
ASA TECHNICAL REPORT

Rationale for Withdrawing ANSI/ASA S12.9-2008/Part 6

(A Technical Report prepared by ANSI-Accredited Standards Committee S12 and registered with ANSI)

ASA TR S12.9-2018/Part 6

Accredited Standards Committee S12, Noise

Standards Secretariat
Acoustical Society of America
1305 Walt Whitman Road, Suite 300
Melville, NY 11747

The American National Standards Institute, Inc. (ANSI) is the national coordinator of voluntary standards development and the clearinghouse in the U.S.A. for information on national and international standards.

The Acoustical Society of America (ASA) is an organization of scientists and engineers formed in 1929 to increase and diffuse the knowledge of acoustics and to promote its practical applications.



ASA TECHNICAL REPORT

Rationale for Withdrawing ANSI/ASA S12.9-2008/Part 6

Secretariat:

Acoustical Society of America

ASA Technical Report Registered: July 22, 2018

American National Standards Institute, Inc.

Abstract

This ASA Technical Report provides the rationale for the recommendation by Working Group S12/WG 15 to withdraw the 2008 ANSI/ASA Standard “Quantities and Procedures for Description and Measurement of Environmental Sound — Part 6: Methods for Estimation of Awakenings Associated with Outdoor Noise Events Heard in Homes.” The decision to withdraw the standard is based in part on the relatively small and non-representative corpus of field observations of noise-induced behavioral awakening available for analysis; on the poor generalizability of predicted awakening rates from airport to airport; on practical experience with the limited utility of predictions of “at least one behavioral awakening per night” for purposes of assessing environmental noise impacts, as required by the National Environmental Policy Act; on the statistical assumptions of convenience and *post hoc* analysis methods used to generate predictions of awakenings; on information published subsequent to development of the original standard; and on the findings of peer-reviewed re-analyses of the findings on which the original standard was based.

AMERICAN NATIONAL STANDARDS ON ACOUSTICS

The Acoustical Society of America (ASA) provides the Secretariat for Accredited Standards Committees S1 on Acoustics, S2 on Mechanical Vibration and Shock, S3 on Bioacoustics, S3/SC 1 on Animal Bioacoustics, and S12 on Noise. These committees have wide representation from the technical community (manufacturers, consumers, trade associations, organizations with a general interest, and government representatives). The standards are published by the Acoustical Society of America as American National Standards after approval by their respective Standards Committees and the American National Standards Institute (ANSI).

These standards are developed and published as a public service to provide standards useful to the public, industry, and consumers, and to Federal, State, and local governments.

Each of the Accredited Standards Committees (operating in accordance with procedures approved by ANSI) is responsible for developing, voting upon, and maintaining or revising its own Standards. The ASA Standards Secretariat administers Committee organization and activity and provides liaison between the Accredited Standards Committees and ANSI. After the Standards have been produced and adopted by the Accredited Standards Committees, and approved as American National Standards by ANSI, the ASA Standards Secretariat arranges for their publication and distribution.

An American National Standard implies a consensus of those substantially concerned with its scope and provisions. Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered and that a concerted effort be made towards their resolution.

The use of an American National Standard is completely voluntary. Their existence does not in any respect preclude anyone, whether he or she has approved the Standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the Standards.

NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken periodically to reaffirm, revise, or withdraw this Standard.



Acoustical Society of America
Standards Secretariat
1305 Walt Whitman Road, Suite 300
Melville, New York 11747
Telephone: 1 (631) 390-0215
Fax: 1 (631) 923-2875
E-mail: asastds@acousticalsociety.org

© 2018 by Acoustical Society of America. This Technical Report may not be reproduced in whole or in part in any form for sale, promotion, or any commercial purpose, or any purpose not falling within the provisions of the U.S. Copyright Act of 1976, without prior written permission of the publisher. For permission, address a request to the Standards Secretariat of the Acoustical Society of America.

Contents

1	Scope	1
2	Terms and definitions	1
3	Technical discussion	2
3.1	Background	2
3.2	Nature of the predicted quantity	3
3.3	Practical experience with application of current standard	3
3.4	Accuracy and precision of predictions of 2008 standard	4
3.5	Representativeness, size, and adequacy of ANSI/ASA S12.9-2008/Part 6 database	4
3.6	Sensitivity of ANSI/ASA S12.9-2008/Part 6 prediction method to analytic assumptions	5
3.7	Other limitations of the former standard	8
3.8	Alternative interpretation of published behavioral awakening findings	8
4	Summary of technical adequacy of former standard	9
5	Recommendation for further standardization efforts	9
	Annex A (Informative) Behavioral awakening data	11
	Annex B (Informative) Probability of behavioral awakening as a function of the single-event indoor ASEL, habituated population	15
	Annex C (Informative) Probability of awakening a population with a sound that is new to an area	17