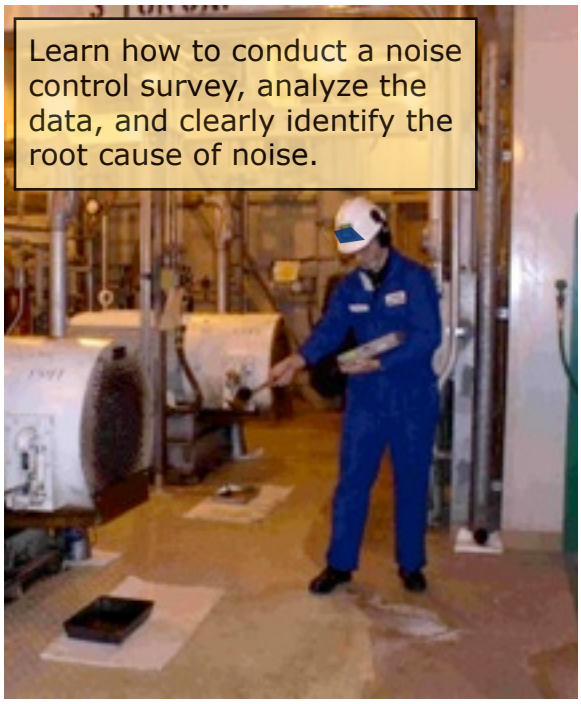
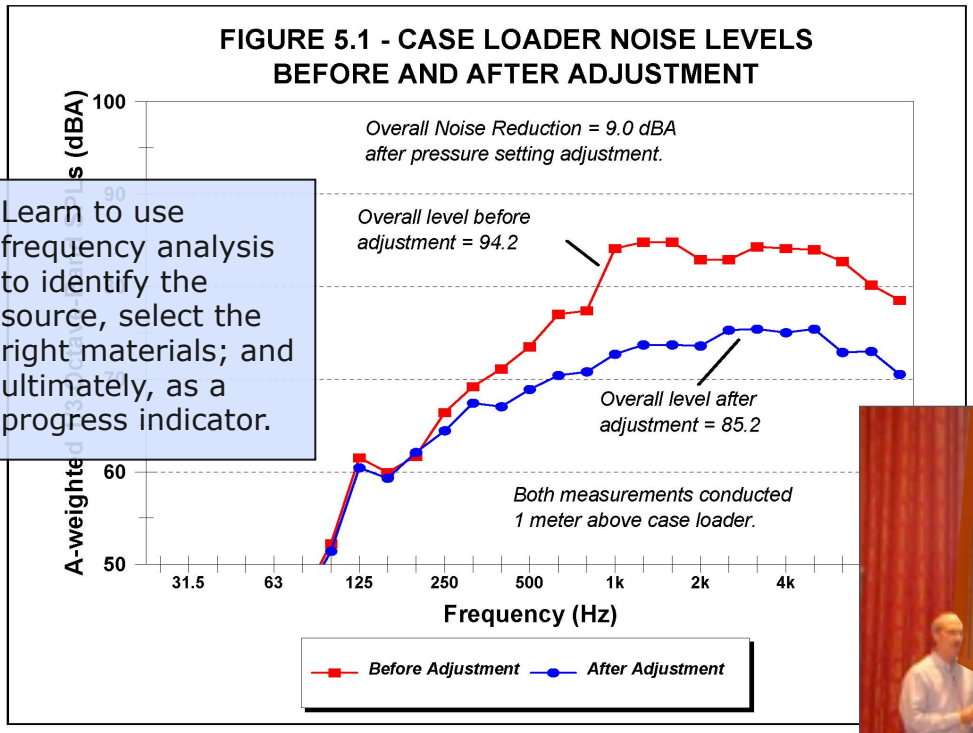
Practical Noise Control Engineering

The award winning training seminar, rated the #1 Professional Development Course at the annual American Industrial Hygiene Conference and Exposition on more than 10 occasions, is now available by way of professionally-recorded webcasting!

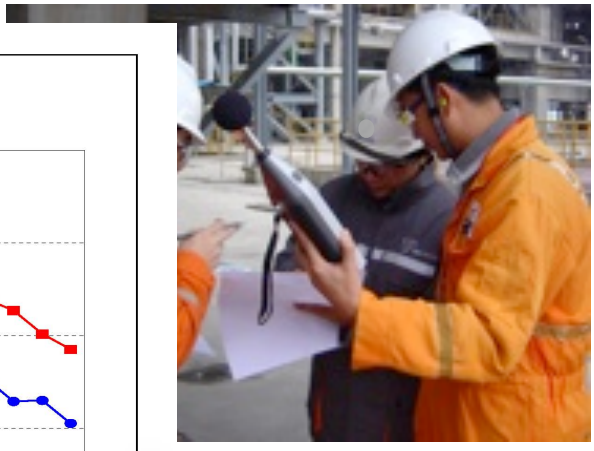


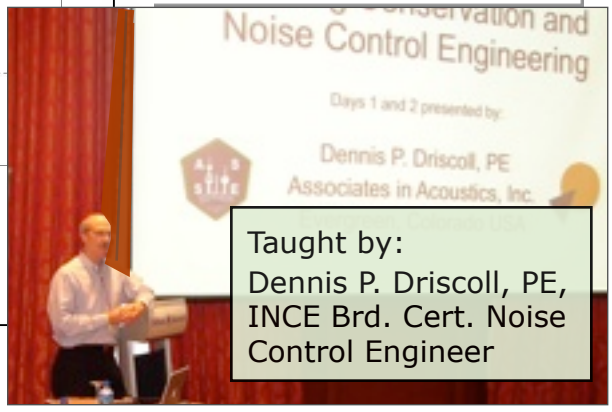
Learn how to conduct a noise control survey, analyze the data, and clearly identify the root cause of noise.

Learn to select the most practical noise control option(s) and how to manage a noise control project.

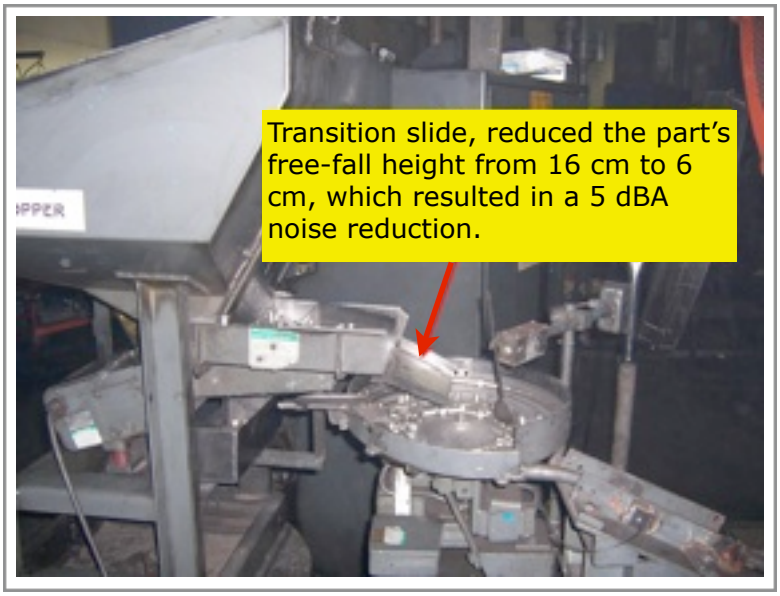


Learn to use frequency analysis to identify the source, select the right materials; and ultimately, as a progress indicator.





Taught by:
Dennis P. Driscoll, PE, INCE Brd. Cert. Noise Control Engineer



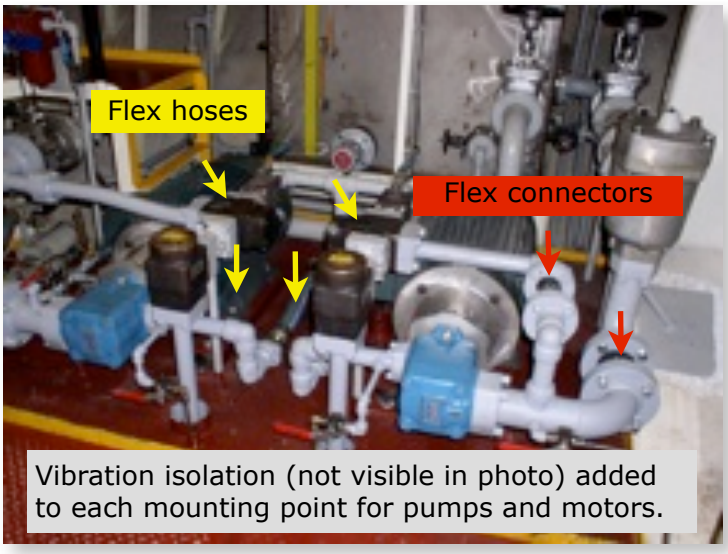
This course teaches noise control through a series of case histories, such as those shown in many of the photos herein. The course material is designed to provide students with practical and workable solutions for many common and dominant workplace noise sources.

Practical Noise Control Engineering

Abstract

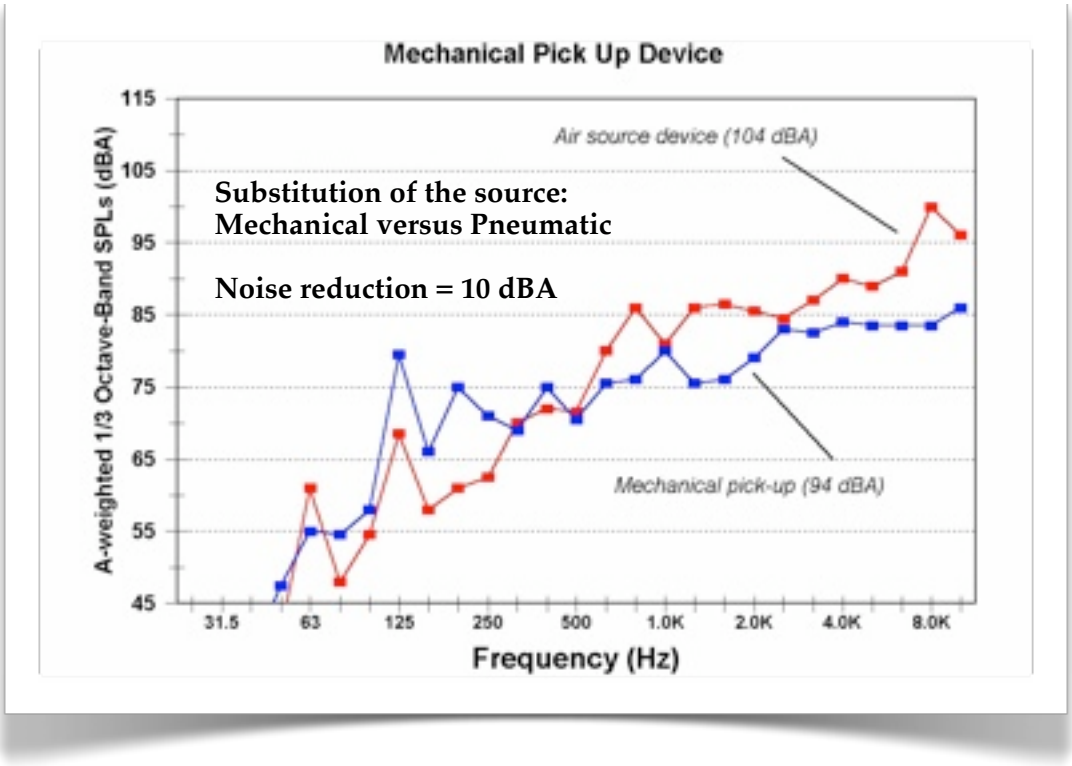
The most effective way to prevent occupational noise-induced hearing loss, safely reduce enrollment in a hearing conservation program, and minimize potential recordable instances for hearing loss, is through effective implementation of engineering noise controls. With some advanced education and training, it is feasible for facility engineers and health & safety professionals to develop practical, workable, and sustainable noise control solutions; establish noise control priorities; identify and select optimum products for retrofitting equipment; and work effectively with design engineers to implement a pro-active approach to noise control. If you desire acoustical theory, then this is not the course for you, as the training material is developed from multiple case histories with proven and practical noise controls.

Noise Level = 98 dBA before treatment. Excess noise was due to structure-borne vibration from pumps, drive motors, and fixed hydraulic piping; all of which were hard mounted to each other and the metal deck.



Noise Level = 86 dBA after installation of vibration isolation mounts for the pumps and motors, and flexible pipe connectors and hoses.

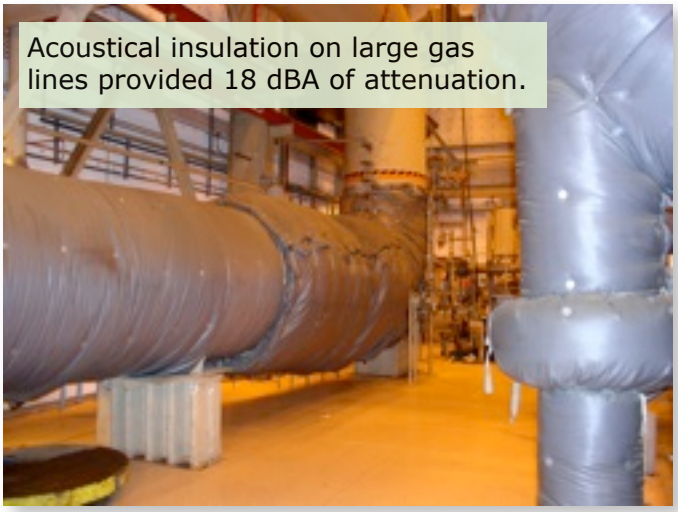
Overall Noise Reduction = 12 dBA.



Learning Outcomes:

Upon completion of the course, students will be able to apply the noise control concepts to:

1. Conduct a noise control survey, identify the noise generating mechanisms, and prioritize items for noise control.
2. Develop feasible engineering controls through effective implementation of the Principles of Noise Control.
3. Understand noise control design and retrofit applications for a variety of industrial equipment, such as pneumatic or compressed air systems, electric motors, industrial fans, positive-displacement blowers, pipelines, panel radiated noise, etc.
4. Work effectively with design contractors, acoustical product suppliers, and consultants to achieve the stated noise criteria or goals.


Acoustical insulation on large gas lines provided 18 dBA of attenuation.

This course is comprised of four sequential sessions with the following content, which are grouped into two separate webcast sessions:

Webcast 1 - Modules 1 and 2:

Module 1 - Course Introduction and Fundamentals of Sound (55 minutes):

The course format, available reference material, and description of the risk are covered in the introduction. Next, the foundation for the course is built by defining:

- The properties of sound, such as frequency, wavelength, period, and amplitude,
- The cause and effect of sound, including pressure and power,
- Methods for manipulating decibels, such as adding and subtracting decibels, and
- The human perception and response to sound.

Module 2 - The Principles of Noise Control (90 minutes):
The objective herein is to provide a comprehensive discussion of the six (6) principles of noise control to enable students to effectively:

- Conduct a noise control survey,
- Evaluate sound level data to identify the sources of noise,
- Prioritize sources for noise control,
- Determine the most practical noise control options, and
- Select the appropriate acoustical products or materials for noise control.

Webcast 2 - Modules 3 and 4:

Modules 3 & 4: Noise Control Options and Applications for Specific Equipment – Part 1 (55 minutes) and Part 2 (50 minutes):
The objective is to provide detailed information on engineering noise control options and applications for specific equipment to enable students to address a variety of noise control challenges. Each presentation for specific equipment contains succinct case history information on what causes the noise and what are the proven noise control measures, including selection of the appropriate acoustical products or materials. This is practical, take back-to-the-job and implement type information. Parts 1 and 2 cover the following topics, respectively:

Part 1:

- Using sound absorption material for attenuation,
- Electric motors, including cooling fan selection and retrofit options,
- Pneumatic or compressed air systems, such as air valves, solenoids, cylinders, and air guns,
- Positive displacement blowers, principally roots blowers, and
- Acoustical insulation, for items such as piping systems, machine casings, hopper bins, chutes, and product transfer lines.

Part 2:

- Panel radiated noise and vibration damping,
- Industrial fans, including selection, design, maintenance, and retrofit considerations,
- The use of silencers,
- Acoustical enclosures, with information on both commercially available products and in-house fabricated enclosures, and how to enhance machine guarding to achieve an acoustical benefit, and
- A course wrap-up with concluding remarks to kick start your noise control program.

Instructional Methods:

Presentation of multiple case histories are used to teach the principles of noise control, and describe the various noise control applications and options for specific industrial equipment. Noise control demonstrations are used to reinforce the concepts and proper use of acoustical materials.

Learning Aids:

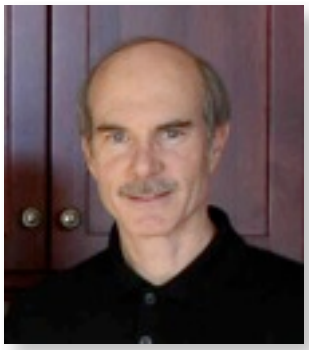
Several spreadsheet files/routines and significant references are provided to each student upon registration, which are demonstrated throughout the course.

Translations:

All webcasts are in English; however, all slides have been translated for hard-copy handouts into Spanish, French, Chinese, Portuguese, and Thai.

Instructor:

All presentations are made by Dennis P. Driscoll, PE. Mr. Driscoll is President and Principal Consultant of Associates in Acoustics, Inc. Besides directing the business administration of the company, his primary responsibilities include conducting engineering noise control surveys, data analysis, research, and recommendations for noise control. He conducts environmental and community noise surveys, as well as employee noise exposure assessments. Mr. Driscoll also teaches noise control and hearing conservation training seminars, which are customized to the particular needs of the client or attendees.



Toward professional certification, he is a registered Professional Engineer and a Board Certified Noise Control Engineer. He is a Past President of the National Hearing Conservation Association (NHCA), a Fellow Member of the American Industrial Hygiene Association (AIHA), past Chair of the AIHA Noise Committee, and he served a five-year term as a Council Member of the Council for Accreditation in Occupational Hearing Conservation (CAOHC). Mr. Driscoll is lead author of Chapters 9 and 15, "Noise Control Engineering," and "Community Noise;" respectively, which are published in *The Noise Manual*, *5th Edition*, by AIHA Press, and is one of the textbook editors. He also published the training manual "Noise – Measurement and Its Effects," available through the British Occupational Hygiene Society. Finally, Mr. Driscoll has won several awards for outstanding lecturer at national conferences, and has taught multiple top-rated professional development courses.

Email: Seminars@AssociatesInAcoustics.com

Continuing Education Units:

ABIH: 0.5 CM Point upon successful completion of all ABIH requirements.

CSP: This course qualifies for 0.4 Continuance of Certification (COC) credit for CSPs completing the full course.

P.E.: 4.3 Professional Development Hours (PDHs) may be earned upon successful completion of all requirements (verification of completion and passing the exam; however, all Licensees must look into their state's requirements for acceptance of the PDHs awarded.

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Price List

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The table below presents the webcast pricing options and services, followed by additional details. Individuals may purchase a one-time use registration, while companies and agencies may subscribe to a multi-year, unlimited use license. Prices as of August 2009 are:

Webcast Subscription Options and Services	Price	Average Cost per Year
Individual registration, includes all four sessions and handouts	$125	N/A
Two-year unlimited use license	$10,000	$5,000
Three-year unlimited use license	$12,000	$4,000
Four-year unlimited use license	$15,000	$3,750
Five-year unlimited use license	$17,500	$3,500
Live 30-minute instructor Question & Answer session	$400 per session	N/A

Individual Registration:
An Individual Registration entitles the registrant to a one-time use/view of all four sessions. Each session may be viewed on-demand, all at once or at separate times, at the convenience of the user. Registration also includes an electronic handout of the presentation slides, access to multiple spreadsheet files and pertinent references, including dozens of useful websites for noise control and hearing loss prevention products and services.

Unlimited Use License:
An unlimited use license entitles the licensee to full unlimited access to the webcasts for any and all plants sites or locations within the licensee's company. At no additional cost, the course content can be linked to your internal e-learning or learning management system, and customized to your company's look and feel. The webcasts may be viewed on-demand by a single user on a computer monitor, or by a group in a conference/training room via computer projector. Unlimited use licenses are available in one-year increments, with a minimum of two years up to a maximum of five years.

Handout Material:
To supplement the presentations, a handout is provided (in English). The handout is electronic, in the form of a portable-document format (pdf) file. Besides English, the presentation handout is also available in the following languages: Chinese, French, Portuguese, Spanish, and Thai.

Instructor Question & Answer (Q&A) Session(s):
For the live 30-minute Q&A session(s), the time and date(s) must be scheduled in advance and be mutually agreeable between user and instructor. The Q&A is conducted by means of a web-based question submittal application. During the webcast users key-in their questions, and then after the session they are read aloud and answered by the instructor via an audio connection.

Disclaimer:
Associates in Acoustics, Inc. (AIA) is a professional acoustical consulting firm specializing in occupational noise, including noise control engineering and hearing loss prevention programs. All presentations were developed from our professional experience in acoustics and noise control engineering. Use of the information contained in the presentations is at the prerogative and discretion of the client/user(s). AIA offers no guarantees, expressed or implied, that the noise control options presented will provide the same results or benefits as described.

How to Register:
For individual registration, click Registration, or go our website at www.esion.com
For ULL multi-year license: contact Dennis Driscoll at ddriscoll@AssociatesInAcoustics.com for proposal.