build upon construction safety framework

- Pre-job planning → Equipment considerations
- Job Hazard Analyses → Evaluation of tasks and defining precautions
- Hazard-specific competent persons → On site person with knowledge and authority
2) Community noise strategies

A GUIDE TO NEW YORK CITY'S NOISE CODE
UNDERSTANDING THE MOST COMMON SOURCES OF NOISE IN THE CITY

As a construction worker, contractor, or engineer, you should be aware of how your activities are regulated under the Montgomery County Noise Control Ordinance. With careful planning and operation, it's possible to minimize potential noise disturbances from construction activities.

Construction Noise Basics

Virtually all potential noise sources that operate permanently or semipermanently can be designed or controlled to meet the receiving property line standard. Likewise, potential sources under human control, such as electronically amplified sound, can be designed to meet the ordinance requirements.

Noise from some construction activities, however, is difficult, if not impossible, to control to the receiving property line. This is because the engineering design and technical controls that are effective on permanent stationary sources aren't practical or reasonable for a temporary, often mobile, noise source or combination of sources. The Noise Control Ordinance, therefore, contains certain standards specific to construction noise. DEP has several tools available to help mitigate and regulate this potential source of disturbance.

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West Wing Disappears Behind Noisy Construction Job 04/04/2011 Associated Press/AP Online

West Wing officials, especially those with offices nearest the construction, have endured painful spells of drilling and banging. Holding meetings and doing routine business amid the din has become a major challenge.....

For example, Josh Earnest, a deputy in the press office, found himself doing phone interviews on President Barack Obama's State of the Union speech as a worker jackhammered concrete inches from his window. The next day, when a second jackhammer arrived, he phoned project managers to beg for a reprieve. The work was postponed....

Community construction noise example
Construction Noise Control
Products and Vendor Guidance Sheet

23 March 2007

Distributed by:
New York City Department
Of Environmental Protection

The following is intended to provide guidance to construction contractors with respect to finding and selecting suitable noise control products. These products and vendors may be helpful to contractors for achieving compliance with the New York City Noise Regulations. These items are provided only as suggestions for contractors to consider and should not be construed as an official endorsement of any product and/or vendor by the City of New York. Contractors are free to choose other products/vendors that meet the requirements of such Code. This sheet will be updated from time to time as new noise control technologies gain acceptance.

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<td>• Preco Electronics</td>
<td>200 Series, 45 Series, 6000 Series</td>
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<td>• Ecco Group</td>
<td>Smart Alarms, 500 Series, 700 Series</td>
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<td>• Grote Industries</td>
<td>Model 73040</td>
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<td>• Makita</td>
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<td>VACUUM EXCAVATORS (VAC-TRUCKS)</td>
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<td>LSE Sound Barrier</td>
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<td>• Kinetics</td>
<td>Noise Block</td>
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<td>• one inch plywood is rated at 30 STC.</td>
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|• Sound Seal                    | BBC-13-2         |                 |                |
|• Illbruck Acoustic             | SONEX Curtain    |                 |                |
|• McGill AirSilence             | Fibersorb Curtains |                |                |

|• Universal Silencers           | Silencers          |                 |
|• Burgess Manning               | Silencers          |                 |

Quieter vibratory pile driver installing steel channel sheets in NYC.
3) Green rating systems

Major influence on building practices

No current noise credits....

....but acoustic credits for schools and hospitals.
NORA Construction Council focus

✓ NIOSH Meetings with USGBC

✓ Integrating OSH language into 6 existing credits presenting potential hazards

NORA interest in developing additional "stand alone" OSH pilot credits, including for construction noise
4) Green labels and environmentally preferable purchasing
1. MATERIALS HAZARD FACTORS

Human Health Hazards
- Acute/Chronic
- ImmunoLogic
- Neurotoxic
- Reproductive
- Instant

Ecologic Hazards
- Aquatic—Avian—Terrestrial Species

Product Hazards
- Corrosivity, Flammability, Reactivity

Environmentally Preferable Products (EPPS)

3. POSITIVE ATTRIBUTES
- recyclability
- Reusability
- Durability

Lifecycle Stages

2. HUMAN HEALTH & ECOLOGICAL STRESSORS

- Bioaccumulative
- Ozone Depleting
- Chemical Releases (TRI)
- Air Releases (VOCs)
- Global Warming Gases

4. NATURAL RESOURCES USE

- Ecosystem Impact
- Energy Consumption
- Water Consumption
- Resource Consumption
- Non-renewable
- Renewable
- Rapidly Renewable

We need to get NOISE added

BQ needs to be integrated into Environmentally Preferable Purchasing attributes!

5) Better equipment information?

http://www.hilti.com/fstore/holcom/LinkFiles/Hilti_HS_(old%20DRS%20Logo)_com_Brochure(2).pdf
Choose your method.
For optimum safety on every job.

Noise info provided ....

EU focus

Still a long way to go
# Closing thoughts –
3 approaches for providing Construction BQ info

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<tr>
<th>Approach</th>
<th>Value</th>
<th>Developmental work needed</th>
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<tr>
<td><strong>Label</strong></td>
<td>Easiest for contractors to use! Least amount of searching</td>
<td>Needs the most infrastructure</td>
</tr>
<tr>
<td><strong>Product literature or website</strong></td>
<td>Contractors already look to vendors for info.... so next easiest for contractors to use</td>
<td>Needs infrastructure</td>
</tr>
<tr>
<td><strong>Dedicated website for tool/equipment noise</strong></td>
<td>Contractors need to know it exists and it has to be easy for them to use</td>
<td>Challenging, but easiest to accomplish...can be used as base for others above</td>
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For more information

NORA National Construction Agenda

PDF version

Interactive version
http://www.cdc.gov/niosh/programs/const/noragoals/

NORA Construction webpage
http://www.cdc.gov/niosh/construction/

eLCOSH (Electronic Library of Construction Safety and Health)
http://www.cdc.gov/niosh/elcosh.html
Thanks!

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Questions?

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