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## AMERICAN NATIONAL STANDARD

### **Acoustics – Estimation of Noise-induced Hearing Loss – Part 1: Method for Calculating Expected Noise-induced Permanent Threshold Shift (a modified nationally adopted international standard)**

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ANSI/ASA S3.44-2016/Part 1 /  
ISO 1999 :2013 (MOD)

Accredited Standards Committee S3, Bioacoustics

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Standards Secretariat  
Acoustical Society of America  
1305 Walt Whitman Road, Suite 300  
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ANSI/ASA S3.44-2016/Part 1 / ISO 1999:2013 (MOD)  
(Revision of ANSI S3.44-1996)

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Acoustics — Estimation of Noise-induced Hearing Loss—  
Part 1: Method for Calculating Expected Noise-induced  
Permanent Threshold Shift  
**(a modified nationally adopted international standard)**

**Secretariat:**

**Acoustical Society of America**

**Approved on March 4, 2016 by:**

**American National Standards Institute, Inc.**

**Abstract**

ANSI/ASA S3.44-2016/Part 1/ISO 1999:2013 (MOD) specifies a method for calculating the expected noise-induced permanent threshold shift in the hearing threshold levels of adult populations due to various levels and durations of noise exposure; it provides the basis for calculating hearing disability according to various formulae when the hearing threshold levels at commonly measured audiometric frequencies, or combinations of such frequencies, exceed a certain value. This modified standard allows an equivalent effective level (EEL), with a different exchange rate, to be substituted for  $L_{EX,8h}$ .

The measure of exposure to noise for a population at risk is the noise exposure level normalized to a nominal 8 h working day,  $L_{EX,8h}$ , for a given number of years of exposure. ANSI/ASA S3.44-2016/Part 1/ISO 1999:2013 (MOD) applies to noise at frequencies less than approximately 10 kHz which is steady, intermittent, fluctuating, or irregular. Use of ANSI/ASA S3.44-2016/ISO 1999:2013 (MOD) for sound pressures exceeding 200 Pa (140 dB relative to 20  $\mu$ Pa) is recognized as extrapolation.

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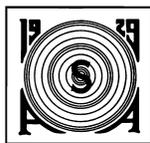
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