

# CONSENSUS STANDARDS: ONE PERSPECTIVE FROM A GOVERNMENT SCIENTIST

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## Noise regulations

Many of the Federal government's acoustics regulations have been directed toward abating environmental noise. The Noise Control Act of 1972 designated the U. S. Environmental Protection Agency (EPA) as the principal agency for leading Federal noise control efforts, and EPA's primary tool was to be through its regulatory authority.

Regulating noise sources requires not only designating a maximum acceptable sound level but also specifying the measurement protocol. The measurement protocol addresses such issues as measurement geometry, atmospheric conditions, acoustical properties of pavement and ground surfaces, ambient level, spatial and temporal sampling rates and instrument specifications. Because the development of measurement protocols is the focus of consensus standards activities, EPA participated in the activities of consensus standards organizations. However, the EPA Noise Office developed its own measurement protocols—a measurement process that proved lengthy and contentious. Frequently, it was the measurement protocol that was challenged, delaying the issuance of regulations.

## National Technology Transfer and Advancement Act of 1995

Had the National Technology Transfer and Advancement Act of 1995 (Act) been in effect during the 1970s when EPA was developing noise regulations, EPA could have issued these regulations in a more timely manner using less resources. Rather than develop its own measurement protocols, EPA would have adopted consensus standards, because the Act requires that government agencies use voluntary consensus standards in regulating industries or procuring services or products in lieu of government-unique standards, except where inconsistent with law or otherwise impractical.

The Act has several goals:

- Provide incentives to establish standards that serve national needs.
- Eliminate the cost to the government of developing its own standards.
- Promote long-term growth for U.S. enterprises and promote efficiency and economic growth.
- Further the policy of relying on the private sector.

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The applicable section of the Act resulted from private-sector concerns over reducing the inefficiency of developing government standards when such standards already existed in or could be developed by the private sector. Government interests in fairness are addressed in that consensus standards are required to be open, contain a balance of interests and employ due process.

Federal agencies are required to report to the Office of Management and Budget (OMB) if a government-unique standard is used in lieu of consensus standards and the rationale for doing so. OMB is required to report annually to

Congress on such deviations.

## U.S. Department of Transportation

A cursory look at the U.S. Department of Transportation's (DOT) standardization activities showed that DOT agencies have turned to the consensus standards communities for the development of noise measurement protocols. Some examples within the Department relating to aviation, highways and railroads are given.

The Federal Aviation Administration (FAA) is developing procedures for calculating aircraft emissions, estimating aircraft thrust, measuring gas turbine engine noise and applying atmospheric absorption to one-third octave-band data. The Society of Automotive Engineers International (SAE), a consensus standards organization, is developing the procedures.

Visually handicapped individuals and other pedestrians may not be able to hear electric and hybrid vehicles when these vehicles are stopped or moving slowly. The Pedestrian Enhancement Safety Act of 2010 requires the National Highway Traffic Safety Administration (NHTSA) to develop performance requirements for an alert system that allows detection of a nearby electric or hybrid vehicle. That law also requires NHTSA to consult with SAE, the International Organization for Standardization (ISO) and others. SAE and ISO are now developing a test procedure for measuring minimum vehicle noise emissions that are audible.

The Federal Railroad Administration (FRA) requires that railroads test horns on locomotives built before September 16, 2006 to verify that they meet a certain acoustic criterion. Because the measurement protocol requires outdoor testing, one commuter railroad had concerns over

ensuring that the test site has sufficient space for meeting the test site requirement of having no noise reflective planes within 200 feet and being able to carry out tests without causing noise pollution from the sounding of the horns to the neighbors of the test site. There were also logistical problems of moving locomotives to the test site from branches on which different propulsion methods are used.

At the railroad's request, an American National Standards Institute (ANSI) Noise Committee working group developed an *ex-situ* standard for testing the horns in a hemi-anechoic chamber. After the working group completed its work and the ANSI Noise Standards Group approved the standard, the standard was published. The railroad then

requested a waiver to test under the new standard, which FRA granted. As a result, the railroad can test its horns in an efficient manner that will ensure that horns emit a signal of sufficient intensity to warn the public and without the test polluting the environment.

At DOT, there is a strong participation in the voluntary consensus standards process. In 1996, the year the Act was signed into law, DOT issued 110 government-unique standards. In 2009, the number of DOT regulations referencing government unique-standards was only eight. DOT is a strong participant in consensus standards working groups—its employees were represented on 50 standards-developing organizations and 238 committees in 2009.[AT](#)



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