

EDITORIAL

Improving the Noise Climate in the United States

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Since the publication of the “Technology for a Quieter America” report in 2010, a TQA follow-up program has been established to identify specific noise topics and develop relevant recommendations aimed at improving the noise climate in the United States. To date, two reports have been published and have been approved by the board of directors of the Institute of Noise Control Engineering (INCE/USA) for distribution as public information documents.

The first, “Noisy Motorcycles: An Environmental Quality-of-Life Issue” is based on a roundtable hosted by the National Academy of Engineering in Washington, DC, on October 24, 2012. Motorcycle manufacturers, aftermarket manufactures, government, noise control engineers, state police, and the public were all represented at the roundtable.

The discussion focused on motorcycle regulations promulgated by the U.S. Environmental Protection Agency and the effect of those regulations on the ability to control motorcycle noise at the local level. The federal regulations are now more than 30 years old, and need to be updated. Locally, noise problems are created by motorcycles with modified exhaust systems, and local authorities have a very difficult time identifying motorcycles that do not meet federal noise requirements and preventing unnecessary noise in the community. The report includes 30 recommendations for federal, state and local actions. A free copy of the report in PDF format may be downloaded at the bottom of the home page of the INCE/USA web site: www.inceusa.org.

A second report titled “Cost-Benefit Analysis: Noise Barriers and Quieter Pavements” is also available for free download as a PDF file. It is based on a workshop hosted by the National Academy of Engineering in Washington, DC, on January 16, 2014. The workshop and the subsequent report are the result of cooperation between the TQA



Roadside sign in the U.S. state of Maine.

follow-up team and the DOT Volpe Center in Cambridge, MA.

Through the end of 2010, 47 state departments of transportation and the Commonwealth of Puerto Rico have constructed more than 2,748 linear miles of barriers at a cost of close to \$5.5 billion (in 2010 dollars). Barriers are expensive. They reduce noise as it propagates, do not reduce noise at the source, and are not always feasible.

At highway speeds, the main source of noise emission is interaction between vehicle tires and road surfaces. Considerable progress has been made in understanding this noise source, and development work has shown that considerable reductions in noise emissions can be achieved by changing the design of the road surface.

The workshop and subsequent report explore the costs and benefits of barriers and quieter pavements. In some cases, the optimal solution to a highway noise problem is a combination of a barrier of a certain height and a quiet road surface, and these options are examined in the report. This report can be downloaded at no cost from the INCE/USA web site: www.inceusa.org. Click first on publications, then on INCE/USA Reports, and then on Cost-Benefit Analysis.

A third workshop was hosted by the National Academy of Engineering on February 19-20, 2014 in Washington, DC. The title

was “Reducing Employee Noise Exposure in Manufacturing – Best Practices, Innovative Techniques, and the Workplace of the Future.” This workshop was sponsored by the INCE Foundation and was organized by the TQA follow-up committee in cooperation with the National Institute for Occupational Safety and Health. Twenty-eight papers were presented, all addressing the subjects in the workshop title.

The “best practices” theme was addressed in two ways: reports from major manufacturers about successful hearing conservation programs, and reports from engineers in industry, consultants, and government workers, on what constitutes best practice for noise reduction. Examples of successful implementations were presented.

The theme of “innovative techniques” was addressed through new methods for noise prediction in manufacturing spaces, identification and localization of noise sources, new processes and techniques, and noise prediction.

The third theme “the manufacturing environment of the future” was addressed by a general presentation on the future of manufacturing as being studied by a National Academy of Engineering committee, and some general thoughts by representatives of the National Institute for Standards and Technology, and by the National Center for Manufacturing Sciences. There were two parts to the latter presentations, the manufacturing workplace of the future and an innovative method for metal removal that involves improved productivity, a safer workplace, and lower noise emissions. The workshop presentations have been turned into articles written by a professional science writer in cooperation with the authors and editors of the report. Publication is scheduled for later this year. SIV

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