

# Blueprints

Building  
the world  
safely

NOVEMBER 2016

A TECHNICAL PUBLICATION OF ASSE'S CONSTRUCTION PRACTICE SPECIALTY

## Identify & Reduce Noise Exposure

By Gary Ticker

Thousands of workers suffer every year from hearing loss due to high workplace noise levels. The good news is that this is preventable. **OSHA** says exposure to an 8-hour time-weighted average (TWA) sound level of 85 decibels (dBA) or more can cause hearing damage. Most work-related hearing loss can be eliminated by reducing employee exposure to below this level.

### Identification

- Identify the high-noise sources. Using a sound level meter, pinpoint the equipment and processes that produce sound levels equal to or more than 85 dBA. An inventory of noisy equipment can be plotted on a map.

- Determine which employees are exposed to noise greater than the equivalent of 85 dBA exposure for an 8-hour day. Conduct a noise dosimeter survey to identify jobs with high noise exposure.

- If noisy equipment is in an area with many employees and contributes to the noise level, it should be prioritized for remediation. If noisy equipment is not near areas where employees work, it may not be contributing to their exposure and may be disregarded. For example, compressors located outside may not be significant sources of employee noise exposure.

### Implementation

Noise controls are the first line of defense against excessive noise exposure. Reducing the noise level even a few decibels, reduces the hazard to hearing, improves communication and diminishes noise-related annoyance. A company can control and reduce worker exposure to noise in a workplace in several ways, many of which are inexpensive:

- Inspect noisy equipment. Is it running as designed? Is it properly maintained and lubricated? Check with the manufacturer to see if it has a noise rating and is meeting that rating.



©ISTOCKPHOTO.COM/BARTCO

- Is this process necessary? Eliminate noisy processes wherever possible.

- Separate noisy machinery to reduce compounding effects of noise.

- Are less noisy machinery and tools available? Only purchase equipment that will not damage employee hearing. Manufacturers' sound specifications are available in **NIOSH's Power Tools Database**.

- Is the point of operation the cause of the noise? If so, lower rpms, use alternative cutting materials and/or use tools to help reduce noise.

Other engineering controls may include:

- Install mufflers on motors.

- Place a barrier between the noise source and the employees, such as sound walls or curtains.

- Move machine controls farther away from the noise source.

- Install sound-absorbing materials in and around the equipment.

- Enclose or isolate the noise source.

Find more information on noise controls in the **NIOSH Industrial Noise Control Manual**.

### Last Resort

A company should use a hearing conservation program as a last resort when noise levels remain too high after all feasible engineering and administrative controls are implemented. As with most PPE, hearing protection has limited effectiveness. It is always best to reduce noise levels and eliminate the hazard. ■

**Gary Ticker, CSP, CIH**, is president of **OccuSafe Industrial Hygiene & Safety Services**. He holds an M.S. in Safety Management from the University of Arizona. Reach him at [gticker@occusafeinc.com](mailto:gticker@occusafeinc.com).



Network on  
LinkedIn



Find us on  
Facebook



Read  
ASSE's blog

- Construction Information
- International Resource Guide
- Journal of SH&E Research
- Networking Opportunities
- *Professional Safety* Journal
- Publication Opportunities
- Volunteer Opportunities



Search our  
knowledge base



Follow us on  
Twitter

When you see this symbol,  
click it to learn more



## Blueprints • Construction Practice Specialty

### Officers

#### Administrator

Richard C. Zellen Jr.,  
CSP, ARM  
rick.zellen@zurichna.com

#### Assistant Administrator

Shawn R. King, CSP, CHST  
kingsr@bv.com

#### Content Coordinator

Skyler Williard  
swillard@oldcastlematerials.com

*Blueprints* is a publication of ASSE's Construction Practice Specialty, 520 N. Northwest Highway, Park Ridge, IL 60068, and is distributed free of charge to members of the Construction Practice Specialty. The opinions expressed in articles herein are those of the author(s) and are not necessarily those of ASSE. Technical accuracy is the responsibility of the author(s). Send address changes to the mailing address above; via fax to (847) 768-3434; or via e-mail to customerservice@asse.org.



### ASSE Staff

#### Manager, Practice Specialties

Charlyn Haguewood  
chaguewood@asse.org

#### Communications Team

Tina Angley  
Cathy Baker  
Rachel Metea  
Sue Trebswether  
COPSPublications@asse.org