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ACOUSTICAL SOCIETY OF AMERICA

OFFICE OF THE STANDARDS SECRETARIAT

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S12/284

FEB 9

1994

MINUTES

ACCREDITED STANDARDS COMMITTEE ON NOISE, S12

U.S. TAG FOR ISO/TC 43/SC1 NOISE and ISO/TC 94/SC12 HEARING PROTECTION

Denver, Colorado

7 October 1993

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MINUTES OF S12 MEETING HELD IN DENVER, COLORADO, ON 7 OCTOBER 1993

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ACCREDITED STANDARDS COMMITTEE ON NOISE, S12

U.S. TAG FOR ISO/TC 43/SC1 NOISE

-and-

ISO/TC 94/SC12 HEARING PROTECTION

Denver, Colorado

7 October 1993

The meeting was called to order by Mr. D.L. Johnson, Chair S12, at 8:55 A.M. in the Savoy Room, the Radisson Hotel, Denver, Colorado.

ORGANIZATIONAL MEMBERS PRESENT

Callahan, R.	Power Tool Institute (PTI)
Francis, T.R.	National Hearing Conservation Assoc. (NHCA)
Brenig, A.	ASA Standards Manager
Burkard, R.F.	American Speech-Language-Hearing Assoc. (ASLHA)
Galloway, W.J.	ASA Alternate Representative
Goodwin, R.	Acoustical Systems
Johnson, D.L.	Chair S12; ASA Representative S12
McKinley, R.	U.S. Air Force
Monk, W.	CAOHC
Schomer, P.D.	U.S. Army Construction Engineering Research
	Laboratory (U.S. CERL); Vice Chair S12;
	Vice Chair, U.S. TAG, ISO/TC 43/SC 1
Vendittis, D.	Naval Surface Warfare Center (NSWC)

Vendittis, D.

INDIVIDUAL EXPERTS PRESENT

Eldred, K.M. Guernsey, R.M. Maling, C.C. Marsh, A.H. von Gierke, H.E. White, M.J. Young, R.W.

Past Chair ASACOS Chair S12/L-8 ESSS Dytec Engineering U.S. TAG Chair ISO/TC 43 and ISO/TC 43/SC 1 Chair, S12/WG31 Consultant

OTHERS PRESENT

Berger, E.H. Daigle, G. Embleton, T.F.W. Finegold, L. Luz, G. Nixon, C. Pope, J. Royster, J.D. Shotland, L. Sutherland, L.

Chair, S12/WG11; U.S. TAG Chair ISO/TC94/SC 12 Chair, S12/WG27 Chair, ASACOS Armstrong Laboratory USAF Ohio U.S. Army Environmental Hygiene Agency Chair, S12/WG10 Pope Engineering Chair S12/WG12; Chair S3 National Institute of Health (NIH) Chair S12/WG9

1. Approval of the Minutes of the Ottawa, Canada meeting held 20 May (S12/278)

Upon motion made and seconded, it was

VOTED to approve the Minutes of the S12 meeting (S12/278) held on 20 May 1993, as circulated.

2. Organization

- a) A list of current working groups is attached (see ATTACHMENT A).
- b) <u>New organizational members of S12</u> None to date
- c) <u>New working groups</u> None to date.
- d) <u>Personnel changes</u> None to date.
- e) A <u>summary of activities</u> is given in <u>ATTACHMENT B</u>.

3. Standards approved by ANSI in 1992/1993 and published (or being published) by ASA

- <u>ANSI S12.9/Part 2-1992</u> Quantities and Procedures for Description and Measurement of Outdoor Environmental Sound.
- <u>ANSI S12:12-1992</u>
 Engineering Method for the Determination of Sound Power Levels of Noise Sources Using Sound Intensity
- <u>ANSI S12.14-1992</u>
 Methods for the Field Measurement of the Sound Output of Audible Public Warning Devices Installed at Fixed Locations Outdoors
- <u>ANSI S12.15-1992</u>
 <u>Acoustics</u> Portable Electric Power Tools, Stationary and Fixed Electric Power Tools, and Gardening Appliances. Measurement of Sound Emitted.
- <u>ANSI S12.16-1992</u> Guidelines for the Specification of Noise of New Machinery.

3. <u>Standards approved by ANSI in 1992/1993 and published by ASA</u>, (continued)

Standards published by ASA can be ordered from the following address:

Professional Book Distributors (PBD) ASA Standards Distribution Center 1650 Bluegrass Lakes Parkway Alpharetta, Georgia 30239

Telephone:(404) 442-8633Telefax:(404) 442-9742

NOTE: 20% discount on list price is available to ASA individual and sustaining members for all standards published by ASA.

4. <u>Organizational matters and reports on working groups, including reports on letter</u> ballots and international matters

a) <u>S12 Advisory Planning Committee to S12 - P.D. Schomer, Chair</u>

Mr. Schomer presented a report (see <u>ATTACHMENT C</u>). (The current list of S12 standards is attached -<u>ATTACHMENT D</u>.)

Mr. Schomer has noted that we are processing some sixty to seventy (60-70) documents per year from TC 43/SC1 alone.

b) <u>S12/WG2 Terminology, Abbreviations and Symbols - W.J. Galloway, Chair</u>

At the last meeting, Mr. Galloway said he would take the existing draft of the standard and prepare it for ballot within one or two months. Accordingly, a draft of the revision of <u>ANSI S1.1-1960</u> was sent to S1 ballot (and to S2, S3, and S12 for information and comment). The ballot was submitted to S12, as <u>S12/268</u>, on 26 March 1993 and was closed on 7 May 1993, with results as in the last Minutes (S12/278).

A revised document was prepared and sent to 30 day review (<u>30 day Review</u> <u>S1.1/391</u>) on 27 August 1993. The document was also sent to S2, S3, and S12 for information. See <u>ATTACHMENT E</u> for the cover sheet of this 30-day review.

4. <u>Organizational matters and reports on working groups</u>, (continued)

b) <u>S12/WG2 Terminology</u>, Abbreviations and Symbols, (continued)

At the meeting, it was noted that the terminology document now had some 700 definitions finely honed by Mr. Galloway, with the able assistance of Messrs. Marsh and Young, with many hours of work put in to complete this document. (Messrs. Schomer and Winzer were also cited for their help.) Mr. Galloway noted that some fifteen (15) definitions needed to be resolved with S3, and some other editorial points. It was expected to be able to resolve these matters by the end of this meeting and be able to proceed with the publication of this important terminology standard.

At the meeting, it was suggested that a wider circulation of this standard should be made in order to put it into use by as many people as possible. The various avenues for making this standard available will be explored through ASACOS.

c) <u>S12/WG3 Measurement of Noise from Office and Data Processing Equipment -</u> L. Luttrell, Chair

At the last meeting, it was suggested that Mr. Lotz be contacted to see whether he was taking over this activity from Mr. Luttrell as he had succeeded Mr. Luttrell in the S12 representation.

Mr Lotz submitted a report (<u>see ATTACHMENT F</u>). The chairmanship for this working group and whether it should be continued will be explored by the Chair of S12.

d) <u>S12/WG6 Insertion Loss of Outdoor Noise Barriers at Sites of Interest - W.</u> Bowlby, Chair

<u>ANSI S12.8-1987</u> Methods for Determination of Insertion Loss of Outdoor Noise Barriers was published by ASA, and has been accepted by ISO/TC 43 as an international work item.

At the last meeting, Mr. Johnson reported having received some revisions to the current <u>ANSI S12.8-1987</u> but that he had not yet been able to contact Mr. Bowlby to determine the intent of the material he had received. It may be that Mr. Fleming can be contacted for more information on this subject. There may therefore be a ballot issued shortly on the revision of <u>ANSI S12.8-1987</u>:

4. Organizational matters and reports on working groups, (continued)

e) <u>S12/WG8 Determination of Interference of Noise with Speech Intelligibility - L.</u> <u>Marshall, Chair</u>

Ms. Marshall reported that the working group would be meeting in Cambridge, Mass., in June 1994 and that, until that time, would work by correspondence.

f) <u>S12/WG9 Annoyance Response to Impulsive Noise - L. Sutherland, Chair</u>

Mr. Sutherland reported as follows:

A meeting of <u>S12/WG9</u> "Annoyance Response to Impulsive Noise" was scheduled at Denver to address revisions drafted at the last meeting to the current standard ANSI SA12.4-1986 "Method for Assessment of High Energy Impulsive Sounds with Respect to Residential Communities". However, this meeting was canceled due to the recent activation of a CHABA working group on the topic. Since the current standard S12-4 was based on the efforts of an earlier CHABA WG on the topic, it was considered impractical to convene S12 WG9 until the new CHABA WTG has completed its work. This is tentatively scheduled for early 1994 so that, if possible, the WG will reconvene at the Spring, 1994 ASA meeting.

At the meeting, it was noted that CHABA work in this field - newly begin - had delayed progress on this work item. Mr. Galloway said that believed this matter should be resolved shortly, which would mean that work on the document could then proceed.

Mr. Young proposed withdrawing this standard at the S12 meeting, but there was no seconder to the motion, leaving no action to be taken. It was pointed out that Mr. Young's previous comments on this standard had been submitted to S12 ballot, without a consensus being established for his position.

g) <u>S12/WG10 Hearing Protector Attenuation - C. Nixon, Chair</u>

At the meeting, Mr. Nixon reported that most of the comments had been incorporated into the document and that another draft would be circulated for review. He also said that it was expected that the work being developed by Working Group S12/WG11 under Mr. Berger could be incorporated into the document for the revision of ANSI S12.6-1984, and that there would be an option as to which method to use in the standard.

4. Organizational matters and reports on working groups, (continued)

g) <u>S12/WG10 Hearing Protector Attenuation</u>, (continued)

Please also see Mr. Nixon's report in <u>ATTACHMENT G</u> (relating to ISO/TC 43/SC 1/WG17).

Mr. Berger also updated (ATTACHMENT G-2).

h) <u>S12/WG11 Field Effectiveness and Physical Characteristics of Hearing</u> Protectors - E. Berger, Chair

Mr. Berger reported at the meeting that his working group would meet today (7 October 1993). Please see <u>ATTACHMENT H</u> for Mr. Berger's report.

i) <u>S12/WG12 Evaluation of Hearing Conservation Programs - J.D. Royster, Chair,</u> <u>E. Berger, Vice Chair</u>

<u>Draft ANSI S12.13-1992 Evaluating the Effectiveness of Hearing Conservation</u> <u>Programs</u> was published in August 1991 (see Section 3). It was submitted by ANSI to ISO/TC 43/SC1 as a proposed new work item on 21 November 1991, and accepted by the international Subcommittee.

At the meeting, Ms. Royster reported as follows:

The Working Group held a meeting on 6 October 1993 in Denver, with a small portion of working group members present, to discuss needs prior to major working group meeting to be held in February 1994. No formal comments on Draft ANSI S12.13-1991 have been received. The working group plans to submit a document to S12 for ballot as a full standard in 1994.

j) <u>S12/WG15 Measurement and Evaluation of Outdoor Community Noise - P.D.</u> Schomer, Chair

ANSI S12.9-1992, Part 2, Quantities and Procedures for Description and Measurement of Environmental Sound was approved by ANSI (see Section 3) and published by ASA.

4. <u>Organizational matters and reports on working groups</u>, (continued)

j) <u>S12/WG15 Measurement and Evaluation of Outdoor Community Noise</u>, (continued)

Part 3 was submitted to S12 for ballot (LB/S12.9/Part 3/247). The ballot was circulated on 23 November 1992 with a closing date of 4 January 1993. The results were given in the previous S12 Minutes, S12/278. Following the ballot closing, a 30-day review of the revised text was circulated (<u>30-day</u> Review/S12.9/Part 3/265) on <u>31 March 1993</u>, closing on <u>3 May 1993</u>.

An initial draft has been prepared of <u>Part 4</u> on <u>Community Noise</u>. <u>Part 4</u> looks at the different effects of noise and descriptors to be used for dose effects and dose response relationships.

<u>Part 3</u> deals with short term measurements and <u>Part 4</u> with noise assessment. Together, the four documents (<u>Parts 1, 2, 3 and 4</u>) will form a compact series of standards dealing with the <u>Measurement and Evaluation of Outdoor</u> <u>Community Noise</u>.

A meeting was held in Denver (October 1993) to discuss <u>Part 4</u>, which should be available for ballot by Spring/Summer of 1994.

k) S12/WG18 Criteria for Room Noise - R.J. Peppin, Chair

The proposed standard, <u>ANSI \$12.2-199X - Criteria for Evaluating, Room Noise</u> was sent to \$12 ballot (<u>LB/S12.2/279</u>) on 9 July 1993. The ballot was closed on 20 August 1993 with results as given in <u>ATTACHMENT I</u>.

Mr. Guernsey reported at the meeting that the working group was in the process of responding to the comments received on this proposed standard.

I) <u>S12/WG19 Measurement of Occupational Noise Exposure - J.P. Barry/R.</u> <u>Goodwin, co-Chairs</u>

The document was prepared by Mr. Goodwin for ballot in S12. Accordingly, proposed <u>ANSI S12.19-199X</u> - Measurement of Occupational Noise Exposure was sent to S12 ballot (<u>LB/S12.19/256</u>) on <u>29 January 1993</u> and closed on <u>12</u> <u>March 1993</u>. The results were given in the last S12 Minutes, S12/278.

4. Organizational matters and reports on working groups, (continued)

I) <u>S12/WG19 Measurement of Occupational Noise Exposure</u>, (continued)

The working group last met in April 1993 to review the results of the ballot and to attempt to resolve the negative votes and comments.

Mr. Goodwin reported at the meeting that a revised text is being prepared for 30-Day Review.

m) <u>S12/WG20 Specification of the Noise of New Machinery at the Operator's</u> <u>Position - S. Roth, Chair</u>

ANSI S12.16-1992 was approved by ANSI and published by ASA.

n) <u>S12/WG21 Determination of Sound Power Using Sound Intensity</u> <u>Measurements - M.J. Crocker, Chair</u>

<u>ANSI S12.12-1992 Engineering Method for the Determination of Sound Power</u> <u>Levels of Noise Sources Using Sound Intensity</u> has been published by ASA.

o) <u>S12/WG22 Impulse Sound Propagation for Environmental Noise Assessment -</u> <u>N.D. Lewis, Chair</u>

The proposed ANSI Standard <u>S12,17-199X</u>, was sent to ballot (<u>LB/S12,17/227</u>) on 30 April 1992. The ballot was closed on 11 June 1992, with results as given in the previous S12 Minutes. (ANSI's <u>Public Comment</u> period was over on 20 October 1992.)

At the last meeting, Mr. Luz noted that several issues needed resolution and that it would therefore be another six months to one year before a revised text could be prepared. See <u>ATTACHMENT K</u> for the comments of Mr. Lewis.

Additionally, ANSI has granted an extension of time in which to submit this proposed standard to ANSI for formal approval. That date is now <u>30 June 1994</u>.

At the meeting, Mr. White reported that work was ongoing in this area to resolve the key issue noted by Mr. Luz.

4. Organizational matters and reports on working groups, (continued)

p) <u>\$12/WG23 Determination of Sound Power - P.K. Baade, Chair</u>

Mr. Baade reported previously that the working group will next meet when the revisions of ISO 3743, 3744 and 3746 become ISO standards.

Mr. Schomer reported as follows prior to the meeting:

The committee remains a counterpart to ISO/TC 43/SC1/WG 26. WG 26 completed a Third Committee Draft which was approved at the plenary meeting in Oslo. This document will be circulated as a DIS. WG 23 will continued to provide specific input to this ISO document.

q) <u>S12/WG27 Outdoor Measurement of Sound Pressure Level - G. Daigle, Chair</u>

The document was sent to ballot (LB/S12.18/251) on 21 December 1992, and closed on 1 February 1993 with the results as given in the previous S12 Minutes, S12/278.

Attempts will now be made to resolve the negative votes. Mr. Daigle also wrote as follows for the last meeting:

Comments received from the letter ballot (<u>LB/S12.18/251</u>) indicate that there is some confusion between the scope and purpose of the proposed standard S12.18, and that of S12.9, Part 3. There is also confusion with the proposed revision of S1.13. This is exactly the point raised in the report of the master planning committee for S12 (attached to the Minutes of the last S12 meeting, (S12/248). This confusion should be resolved as soon as possible, before I proceed to finalize the proposed Standard, S12.18.

At the meeting, Mr. Daigle provided a report based on his exploration of the above issues (<u>ATTACHMENT_K</u>).

r) <u>S12/WG30 Revision of Power Tool Institute (PTI) Standard S10.1-1983 - R.J.</u> <u>Callahan, Chair.</u>

ANSI has approved <u>ANSI S12.15-1992</u> <u>Acoustics-Portable Electric Power</u> <u>Tools, Stationary and Fixed Electric Power Tools, and Gardening Appliances-</u> <u>Measurement of Sound Emitted (revision of ANSI/PTI S10.1-1983),</u> and the

4. <u>Organizational matters and reports on working groups</u>, (continued)

r) <u>S12/WG30 Revision of Power Tool Institute (PTI) Standard S10,1-1983</u>, (continued)

standard has been published. The working group last met from 21-23 September 1993.

s) <u>S12/WG31 Predicting Sound Pressure Levels Outdoors - M. White, Chair</u>

Mr. White reported at the meeting as follows:

The Working Group met on 5 October 1993 at Denver, CO during the meeting of the Acoustical Society of America. Present at the meeting were Alexander, Daigle, Engebos, McGregor, Noble, Plotkin and White.

The scope of this WG closely parallels that for the ISO DIS 9613-2, which is at or near the voting stage. The WG is considering whether to use the DIS as a model, or to begin with more up-to-date methods for modeling propagation. In reading through the DIS several members suggested that some parts of it were either unclear or incorrect and therefore unacceptable for a Standard. The ISO committee appears to have done much work to obtain the current DIS, though, and we would not want to repeat their efforts. A closer liaison will be attampted with that committee, to provide our suggestions for improving the DIS and to obtain information on the development of that Standard.

t) <u>S12/WG32 Revision of ANSI S12.7-1986 Methods for Measurement of Impulse</u> Noise - P.D. Schomer, Chair

Mr. Schomer reported prior to the last meeting as follows:

Currently, this working group is monitoring the progress of ISO where <u>ANSI S12.7-1986</u> was used as a starting point in the development of an ISO document on Impulse Sound Measurement. Currently, the ISO document still remains fundamentally similar to our ANSI document. The ISO document may advance to the stage where it can be voted on as a DIS.

Based on the ISO DIS, we may wish to propose a revision to <u>ANSI</u> <u>S12.7-1986</u> to place it in the new ANSI format and make it more identical with the DIS.

4. <u>Organizational matters and reports on working groups</u>, (continued)

u) <u>S12/WG33 Revision of ANSI S5.1-1971 Test Code for the Measurement of</u> Sound from Pneumatic Equipment - D. Bookshar, Chair

This working group was established at the request of the Compressed Air and Gas Institute (CAGI), to revise ANSI S5.1-1971 on the above subject. The proposed standard in this area has been given the designation <u>ANSI S12.41</u> and is expected to be received for S12 ballot by summer 1993.

At the meeting, Mr. Pope reported that the working group was close to having a document finalized for letter ballot.

v) Methodology for a Hearing/Conservation Program - R. Goodwin, Chair

A report has been received (see below):

The June 24 1993 meeting was the first for the committee. The committee set a goal of 1996 to complete the document. The next meeting will be in Philadelphia, Pa., on November 5, 1993. The third meeting will be held February 17 and 18, 1994, prior to the NHCA meeting in Atlanta, Georgia.

w) <u>S12/WG35 Evaluation of Communication Ability in Noise for Individuals Wearing</u> <u>Hearing Protection - K. Michael, Chair</u>

A report has been received (see ATTACHMENT L).

The working group met in Milwaukee, Wisconsin on 3 September 1993.

5. <u>Listing and/or reports on Liaison working groups from other standards organizations</u> involved in the area of noise (ATTACHMENT A)

a) <u>S12/L-1 IEEE 85 Committee for TAG Liaison - Noise Emitted by Rotating</u> <u>Electrical Machines (Counterpart to ISO/TC 43/SC1/WG13) - R.G. Bartheld.</u> <u>Chair</u>

This liaison working group provides review of international documents and the development of procedures on measurement and evaluation of the noise produced by rotating electrical machines.

5. <u>Listing and/or reports on Liaison working groups from other standards organizations</u>, (continued)

a) <u>\$12/L-1 IEEE 85 Committee for TAG Liaison</u>, (continued)

Mr. Schomer reported that the international working group met in Oslo in May 1993.

b) <u>S12/L-2 Measurement of Noise from Pneumatic Compressors, Tools and</u> <u>Machines - (Vacant)</u>

Previously, it was decided that this working group should remain on the books since it could well be needed once the tasks of <u>S12/WG33</u> have been completed. The vacancy will be filled when needed.

c) <u>S12/L-3 SAE Committee for TAG Liaison on Measurement and Evaluation of</u> <u>Motor Vehicle Noise (Counterpart to ISO/TC 43/SC1/WG8) - R.F. Schumacher,</u> <u>Chair.</u>

This working group is active in reviewing ISO documents and Mr. Schumacher attended the ISO/TC 43/SC1 meeting in Oslo.

Mr. Schomer said that, internationally, the U.S. held the convenership in this area.

d) <u>S12/L-4 SAE Committee A-21 for the TAG Liaison on Measurement and</u> Evaluation of Aircraft Noise - C. Bautz, Chair

At the last meeting, Mr. Eldred said that the SAE Committee had formed a planning group to determine future activity and direction. The group had met recently, with about 50 members, and was very active.

At the meeting, Mr. Marsh reported that several international documents have been reviewed.

Mr. Galloway noted that a new working group was established at the Oslo meeting to revise <u>ISO 3891 - Procedure for describing aircraft noise on the ground</u>. Prior to this, ISO/TC 20 on Aircraft Noise had requested that ISO/TC 43 withdraw this standard. Two ballots were circulated for vote, one whether to revise or withdraw, etc. and another ballot for review on a five year basis.

5. <u>Listing and/or reports on Liaison working groups from other standards organizations</u>, (continued)

d) <u>S12/L-4 SAE Committee A-21 for the TAG Liaison on Measurement and</u> Evaluation of Aircraft Noise, (continued)

A sufficient number of countries thought the standard should be revised, but no U.S. position was expressed.

Therefore, a new working group was established to perform a revision with a scope undetermined. ISO/TC 20 is concerned about this because about three quarters of the standard are not consistent with current international practices. ISO/TC 20 and SAE A-21 have expressed the view to the U.S. TAG that specific sections should be deleted. The U.S. position on this subject has been conveyed to the U.S. TAG Chair, who is preparing a draft position to send to Denmark for advice of the working group. The U.S. TAG Chair for ISO/TC 43/SC1 (Henning von Gierke) has also drafted a scope for the working group and this will be transmitted to L. Nielsen, as Secretary of ISO/TC 43/SC1, for negotiation with the other country participants to determine whether this is an acceptable scope for the working group.

e) <u>S12/L-5 ASTM E-33 on Environmental Acoustics - R.M. Guernsey, Chair</u>

At the last meeting, Mr. Guernsey said he would be the liaison chair for the group acting as the counterpart for TC 43/SC2 Building Acoustics and that Robert Putnam, the Chair of ASTM E33.09 on Community Noise, would act as Chair for that liaison group.

At the last meeting, Mr. Guernsey added that ASTM E-33 on Environmental Acoustics had decided to set up its meeting schedule in conjunction with that of ASA, meeting most likely the weekend before the ASA meeting, commencing in the Fall of 1994.

Mr. Guernsey noted at the meeting that <u>ISO/TC 43/SC2</u> met following the ISO/TC 43/SC1 meetings in Oslo (May/June 1993).

5. <u>Listing and/or reports on Liaison working groups from other standards organizations</u>, (continued)

f) <u>S12/L-6 SAE Construction-Agricultural Sound Level Committee - L.A. Jennings.</u> Chair

At the last meeting, Mr. Schomer said that this SAE group was assisting in the commenting process on the various ISO documents.

The working group met on Milwaukee, Wisconsin, on 13 September 1993.

g) <u>S12/L-7 SAE Specialized Vehicle and Equipment Sound Level Committee - J.B.</u> Walsh. Chair

This group is the liaison to the SAE Specialized Vehicle and Equipment Sound.

6. Documents without working groups submitted to S12 ballot

None to date.

7. Report on standards more than five years in existence

Section 4.4 of the ANSI Procedure for the Development and Coordination of American National Standards requires that <u>each complete American National Standard</u> (including its supplements and addenda) <u>be reviewed at least every five years</u> to determine <u>whether it should be reaffirmed, revised, or withdrawn</u>. Provision is made for extensions of time, except that no extension is granted beyond ten (10) years from the date of approval by ANSI.

8. <u>Report on International Matters</u>

a) ISO/TC 43 Acoustics and ISO/TC 43/SC1 Noise - H.E. von Gierke, TAG Chair

A report on the activities of ISO/TC 43 has been prepared by the Standards Secretariat (see <u>ATTACHMENT L</u>). Mr. Schomer's report is given in <u>ATTACHMENT C</u>. The last meetings of ISO/TC 43 and ISO/TC 43/SC1 took place from 31 May to 3 June 1993, in Oslo, Norway.

8. <u>Report on International Matters</u>, (continued)

a) ISO/TC 43 Acoustics and ISO/TC 43/SC1 Noise, (continued)

It was considered that the U.S. position established on revising the B and C weightings should be included as part of the S12 Minutes as an attachment (see ATTACHMENT N).

b) ISO/TC 94/SC12 Hearing Protection - H.E. von Gierke, TAG Chair

Please see ATTACHMENT H for Mr. Berger's report on ISO/TC 94/SC12.

c) International Documents Submitted to S12 for Vote and/or Comment

See ISO/TC 43/SC1 report, ATTACHMENT M.

9. <u>New international standards available from ANSI</u>

<u>ISO 9613-1: 1993</u> - Acoustics - Attenuation of sound during propagation outdoors -<u>Part 1</u>: Calculation of the absorption of sound by the atmosphere.

<u>ISO 9614-1: 1993</u> - Acoustics - Determination of sound power levels of noise sources using sound intensity - <u>Part 1</u>: Measurement at discrete points.

- 10. <u>Procedural Ballots</u>
 - a) According to ANSI's procedures, under which the Accredited Standards Committees operate, the <u>Officers of the Standards Committees are to be</u> <u>confirmed (at the beginning of their terms), as well as Individual Experts</u> (the latter to be confirmed annually) by the respective Standards Committees.

The Officers and Individual Experts are proposed by the ASA Committee on Standards (ASACOS) as the Secretariat for the Standards Committees, in connection with the Chairs of the respective Standards Committees.

10. Procedural Ballots, (continued)

a) (continued)

A letter ballot was circulated to S12 on 18 December 1992 (<u>LB/S12/250</u>) with the proposed appointments for 1993/1994. The ballot was closed on 29 January 1993 with results as given in the previous S12 Minutes, S12/278. The respective appointments therefore took effect following the May 1993 meeting of ASA.

11. National standards submitted to S12 for review

None to date.

12. <u>Other Business</u>

a) Project Initiation Notification System (PINS) forms requested by ANSI

The Standards Secretariat has provided ANSI, with a current list of S12 projects for use under ANSI's Project Initiation Notification System (PINS). These are expected to eventually be tabulated in a computerized system by ANSI.

b) At the last meeting, Mr. Galloway called attention to the new <u>ASACOS</u> <u>EDITORIAL GUIDELINES</u> for preparation of standards in acoustics. This document will shortly be finalized and available for chairs of preparatory working groups. The new Guidelines incorporate <u>Part 3 of the ISO Directives</u> (Style Manual) and the harmonized guidelines should make the national and international standards more compatible.

13. New Business

a) Previously, Mr. Callahan stated that <u>NOISE LABELING FOR PRODUCTS</u> was a concern and being looked at by the Power Tool Institute, particularly with regard to European laws and the requirements for U.S. products being sold in Europe. One problem is that in producing quieter products, hazards were found

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13. <u>New Business</u>, (continued)

a) (continued)

to exist where users did not know the product was in operation (e.g. knives). It was suggested that an exploratory group be formed in S12 to look into establishing a working group on this topic. Mr. Callahan agreed to review this matter and come up with a suitable scope and rationale.

- b) At the last meeting, the subject of <u>SOUND QUALITY GUIDELINES</u> was <u>discussed</u>. It is expected to result in a working group which will probably impact S3 as well as S12. Mr. Johnson said at the last meeting that the scope of this proposed activity will shortly be prepared for ballot. <u>Messrs. (Gordon)</u> Ebbit and (Earl) Geddes have agreed to co-chair this working group, if approved.
- c) Mr. von Gierke asked whether the various <u>correction factors</u> related to environmental standardization were being utilized in the development of U.S. standards. This matter will be explored.
- 14. Future Meetings

The <u>next meeting of S12 will be held on Thursday, 9 June 1994, in Cambridge, Mass.</u> <u>commencing at 8:30 AM.</u>

- NOTE: The reason for the earlier time slot for the <u>S12 meeting</u> was to accommodate a Noise Session, to begin at approximately 10:30 A.M. on the same day. It was agreed that this time slot should be continued, to allow for a short noise session on the Thursday of the ASA meeting week.
- 15. Adjournment

The meeting was adjourned at 10:15 A.M.

A (Signa)

Avril Brenig Standards Manager



ACOUSTICAL SOCIETY OF AMERICA

OFFICE OF THE STANDARDS SECRETARIAT

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> ATTACHMENT A-1 S12/284

ACCREDITED STANDARDS COMMITTEE ON NOISE - S12

SECRETARIAT: Acoustical Society of America

<u>SCOPE</u>: Standards, specifications and terminology in the field of acoustical noise pertaining to methods of measurement, evaluation and control; including biological safety, tolerance and comfort and physical acoustics as related to environmental and occupational noise.

<u>CHAIR</u>: <u>D.L. Johnson</u> EG & G Special Projects Albuquerque Operations Albuquerque, NM 87119-9024

> Tel: (505) 844-6088 Fax: (505) 844-6095

VICE CHAIR: P.D. Schomer U.S. Army Construction Engineering Research Laboratory P.O. Box 4005 Champaign, IL 61820

> Tel: (217) 373-7229 Fax: (217) 373-7222

SECRETARY:

<u>A. Brenig</u> Standards Secretariat Acoustical Society of America 120 Wall Street, 32nd Floor New York, NY 10005-39933

Tel: (212) 248-0373 Fax: (212) 248-0146

ATTACHMENT A-2 S12/284

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WORKING GROUP	TITLE AND SCOPE	CHAIR
(a) S12/Advisory	S12 Advisory Planning Committee Be cognizant of standards needs within the scope of the Committee, and organize those needs in accordance with priority, and other relevant factors, into a coherent three year plan for the Committee activity. This three year plan for the preparation of standards should include those which need updating, having regard to the international work items and standards, and the need for timely review (reaffirmations, revisions, withdrawals, etc.) of all national standards, and the priority of new standards needs.	P.D. Schomer
(b) S12/WG2	Terminology, Abbreviations, and Symbols Develop draft standard terminology, abbreviations and symbols for all areas within the scope of S12 with close liaison with counterpart working groups in S1, S2, and S3.	<u>W.J. Galloway</u>
(c) S12/WG3	Measurement of Noise from Office and Data Processing Equipment (counterpart to ISO/TC 43/SC1/WG23) Development of procedures for measurement and evaluation of noise emitted from computer and business equipment and their component noise sources.	<u>L. Lutrell</u>
(d) S12/WG6	Insertion Loss of Outdoor Noise Barriers at Sites of Interest Measurement methods applicable to the measurement and evaluation of the noise reduction provided by outdoor barriers.	<u>W. Bowlby</u>
(e) S12/WG8	Determination of Interference of Noise with Speech Intelligibility Review and revise <u>ANSI S.314-1977</u> to determine whether the standard is current and make any necessary revisions.	L. Marshall
(f) S12/WG9	Annoyance Response to Impulsive Noise Assessment of impulsive sounds with respect to annoyance of individuals and residential communities.	L. Sutherland
(g) S12/WG10	<u>Hearing Protector Attenuation</u> (counterpart to ISO/TC 43/SC1/WG17) Revision of ANSI S3.19-1974 (ASA 1-1975).	<u>C. Nixon</u>

WORKING GROUP	TITLE AND SCOPE	CHAIR
(h) S12/WG11	Field Effectiveness and Physical Characteristics of Hearing Protectors (counterpart to ISO/TC 94/SC12) The scope of the working group is twofold:	E.H. Berger
	A) Explore the problems inherent in using optimum-laboratory real-ear attenuation data to estimate achievable and/or typical workplace protection. Propose a plan of action to identify or develop laboratory and/or field procedure(s) that yield useful estimates of field performance.	
	B) Assess the need for standards specifying the physical characteristics of hearing protectors that are required to provide and maintain their performance. Coordinate counterpart activities with ISO/TC 94/SC12.	
(i) S12/WG12	Evaluation of Hearing Conservation Programs The goals are to specify objective criteria which can be used to assess the effectiveness of a hearing conservation program, and to devise a plan where the criteria can be implemented. The criteria should recognize pertinent engineering, legal, medical, audiological, and economic facts. The plan should be realistic and thus usable by persons charged with the responsibility for hearing conservation programs.	<u>J.D. Royster</u> <u>E.H. Berger,</u> Vice Chair
(j) S12/WG15	Measurement and Evaluation of Outdoor Community Noise To produce a standard for the measurement of outdoor environmental noise with emphasis on the classification of noise surveys relative to temporal and spatial sampling accuracies achieved.	<u>P.D. Schomer</u>
(k) \$12/WG18	<u>Criteria for Room Noise</u> To develop a method for rating the noise encountered in various types of rooms in terms of its effect upon people by means of 1) a weighing network, and 2) a computational procedure to account for temporal pattern of the noise and the need for tone correction as appropriate. The purpose of this method is to arrive at a common yardstick for evaluating environmental noise indoors. In addition to this main charge, also charged with the development and measurement procedures to be utilized in various types of rooms including methods for translating the results of such measurement in the common yardstick.	<u>R.J. Peppin</u>

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WORKING GROUP	TITLE AND SCOPE	CHAIR
(I) S12/WG19	Measurement of Occupational Noise Exposure (partial counterpart to ISO/TC 43/SC1/WG19 - ISO 9612) Development of a method to evaluate a person's noise exposure received in a workplace. This method must recognize pertinent engineering, legal, medical, audiological, and economic facts. The results must be practical, realistic, reproducible, and relevant to prevention of occupational hearing loss.	<u>J.P. Barrv/</u> <u>R. Goodwin</u> Co-chairs
(m) S12/WG20	Specification of the Noise of New Machinery at the Operator's Position Develop a method for measurement and specification of the level of noise at the operator(s) position for newly manufactured machinery in a manner that is suitable for inclusion in other documents that specify the manner of operation and loading of the machine. Five consideration to other existing national and international efforts in a purchase specification, to measurement of total sound power and to evaluate the additive effect of the noise of multiple machines to the level of noise at the operator's position so that a specified level could be related to a selected level for "in use" conditions.	<u>S.I. Roth</u>
(n) S12/WG21	Determination of Sound Power Using Sound Intensity Measurements Specify methods for measuring sound intensity directly on a measurement surface enveloping a sound source and for calculating the sound power radiated by that source. Methods shall be developed as appropriate for all types of machinery, equipment and radiating surfaces, but shall not include the power radiated from moving vehicles or air moving devices. The working group shall maintain liaison with any activity in this area by ISO/TC 43.	<u>M.J. Crocker</u>
(o) \$12/WG22	Impulse Sound Propagation for Environmental Noise Assessment Establish an engineering method to specify average propagation for a distribution of blast noise events for purposes of environmental noise assessment. The methods should apply to high-energy impulse sounds at moderate distances (1-30 km) from sources such as demolition or mining blasting, artillery firing and bomb explosions using conventional explosives of less than approximately one ton. Prevailing meteorological conditions and terrain should be considered when practicable.	<u>N.D. Lewis</u>

ATTACHMENT A-5 S12/284

WORKING GROUP	TITLE AND SCOPE	CHAIR
(p) S12/WG23	<u>Determination of Sound Power</u> Monitor the sound power series of standards (i.e. S12.30, 31, 32, 33, 34, 35, and 36) and revise as necessary.	<u>P.K. Baade</u>
(q) S12/WG27	Outdoor Measurement of Sound Pressure Level Develop standardization methods for measuring sound pressure levels in the outdoor environment, considering the effects of refraction due to wind and temperature gradients, the effects due to thermal and mechanical turbulence and the effects of variable ground impedance and wind noise. Close coordination should be maintained with working group S1/WG4 which is revising ANSI S1.13 Measurement of Sound Pressure Levels	<u>G. Daigle</u>
(r) S12/WG30	Revision of Power Tool Institute (PTI) Standard S10.1-1983 American National Standard for Acoustics Portable Electric Power Tools, Stationary and Fixed Electric Powered Tools and Gardening Appliances. Measurement of Sound Emitted (proposed as an ANSI Standard under the jurisdiction of Accredited Standards Committee S12, Noise).	<u>R.J. Callahan</u>
(s) S12/WG31	Predicting Sound Pressure Levels Outdoors Develop standard method for calculating the attenuation of sound during propagation outdoors in order to predict the levels of noise at a distance from a large variety of sources. The method should be a general engineering procedure that includes the combined effects of: geometrical divergence, atmospheric absorption, the effects of variable ground impedance, the effects of refraction due to wind and temperature gradients, the effects due to thermal and mechanical turbulence, reflection from surfaces, as well as propagation through foliage.	<u>M. White</u>
(t) S12/WG32	Revision of ANSI S12.7-1986 Methods for Measurement of Impulse Noise	P.D. Schomer
(u) S12/WG33	Revision of ANSI S5.1-1971 Test Code for the Measurement of Sound from Pneumatic Equipment Develop standards on the measurement of all types of pneumatic equipment such as air tools, hoists, rock drills, paving breakers, etc.	<u>D. Bookshar</u>

ATTACHMENT A-6 S12/284

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WORKING GROUP	TITLE AND SCOPE	CHAIR
(v) S12/WG34	Methodology for a Hearing Conservation Program Develop a methodology for a hearing conservation program. The methodology must recognize pertinent engineering, medical, audiological, legal, and economic facts. The program must be practical, realistic, reproducible, and relevant to the prevention of occupational hearing loss.	<u>R. Goodwin</u>
(w) S12/WG35	Evaluation of Communication Ability in Noise for Individuals Wearing Hearing Protection The development of a method of predicting the ability of an individual to communicate in noise while wearing hearing protection. The method will be applicable to individuals with normal hearing and to individuals with mild, moderate and severe hearing losses. The purpose is to allow the selection of hearing protection that prevents noise-induced hearing loss but that does not unnecessarily inhibit communication. The use of proper hearing protection optimizes verbal communication, warning signal recognition and recognition of machine operating sounds.	<u>K. Michael</u>
	LIAISON WORKING GROUPS FROM OTHER STANDARDS ORGANIZATIONS ACTIVE IN THE AREA OF NOISE	
(a) S12/L-1	IEEE 85 Committee for TAG Liaison - Noise Emitted by Rotating Electrical Machines (counterpart to ISO/TC43/SC1/WG13)Review of international documents and the development of procedures of measurement evaluation of the noise produced by rotating electrical machines.	<u>R.G. Bartheld</u>
(b) \$12/L-2	Measurement of Noise from Pneumatic Compressors Tools and Machines (counterpart to ISO/TC 43/SC1/WG9).	<u>(vacant)</u>
(c) \$12/L-3	SAE Committee for TAG Liaison on Measurement and Evaluation of Motor Vehicle Noise (counterpart to ISO/TC 43/SC1/WG8) To provide input to the ISO/TC 43/SC1 TAG for the formulation of U.S. positions on international proposals from WG8 and recommendations for new ISO projects in its area.	<u>R.Şchumacher</u>

WORKING GROUP	TITLE AND SCOPE	CHAIR
(d) S12/L-4	SAE Committee A-21 for TAG Liaison on Measurement and evaluation of Aircraft Noise - (International counterpart in ISO is currently inactive.)	<u>C. Bautz</u>
(e) S12/L-5	ASTM E-33 on Environmental Acoustics The development of standards on the characteristics and performance of materials, products, systems, and services relating to the acoustical environment and the promotion of related knowledge (to include the activities of ASTM E33.06 on Building Acoustics, counterpart to ISO/TC 43/SC2 and ASTM E33.09 on Community Noise).	<u>R.M. Guernsey</u>
(f) S12/L-6	SAE Construction-Agricultural Sound Level Committee Review of international documents and the development of procedures on measurement and evaluation of both operator station and exterior sounds for mobile self-propelled construction, mining, forestry and agricultural machinery.	<u>L.A. Jennings</u>
(g) S12/L-7	SAE Specialized Vehicle and Equipment Sound Level Committee Responsible for all SAE technical matters concerning sound emission, and its measurement, of surface vehicles, powered equipment, and their components which are under the direction of the Specialized Vehicle and Equipment Council.	<u>J.B. Walsh</u>

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ATTACHMENT B-1 S12/284

STATUS REPORT

COMMITTEE: S1	12 NOISE				
DESIGNATION/ SI EDITION		STATUS	ΑCTIVITY	метнор	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI
S3.14-1977 Ra (R 1986) (<u>S</u>	ating Noise with Respect to Speech Interference	RV;SP	٢	S	
S3.19-1974 Mi (R 1990) At	ethod for the Measurement of Real-Ear otection of Hearing Protectors and Physical ttenuation of Earmuffs (<u>S12/WG10</u>)	RV;SP	-	S	Partially superseded by S12.6-1984. Remainder to be superseded by new standard being written
S12.1-1983 G((R 1990) Pr En	uidelines for the Preparation of Standard ocedures for the Determination of Noise nission	RV		S	
S12.2-199X Cr (i) (ii)	riteria for Room Noise (<u>S12/WG18</u>) Criteria for time-varying noise) Criteria for steady-use room noise i) Method for measuring room noise	NS;SP	ю	ທ	

STATUS NS- NEW STANDARD IN PROCESS NR- NEEDS REVIEW RF- REAFFIRMATION IN PROCESS AP- ANSI APPROVED RV- REVISION IN PROCESS OP- OUT OF PRINT WD- WTHDRAWAL IN PROCESS NA- NOT AVAILABLE ES- ENVIRONMENTAL SOUND UD- UP TO DATE SP- SUBMITTED PINS FORMS

METHOD C-ACCREDITED CANVASS O-ACCREDITED ORANIZATION S-ACCREDITED STANDARDS COMMITTEE X-NOT INTENDED FOR ANSI

> 5- OBJECTIONS BEING CONSIDERED 6-ANSI CONSIDERING APPROVAL

4- ANSI STANDARDS ACTION

1- FORMATIVE STAGE 2- DRAFTING STANDARD 3- VOTING ON PROPOSAL

ACTIVITY

0- NONE

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ATTACHMENT B-2 S12/284

STATUS REPORT

FIELD	STATUS:					
COMMITTEE:	S12 NOISE					
DESIGNATION/ EDITION	SUBJECT OR TITLE	STATUS	ΑCTIVITY	METHOD	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI	
S12.3-1985 (R 1990)	Statistical Method for Determining and Verifying Stated Noise Emission Values of Machinery and Equipment (counterpart to <u>ISO/DIS 7574</u>) (<u>S12/WG7</u>)	9		S		
S12.4-1986 (R 1993)	Method for Assessment of High-Energy Impulsive Sounds with Respect to Residential Communities (<u>S12/WG9</u>)	an	-	S		
S12.5-1990	Requirements for the Performance and Calibration of Reference Sound Sources (<u>ISO/DIS 6926</u>) (S12/WG23)	an		S		
S12.6-1984 (R 1990)	Method for the Measurement of the Real-Ear Attenuation of Hearing Protectors (<u>\$12/WG10</u>)	9		S		
S12.7-1986 (R 1993)	Methods for the Measurement of Impulse Noise (S12/WG32)	RV;SP		S		
S12.8-1987	Methods for the Determination of Insertion Loss of Outdoor Noise Barriers (S12/WG6)	g	ю	S		
NS- NEW STANDARD RF- REAFFIRMATION II	STATUS IN PROCESS NR- NEEDS REVIEW 0- NONE V PROCESS AP- ANSI APPROVED 1- FORMAT	ACTIVITY TIVE STAGE		METHOD C-ACCRE O-ACCRE	EDITED CANVASS EDITED ORANIZATION	

S-ACCREDITED STANDARDS COMMITTEE X-NOT INTENDED FOR ANSI 2- DRAFTING STANDARD 3- VOTING ON PROPOSAL 4- ANSI STANDARDS ACTION 5- OBJECTIONS BEING CONSIDERED 6-ANSI CONSIDERING APPROVAL OP- OUT OF PRINT NA- NOT AVAILABLE UD- UP TO DATE RV- REVISION IN PROCESS WD- WITHDRAWAL IN PROCESS ES- ENVIRONMENTAL SOUND SP- SUBMITTED PINS FORMS

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ATTACHMENT B-3 S12/284

STATUS REPORT

<u>FIELD</u> Committee:	STATUS: S12 NOISE				
DESIGNATION/ EDITION	SUBJECT OR TITLE	STATUS	ΑCTIVITY	METHOD	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI
S12.9-1988/ Part 1 (R 1993)	Quantities and Procedures for Description and Measurement of Environmental Sound <u>Part 1</u> (<u>S12/WG15</u>)	g	0	S	
S12.9-1992/ Part 2	Quantities and Procedures for Description and Measurement of Environmental Sound <u>Part 2</u> (S12/WG15)	g		S	
S12.9-199X Part 3	Quantities and Procedures for Description and Measurement of Environmental Sound <u>Part 3</u> (<u>S12/WG15</u>)	SN	4	S	
S12.9-199X Part 4	Quantities and Procedures for Description and Measurement of Environmental Sound <u>Part 4</u> (<u>S12/WG15</u>)	SN	•	S	
S12.10-1985 (R 1990)	Methods for the Measurement and Designation of Noise Emitted by Computer and Business Equipment (<u>S12/WG3</u>) (revision of <u>ANSI S1.29-1979</u>)	9			

STATUS NS- NEW STANDARD IN PROCESS NR- NEEDS REVIEW RF- REAFFIRMATION IN PROCESS AP- ANSI APPROVED RV- REVISION IN PROCESS OP- OUT OF PRINT WD- WITHDRAWAL IN PROCESS NA- NOT AVAILABLE ES- ENVIRONMENTAL SOUND UD- UP TO DATE SP- SUBMITTED PINS FORMS

METHOD C-ACCREDITED CANVASS O-ACCREDITED ORANIZATION S-ACCREDITED STANDARDS COMMITTEE X-NOT INTENDED FOR ANSI

> 5- OBJECTIONS BEING CONSIDERED 6-ANSI CONSIDERING APPROVAL

4- ANSI STANDARDS ACTION

1- FORMATIVE STAGE 2- DRAFTING STANDARD 3- VOTING ON PROPOSAL

ACTIVITY

0- NONE

STATUS REPORT

FIELD	STATUS:					
COMMITTEE:	S12 NOISE					
DESIGNATION/ EDITION	SUBJECT OR TITLE	STATUS	ΑCTIVITY	METHOD	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI	
S12.11-1987 (R 1993)	Methods for the Measurement of Noise Emitted by Air-Moving Devices (<u>\$12/WG3</u>)	NS;SP	2	S		
S12.12-1992	Determination of Sound Power Using Sound Intensity Measurements (<u>S12/WG21</u>)	QN		S		
Draft S12.13-1991	Evaluation of Hearing Conservation Programs (<u>\$12/WG12</u>)	UD;SP		S		
S12.14-1992	Methods for the Field Measurement of the Sound Output of Audible Public Warning Devices Installed at Fixed Locations Outdoord (<u>S12/WG29</u>)	۵Ŋ		S		
S12.15-1992	Revision of <u>ANSI/PTI S10.1-1983</u> - Portable Electric Power Tools, Stationary and Fixed Electric Powered Tools and Gardening Appliances. Measurement of Sound Emitted (<u>S12/WG30</u>)	an		S		
S12.16-1992	Specification of the Noise of New Machinery at the Operator's Position (S12/WG20)	g		S		

STATUS NS- NEW STANDARD IN PROCESS NR- NEEDS REVIEW RF- REAFFIRMATION IN PROCESS AP- ANSI APPROVED RV- REVISION IN PROCESS OP- OUT OF PRINT WD- WITHDRAWAL IN PROCESS NA- NOT AVAILABLE ES- ENVIRONMENTAL SOUND UD- UP TO DATE SP- SUBMITTED PINS FORMS

ACTIVITY 0- NONE 1- FORMATIVE STAGE 5- OBJECTIONS BEING CONSIDERED 6-ANSI CONSIDERING APPROVAL

4- ANSI STANDARDS ACTION

2- DRAFTING STANDARD 3- VOTING ON PROPOSAL

Method C-accredited Canvass O-accredited Oranization S-accredited Standards Committee X-Not Intended For Ansi

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ATTACHMENT B-5 S12/284

STATUS REPORT

FIELD	STATUS:						
COMMITTEE:	S12 NOISE						
DESIGNATION/ EDITION	SUBJECT OR	ו דודנב		STATUS	ACTIVITY	METHOD	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI
S12.17-199X	Impulse Soun Noise Assess	nd Propagation for the Environ tment (<u>\$12/WG22</u>)	nmental	SN		S	
S12.18-199X	Outdoor Mea	surement of Sound Pressure	Level	NS	3	S	
S12.19-199X	Measurement (<u>S12/WG19</u>)	t of Occupational Noise Expo	sure	NS	З	S	
S12.23-1989	Method for th Emitted by M <u>ANSI S1.23-</u> 3	he Designation of Sound Pow lachinery and Equipment (rev 1976 and <u>ANSI S3.17-1975</u>)	ver vision of)	Ŋ		S	
S12.30-1990	Guidelines fo and for the P (counterpart (Revision and	r the Use of Sound Power St reparation of Noise Test Cod to <u>ISO 3740: 1980</u>) (<u>S12/W</u> I Redesignation of <u>ANSI S1.3</u>	tandards les <u>G23</u>) <u>30-1979</u>)	QN	•	S	
S12.31-1990	Precision Met Power Levels Reverberatior <u>1975</u>) (<u>S12</u> A ANSI S1.31-3	thods for the Determination c of Broad-Band Noise Source n Rooms (counterpart to <u>ISO</u> <u>NG23</u>) (Revision and Redesig <u>1979</u>)	of Sound ss in <u>3741:</u> jnation of	9		S	
	STATU	ž		ACTIVITY		METHOD	
NS- NEW STANDARD	IN PROCESS	NR- NEEDS REVIEW	0- NONE			C-ACCRI	EDITED CANVASS
RF- REAFFIRMATION I	N PROCESS	AP- ANSI APPROVED	1- FORMAT	IVE STAGE		0-ACCRI	EDITED ORANIZATION
RV- REVISION IN PRO(CESS	OP- OUT OF PRINT	2- DRAFTIN	IG STANDARD		S-ACCRE	EDITED STANDARDS COMMITTEE
WD- WITHDRAWAL IN	I PROCESS	NA- NOT AVAILABLE	3- VOTING	ON PROPOSAI		X-NOT II	NTENDED FOR ANSI
ES- ENVIRONMENTAL	SOUND	UD- UP TO DATE	4- ANSI ST	ANDARDS AC	LION		
SP- SUBMITTED PINS	FORMS		5- OBJECTI 6-ANSI COI	ons being c(Vsidering AP	DNSIDERED		

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ATTACHMENT B-6 S12/284

STATUS REPORT

FIELD COMMITTEE:	STATUS: S12 NOISE				
DESIGNATION/ EDITION	SUBJECT OR TITLE	STATUS	ΑCTIVITY	METHOD	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI
S12.32-1990	Precision Methods for the Determination of Sound Power Levels of Discrete-Frequency and Narrow- Band Noise Sources in Reverberation Rooms (counterpart to <u>ISO 3742: 1975</u>) (S12/MG23) (Revision and Redesignation of (<u>ANSI S1.32-1979</u>)	an		S	
S12.33-1990	Engineering Methods for the Determination of Sound Power Levels of Noise Sources in a Special Reverberation Test Room (counterpart to <u>ISO</u> <u>3743: 1976</u>) (<u>S12/WG23</u>) (Revision and Redesignation of <u>ANSI S1.33-1979</u>)	an		S	
S12.34-1988 (R 1993)	Engineering Methods for the Determination of Sound Power Levels of Noise Sources for Essentially Free-Field Conditions Over a Reflecting Plane (counterpart to <u>ISO 3744; 1981</u>) (<u>S12/WG23</u>) (Revision and Redesignation of <u>ANSI</u> <u>S1.34-1980</u>)	9		S	

AP- ANSI APPROVED OP- OUT OF PRINT NA- NOT AVAILABLE UD- UP TO DATE **NR- NEEDS REVIEW** STATUS NS- NEW STANDARD IN PROCESS RF- REAFFIRMATION IN PROCESS WD- WITHDRAWAL IN PROCESS ES- ENVIRONMENTAL SOUND SP- SUBMITTED PINS FORMS **RV- REVISION IN PROCESS**

ACTIVITY 0- NONE

0-ACCREDITED ORANIZATION S-ACCREDITED STANDARDS COMMITTEE X-NOT INTENDED FOR ANSI C-ACCREDITED CANVASS

METHOD

2- DRAFTING STANDARD 3- VOTING ON PROPOSAL

1- FORMATIVE STAGE

4- ANSI STANDARDS ACTION

5- OBJECTIONS BEING CONSIDERED 6-ANSI CONSIDERING APPROVAL

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ATTACHMENT B-7 S12/284

STATUS REPORT

FIELD COMMITTEE:	<u>STATUS</u> : S12 NOISE				
DESIGNATION/ EDITION	SUBJECT OR TITLE	STATUS	ΑCTIVITY	METHOD	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI
S12.35-1990	Precision Methods for the Determination of Sound Power Levels of Noise Sources in Anechoin and Semi-Anehoic Rooms (counterpart to <u>ISO 3745:</u> <u>1977</u>) (<u>S12/WG23</u>) (Revision and Redesignation of <u>ANSI S1.35-1979</u>)	g		S	
S12.36-1990	Survey Methods for the Determination of Sound Power Levels of Noise Sources (counterpart to <u>150</u> <u>3746: 1979</u>) (<u>S12/WG23</u>) (Revision and Redesignation of <u>ANSI S1.36-1979</u>)	g		S	
S12.37-199X	Determination of Sound Power Levels of Sound Sources. Methods for in situ Measurement Using a Reference Sound Source (counterpart to <u>ISO</u> <u>3747: 1987) (S12/WG23</u>)	NS;SP	2	S	
S12.40-1990	Sound Level Descriptors for Determination of Compatible Land Use (<u>\$12/WG15</u>) (Revision and Redesignation of <u>ANSI \$3.23-1980</u>)	9		S	

OP- OUT OF PRINT NA- NOT AVAILABLE UD- UP TO DATE **AP- ANSI APPROVED** NS- NEW STANDARD IN PROCESS RF- REAFFIRMATION IN PROCESS RV- REVISION IN PROCESS WD- WITHDRAWAL IN PROCESS ES- ENVIRONMENTAL SOUND SP- SUBMITTED PINS FORMS

ACTIVITY O- NONE

1- FORMATIVE STAGE

2- DRAFTING STANDARD

O-ACCREDITED ORANIZATION S-ACCREDITED STANDARDS COMMITTEE X-NOT INTENDED FOR ANSI

C-ACCREDITED CANVASS

METHOD

3- VOTING ON PROPOSAL 4- ANSI STANDARDS ACTION

5- OBJECTIONS BEING CONSIDERED

6-ANSI CONSIDERING APPROVAL

NR- NEEDS REVIEW STATUS

F-181 ZATTACHAT.B

ATTACHMENT B-8 S12/284

STATUS REPORT

FIELD	SIATUS:					
COMMITTEE:	S12 NOISE					
DESIGNATION/ EDITION	SUBJECT OR TITLE	STATUS	ΑCTIVITY	METHOD	COMMENTS OR EXPECTED DATE OF SUBMISSION TO ANSI	
S12.XX-199X	Measurement and Evaluation of Outdoor Community Noise (<u>\$12/NG15</u>)	NS;SP	-	S		
S12.XX-199X	Predicting Sound Pressure Levels Outdoors (counterpart to <u>ISO/TC 43/SC1/WG24</u>) (<u>S12/WG31</u>)	NS:SP	-	S		
S12.41-199X	Acoustics - Air Tools and Small Air-driven Machinery. Measurement of Sound Emitted. (S12/WG33)	RV	-	S	Revision of CAGI Standard <u>S5.1-1971</u>	

METHOD C-ACCREDITED CANVASS O-ACCREDITED ORANIZATION S-ACCREDITED STANDARDS COMMITTEE X-NOT INTENDED FOR ANSI
ACTIVITY 0- NONE 1- FORMATIVE STAGE 2- DRAFTING STANDARD 3- VOTING ON PROPOSAL 4- ANSI STANDARDS ACTION 5- OBJECTIONS BEING APPROVAL 6-ANSI CONSIDERING APPROVAL
rus Nr. Needs review Ap. Ansi Approved Op. Out of print Na. Not available Ud. Up to date
STA ¹ NS- NEW STANDARD IN PROCESS RF- REAFFIRMATION IN PROCESS RV- REVISION IN PROCESS WD- WITHDRAWAL IN PROCESS WD- WITHDRAWAL IN PROCESS ES- ENVIRONMENTAL SOUND SP- SUBMITTED PINS FORMS
S12/284 ATTACHMENT C-1

June 28, 1993

standard\osie.spt

Report on ISO TC 43 and TC 43/SC1 Meeting in Oslo 30 May through 3 June 1993 and S12 Planning

I. Meeting of TC 43/SC 1

1. Resolutions and Plenary Materials.

Resolutions passed by TC 43/SC 1 are included (N 893--inc. 1) with pen changes as indicated. Two new proposals for work items (N889 and N890, incs. 2 and 3) were approved for formal circulation to member bodies. Items from the package of materials used at the plenary meeting can be made to anyone who wants a particular item.

2. US Participation.

The US had by far the largest delegation at the meeting. This large US presence facilitated enhanced US input to the various working group meeting. In particular, US participation was very positive and substantial in the areas of vehicle noise (standard road surfaces and their measurement, barriers, and other issues), sirens, sound intensity, impulse noise measurement, and sound propagation. Reports from some of the working group meetings are included.

3. Important Results

a. The S12 Committee suggested that several of the proposed ISO Standards should be technical reports rather than standards. This position was accepted by TC43/SC 1. Many other counties had similar sentiments.

b. The US will provide the conveners for two new efforts. One will deal with motor vehicle noise. Dick Schumacher of GM will be the convener. The second, if approved, will deal with community noise assessment and Paul Schomer will be the convener.

c. The use of sound exposure has been retained as a general terms and will not be limited to worker exposure.

d. A Danish proposal to revise C-weighting was accepted for ballot as a new work item. The US must appose the effort since many present ANSI standards depend on the present C-weighting. Canada and New Zealand also vigorously appose this item. If approved, the US must find a strong individual to be a member of this working group.

4. US/Canadian Coordination

The US and Canada worked closely to support each other during the meeting. This enhanced the influence of both countries at the meeting. This coordination should be expanded.

5. S12 Actions

a. S12 continues to bear the largest burden with respect to ISO. Of the more than 60 documents underway, about 55 relate to S12. Therefore, for the foresceable future, S12 planning must focus primarily on meeting the ISO challenge. The new S12 structure which divides into several technical areas is helping to meet this challenge.

b. The biggest future challenge is to develop methods to concurrently ballot documents for US and ISO. We need to find and expedite ways to adopt ISO Standards as ANSI (or other member body) Standards.

> P.D. Schomer, Vice Chair U.S. TAG for ISO/TC 43 and ISO/TC 43/SC1

ATTACHMENT D-1 S12/284

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S12 NOISE

ANSI S12.1-1983 (R 1990)	Guidelines for the Preparation of Standard Procedures for the Determination of Noise Emission from Sources
<u>ANSI S12.3-1985 (R 1990)</u>	Statistical Methods for Determining and Verifying Stated Noise Emission Values of Machinery and Equipment
<u>ANSI S12.4-1986</u> (R 1993)	Method for Assessment of High-Energy Impulsive Sounds with Respect to Residential Communities
<u>ANSI S12.5-1990</u>	Requirements for the Performance and Calibration of Reference Sound Sources
<u>ANSI S12.6-1984 (R 1990)</u>	Method for the Measurement of the Real- Ear Attenuation of Hearing Protectors
<u>ANSI S12.7-1986</u> (R 1993)	Methods for Measurements of Impulse Noise
ANSI S12.8-1987	Methods for Determination of Insertion Loss of Outdoor Noise Barriers
<u>ANSI S12.9-1988</u> Part 1 (R 1993)	Quantities and Procedures for Description and Measurement of Environmental Sound Part 1
<u>ANSI S12.9-1992</u> Part 2	Quantities and Procedures for Description and Measurement of Outdoor Environmental Sound
<u>ANSI S12.10-1985</u>	Methods for the Measurement and Designation of Noise Emitted by Computer and Business Equipment (Revision of <u>ANSI</u> <u>S1.29-1979</u>)

S12 NOISE (continued)

<u>ANSI S12.11-1987</u> (r 1993)	Methods for the Measurement of Noise Emitted by Small Air-Moving Devices
ANSI S12.12-1992	Engineering Method for the Determination of Sound Power Levels of Noise Sources Using Sound Intensity
DRAFT ANSI S12.13-1991	Evaluating the Effectiveness of Hearing Conservation Programs
<u>ANSI S12.14-1992</u>	Methods for the Field Measurement of the Sound Output of Audible Public Warning Devices Installed at Fixed Locations Outdoors
<u>ANSI S12.15-1992</u>	Acoustics - Portable Electric Power Tools, Stationary and Fixed Electric Power Tools, and Gardening Appliances. Measurement of Sound Emitted.
ANSI S12.16-1992	Guidelines for the Specification of Noise of New Machinery
<u>ANSI S12.23-1989</u>	Method for the Designation of Sound Power Emitted by Machinery and Equipment
<u>ANSI S12.30-1990</u>	Guidelines for the Use of Sound Power Standards and for the Preparation of Noise Test Codes
<u>ANSI S12.31-1990</u>	Precision Methods for the Determination of Sound Power Levels of Broad-Band Noise Sources in Reverberation Rooms
<u>ANSI S12.32-1990</u>	Precision Methods for the Determination of Sound Power Levels of Discrete-Frequency and Narrow-Band Noise Sources in Special Reverberation Rooms
ANSI S12.33-1990	Engineering Methods for the Determination of Sound Power Levels of Noise Sources in a Special Reverberation Test Room

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ATTACHMENT D-2 S12/284

S12 NOISE (continued)

<u>ANSI \$12.34-1988</u> (R 1993)	Engineering Methods for the Determination of Sound Power Levels of Noise Sources for Essentially Free-Field Conditions over a Reflecting Plane
ANSI \$12.35-1990	Precision Methods for the Determination of Sound Power Levels of Noise Sources in Anechoic and Hemi-Anechoic Rooms
ANSI S12.36-1990	Survey Methods for the Determination of Sound Power Levels of Noise Sources
<u>ANSI S12.40-1990</u>	Sound Level Descriptors for Determination of Compatible Land Use



ACOUSTICAL SOCIETY OF AMERICA

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> ATTACHMENT E-1 S12/284

30 Day Review/S1.1/391 27 August 1993

TO: THE MEMBERS OF ACCREDITED STANDARDS COMMITTEE S1 (AND TO S2, S3 AND S12 MEMBERS FOR INFORMATION)

• 30 DAY REVIEW •

on proposed American National Standard S1.1-199X Acoustical Terminology (a revision of ANSI S1.1-1960)

The ballot on the March 1993 draft of the revision of ANSI S1.1-1969 (R 1976) Acoustical Terminology, closed on 5 May 1993 with the following votes in S1: 6 affirmative, 3 negative, no abstentions, and 8 not returned. The three negative votes were received from two individuals (<u>C.D. Bohl</u>), American Industrial Hygiene Association, and (<u>P.D. Schomer</u>), for the U.S. Army Construction Engineering Research Laboratory, and the Acoustical Society of America). Negative comments were also received from <u>S.L. Ehrlich</u>, Individual Expert to S1.

The document was also circulated for comment to Accredited Standards Committees S2, S3, and S12. Comments were received from organizational representatives, individual experts and others on the March 1993 draft.

Accordingly, the working group chaired by <u>W.J. Galloway</u>, has diligently completed an extensive review of the comments and incorporated many editorial changes to the text. Enclosed therefore is the second draft, dated July 1993, of the proposed standard on Acoustical Terminology.

You are asked to review this July 1993 draft of the above document, which was developed as a result of incorporating comments received from the negative voters and other commentors. It is the understanding of the ad hoc working group that these comments have successfully addressed the negative votes and comments and that these voters and commentors will therefore approve this second draft. -2-

30 Day Review/S1.1-199X 27 August 1993

If we do not hear from you by <u>27 September 1993</u>, we will assume that you are in agreement with the changes made to the text, as given in the draft dated July 1993. Provided there is agreement with this draft, we will then proceed to submit the document to the next stage of development under ANSI procedures, for approval as an American National Standard.

A R. Avril Brenia

Standards Manager

cc: Behar Ehrlich Frank Galloway Johnson Marsh McKinley Royster Schomer Wong Young

Enclosures: ATTACHMENT A 2nd draft of proposal ANSI S1.1-199x, dated July 1993. <u>ATTACHMENT B</u>: Note to reviewers of second draft, from W.J. Galloway, dated 29 July 1993

ATTACHMENT B to 39 Day Review/S1.1/391 27 August 1993

29 July 1993

ATTACHMENT E-3 S12/284

Note to Reviewers, 2nd draft, Revision of S1.1-1960 (R1976) American National Standard Acoustical Terminology

Responses to the ballot for the first draft, dated 5 March 1993, of a revision of "Acoustical Terminology" produced three negative votes, with comments, as well as comments from positive S1 voters. The ad hoc working group has resolved one of the negative votes with a change in the caption on Table 13.2. Extensive changes were made, particularly in section 4.0, "Levels", and in the parallel definitions of basic quantities in section 3.0, in an attempt to resolve with the negative voter, who voted for two organization, his objections. The ad hoc group understands that these changes will cause the two votes to be reversed, leaving no negative votes.

Many helpful suggestions were received from individual experts from S1 and from reviewers from S1 and S12, who were not voters. Every attempt to accommodate these suggestions has been made where possible. In a number of cases this has not been feasible where a proposal was in conflict with an existing international terminology definition in IEC 801: Acoustics and Electroacoustics Vocabulary. (ASACOS policy is to follow IEC wherever possible.) In a number of other instances requests for changes or additions were made which, despite the admonition on the ballot that comments without suggested wording would not be accepted, were not accompanied by suggested text. A number of these suggestions were considered by the ad hoc group to be more appropriately included in a revision of S3.20 American National Standard Psychoacoustical Terminology, which is now undergoing revision. In some cases the ad hoc committee was able to generate revised text to meet a number of the suggestions, but did not feel it was within its scope to add numerous additional terms where no text to do so was provided.

All told, several hundred editorial changes have been made to the first draft document. The ad hoc working group hopes that these changes will be acceptable to those reviewers who approved the original draft.

William J. Galloway

ATTACHMENT F S12/284



Boulder Lab

5541 Central Avenue Boulder CO 80301-2846 Local 303 449 4165 Fax 303 449 3004

COMMITTEE CORRESPONDENCE

Date: 2 June, 1993

To: **Avril Brenig**

From: Lyle Luttrell

Subj.: Working Group S12-3

1 am recommending that Working Group S12-3, Noise emissions of office and data processing equipment, be disbanded. The program of work of the working group has been completed, no additions to the program have been suggested, and the working group has not met for about three years. While there is some activity at the international level (ISO TC43/SC1/WG 23) that could be potentially be transposed into national standards, the international nature of the computer industry has lead to a focus on development and use of the international standards. Therefore, transposition should involve minimal efforts that could be done on an ad hoc basis. I do not have any suggestions for people to work on transposition; I would suggest that you contact Bill Hanrahan at CBEMA for assistance.

I have enjoyed the participation on S12 over the last fifteen years, and I would be interested in serving as an Individual Expert on the committee.

CC Dan Johnson **Bill Hanrahan** Bob Lotz

RECENT 15. AC SECRETANO

Report Given at S12 Meeting in Denver WG S12.10 Hearing Protection

s.*-

Current effort is to establish a standard for the objective or physical measurement of the insertion loss of circumaural type hearing protection devices that is also appropriate for nonlinear or amplitude sensitive devices. The proposed standard contains two different procedures; one is the "dummy head" or acoustic test fixture method that is now contained in S3.19-1974 and the other is a microphone-in-ear method that utilizes human subjects. The electroacoustics are essentially the same for both procedures. Draft 1 was circulated and draft 2 has been prepared in accordance with the comments on draft 1. Draft 2 will be circulated to the WG members in the November time period with a possible draft for ANSI in the spring of 1994, hopefully prior to the meeting in Cambridge.

WG S12.11 has completed an interlaboratory (four laboratories) study of the measurement of the attenuation of hearing protectors using a "naive subject fit" method. The method is essentially the same as the current S12.6 Real-Ear at Threshold Method with alterations made to instructions, fitting, and the experimenters role sections of the procedure. Initial analyses of results indicate that the measured attenuation values are much closer to real-world attenuation values than values measured with the supervised fit of S12.6. The S12.11 WG, whose purpose includes development of procedures that provide attenuation values closer to those in the real world, has initiated efforts to establish this procedure as a draft ANSI standard. It is proposed that S12.6 be modified by the members of S12.11 to produce a single standard that will contain both a supervised fit and a naive subject fit method. The electroacoustics should be almost identical for the two methods. Either or both methods could be selected for implementation depending upon the purposes of the measurements. Concurrence of this approach has been reached by the chairs of WG's S12.10 and S12.11 as well as the Chair of S12.

Charles Nixon

ATTACHMENT G-2 S12/284

SEP-15-1993 13:27 FROM USACERL - ACCUSTICS

CABOT SAFETY CORPORATION Research and Development Hearing Protection Acoustics

TO

AURIL BRENIG P.05

TO: Avril Brenig Charles Nixon

FROM: Blliott H. Berger

DATE: June 10, 1993

SUBJECT: Meeting of ISO/TC43/SC1/WG17 Oslo, Norway, June 1, 1993

We met for a full day under the direction of Bertil Johansson. The principal topics were discussion of the voting on ISO 4869 Part 2 and draft 1 of ISO 4869 Part 4.

ISO 4869 Part 2: Estimation of effective A-weighted sound pressure levels when hearing protectors are worn. This was approved in the ISO ballot where Germany voted yes, but disapproved in the CEN ballot where Germany voted no. Minor changes were made, the principal one being the addition of a Protection Performance of 84% ($\alpha = 1.00$), to Table 1, and the designation of 84% as the preferred value of Protection Performance.

This document will need to be re-balloted by CEN, where it is likely to pass.

ISO 4869 Part 4: Method for measurement of sound attenuation of amplitude sensitive hearing protectors. An initial draft which had been circulated to the committee on April 13, 1993, was discussed. Substantial discussion ensued and significant changes were made. The decision of the group was to determine what was the minimum we <u>needed</u> to know about such devices and to then devise the <u>least</u> amount of measurements necessary to provide such results.

The next draft, which is due for circulation to the WG in early September should include the following features:

- 1) 4869 Part 1 (REAT) evaluation of the passive attenuation of such devices.
- 2) Microphone-in-real-ear (MIRE) measures from 50 dBA external sound levels in 10-dB steps until the earcanal levels (converted to equivalent diffuse field) equal or exceed 90 dBA.

ATTACHMENT G-3 S12/284

SEP-15-1993 13:28 FROM USACERL - ACOUSTICS

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AWRIL BRENIG P.06

June 1993 Meeting of WG17

Page - 2

- 3) ATF measurements to replicate the higher level measurements will be optional.
- 4) Test signals will be broadband gaussian noise with constant spectral slopes (white, pink, etc.) to achieve C-A values of -1.5 dB, +2.0 dB, and +6.0 dB.
- 5) Sound field will be per 4869 Part 1, with a test range of 112 9000 Hz.

The major unresolved questions include:

- 1) Is it possible for an ISO 4869 Part 1 type of tetrahedral array to generate sufficiently high sound pressure levels to accomplish this testing (levels up to 115 dB) or will other speaker arrangements be required?
- 2) What type of microphone should be used and where should it be placed? Miniature mics and probe mics, either in the canal or concha will be considered and work will be coordinated with other ongoing ISO and research activities. No earplug is required under the mic (to protect the ear) since testing starts at very low levels and stops as soon as 90 dBA is achieved.
- 3) Will this standard be applicable to earplugs or only to circumaural and semi-aural devices?
- 4) How many subjects? A likely choice is 8 subj. x 1 measure on each ear.

Part 4 does not deal with hearing protector response to impulsive noise. European-based research on this topic is underway. Until this research completed in 2 - 3 yrs., neither WG17 nor CEN/TC 211 (which Las deferred its work to WG17) is anticipated to develop a standard in this area.

enal

Elliott H. Berger Alternate U. S. Representative to WG17

/wg1793.iso

ATTACHMENT H S12/284

CABOT SAFETY CORPORATION Research and Development Hearing Protection Acoustics

TO: Avril Brenig

FROM: Elliott H. Berger

DATE: November 1, 1993

SUBJECT: Fall 1993 report on activities of S12/WG11

The working group presented the results of its interlaboratory HPD attenuation measurement study at a special session sponsored by the Technical Committee on Noise, on Tuesday afternoon at the Denver, ASA. On Thursday of ASA week (October 7) the WG met to review the results of the presentations and plan future activities.

It was agreed that work should begin on drafting a standard modeled around the subject-fit section of the interlaboratory study protocol. Furthermore, as a result of an agreement with Charles Nixon, Chair of WG10, WG11 will take responsibility for revising/updating ANSI S12.6-1984. In so doing the intention is to maintain the existing portions of the standard, including the experimenter-supervised fit essentially as they now appear (with only minor changes) and to add the subject-fit protocol from the WG11 research as a Part B alternative in the document. Thus, users of the revised standard would have a choice of Part A -Experimenter-Supervised (optimum) Fit, and Part B - Subject-Fit real-world estimated data.

The WG also decided to press forward with the preparation of four manuscripts based on the interlaboratory research which we plan to submit for publication in JASA in calendar year 1994.

Discussion also involved whether WG10 or WG11 is the best WG to pursue examination, and potential adoption, of the soon-to-beavailable ISO standard on number ratings for hearing protectors, ISO 4869-Part II, Estimation of effective A-weighted sound pressure levels when hearing protectors are worn. This will be further explored next year.

Elliott H. Berger: Chair S12/WG11

NRAT RODE ZIRAN

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/ansirep9.sl2

ATTACHMENT I S12/284

S12/WG12 REPORT FOR THE SPRING 1993 ASA MEETING (OTTAWA)

- 1. I will attend both the Ottawa meeting and the S12 meeting there.
- 2. S12/WG12 has not met since the last report. S12/WG12 will next meet at ASA in fall 1993 and at NHCA in Spring 1994.
- No change from the last report.
 We are still awaiting for feedback from users of the draft Standard <u>S12.13-1991</u>. We will revise the draft standard as needed if feedback comes in.

Several people have volunteered new potential control data bases. Once these are acquired and analyzed, their results hopefully will confirm the criterion ranges in the draft standard (or alternately will lead to revisions of the criterion ranges).

An ISO working group with goals similar to those of S12/WG12 has been organized (TC 43/WG5) with Larry Royster as convenor and Julia Royster as U.S. member. The first meeting will take place in Switzerland in July 1993.

Submitted by Julia D. Royster, Chair S12/WG12

address: 4706 Connell Drive Raleigh, North Carolina 27612

ATTACHMENT I-1

S12/284



ACOUSTICAL SOCIETY OF A MERICA

OFFICE OF THE STANDARDS SECRETARIAT

AVRIL BRENIG. Da: P H STANDARDS MANAGER 335 EAST 45TH STREET, NEW YORK, NEW YORK 10017-3483

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9 September 1993

TO: D.L. Johnson, Chair S12

- Re: Letter Ballot LB/S12.2/279 sent to the Accredited Standards Committee S12 on 9 July 1993 closed on 20 August 1993
- SUBJECT: Approval of proposed standard ANSI <u>S12.2-199X</u>, Criteria for Evaluating Room Noise, draft dated April 1993

Enclosed please find tally of the above letter ballot, showing results as follows:

CLASSIFICATION OF MEMBERS

TOTAL	31	TOTAL	31
NOT RETURNED	10	GI - GENERAL INTEREST	9
ABSTENTIONS	2	G - GOVERNMENT	9
NEGATIVE VOTES	2	C - CONSUMER	3
AFFIRMATIVE VOTES	17	P - PRODUCER	10

For guestion No. 2, on this ballot, LB/S1/2.2/279:

"If there should be an impasse in resolving any negative votes or positions resulting from this ballot on proposed ANSI Standard S12.2-199X, draft dated April 1993, then the document should be published for trial and study", the responses were 19 affirmative, from those responding to the ballot with 2 abstentions, and no negative votes.

COPIES OF ALL COMMENTS ARE ATTACHED

ATTACHMENT I-2

S12/284

- 2 - Letter Ballot S12.2/279

Continuation of results of letter ballot S12.2/279:

AFFIRMATIVE VOTES:

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nderson, R. Larson-Davis Laboratories			
Atack, R.M.	U.S. Army Medical Corps.		
Brownson, P.J.	American College of Occupational		
	Medicine		
Goodwin, R.	Acoustical Systems, Inc.		
Johnson, D.L.	Acoustical Society of America		
Lotz, R.	Computer & Business Equipment		
	Manufacturers Association		
Marshall, L.	U.S. Dept. of the Navy,		
Alternate	BUREAU OF MEDICINE AND SURGERY		
Monk, W.	CAOHC		
Naunton, R.F.	American Otological Society		
Patterson, J.H.	U.S. Army Aeromedical Research Lab.		
Alternate			
Pei, H.S.	American Society of Heating and		
	Refrigeration and Air-Conditioning		
Rawlings, D.	National Electrical Manufacturers		
-	Association (NEMA)		
Roth, S.I.	ALCOA		
Schomer, P.D.	U.S. Department of the Army,		
	Environmental Office		
Toothman, E.H.	Fastener Industry Noise Control		
	Research Program		
Vendittis, D.	Naval Surface Warfare Center		
·			
NEGATIVE VOTES:			
Burkard, R.F.	American Speech-Language-Hearing		
	Association		
Franks, J.	National Hearing Conservation Association		
ABSTENTIONS:			
Bovi, A.M.	Industrial Safety Equipment		
	Association, Inc.		
Callahan, R.	Power Tool Institute, Inc.		

ATTACHMENT I-3 S12/284

- 3 - Letter Ballot S12.2/279

Continuation of results of letter ballot S12.2/279:

NOT RETURNED:

Addington, J.H. Bohl, C.D.

Chial, M.R. Erdreich, J.

Konheim, A. McKinley, R.L. Michael, L.A. Alternate Price, G.R. Schontal, E. Wang, S. Compressed Air and Gas Institute American Industrial Hygiene Association Audio Engineering Society National Council of Acoustical Consultants U.S. Department of Transportation U.S. Department of the Air Force American Academy of Otolaryngology Head and Neck Surgery U.S. Army Human Engineering Laboratory Bruel & Kjaer Instruments, Inc. Air-Conditioning and Refrigeration Institute

LATE RESPONSE:

Franks, J. Patterson, J.H. Alternate National Hearing Conservation Association U.S. Army Aeromedical Research Lab.

INDIVIDUAL EXPERTS:

1) Individual Experts stating they will participate in the review of the document:

Bartheld, R.G. Marsh, A.H. Winzer, G.

ATTACHMENT I-4 S12/284

-4- Letter Ballot S12.2/279

Continuation of results of letter ballot S12.2/279:

INDIVIDUAL EXPERTS (continued):

:

2) Individual Experts stating they will not participate in the review of the document:

Baade, P.K. Johnson, D.L.

3) Comments and/or recommendations were received from 1 Individual Experts, as follows:

Bartheid, R.G. Marsh, A.H. Negative Comments Negative Comments

Avril Brenig Standards Manager

cc: Vice Chair, Standards Committee Chair and Vice Chair, ASACOS Chair, Working Group

ATTACHMENT I-5

S12/284



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IMMEDIATE RETURN REQUESTED

LB/S12.2/279 9 July 1993

Return to:Letter Ballot DepartmentDue date:20 August 1993

LETTER BALLOT ACCREDITED STANDARDS COMMITTEE ON NOISE, S12



Background Information:

Working group S12/WG18, Criteria for Room Noise, under chairmanship of R. J. Peppin, assisted Accredited Standards Committee S12, Noise, in the preparation of this proposed standard. The working group membership is listed in the subject document.

Both the Chair of S12, D.L. Johnson, and chair of the preparatory working group, R.J. Peppin, recommend approval of this document, ANSI S12.2-199X, draft dated April 1993, as a proposed ANSI Standard. However, if there should be an impasse in resolving any negative votes or positions, the Chair of S12 recommends that a trial and study document be issued in the interim.

Committee Correspondence Standards Committee S12, Noise

DATE:May 10, 1993TO:Avril Brenig and S-12 MembershipFROM:Daniel JohnsonRe:Proposed Standard for Criteria for Evaluating Room Noise

Avril Brenig:

Please ballot this standard as a full standard with a note to the members if they would have any problems with issuing the document as a "trial and study" document if there were an impasse in resolving negative votes.

S-12 Members:

I am encouraging you to support this standard. We should have had such a standard 30 years ago. Rich Peppin and his working group should be commended for bringing this draft to its present state:

Thanks,

Daniel L. Johnson, Chair S-12

REPORT OF S12/WG22

WE ARE HAVING PROBLEMS RESOLVING SOME OF THE PROBLEMS FOUND IN THE WEAPON DIRECTIVITY DATABASE. (SEE ATTACHED MEMORANDUM TO DANIEL JOHNSON.) TO RESOLVE THESE PROBLEMS, MEASUREMENTS WILL BE REQUIRED, FOR WHICH FUNDING IS NEEDED.

> N. D. LEWIS, CHAIR S12/WG22

F:\S12\ATTACHMT.J1

ATTACHMENT J-2

S12/284

ENVIRONMENTAL NOISE PROGRAM BIO-ACOUSTICS DIVISION U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY ABERDEEN PROVING GROUND, MD 21010-5422

2 April 1993

MEMORANDUM FOR Daniel L. Johnson, EG & G Special Projects, Albuquerque Operations, Albuquerque, NM 87119-9024

SUBJECT: Unexpected delay in completing fifth draft of proposed standard <u>S12.17-199X</u>

1. References.

a. Fifth Draft, Proposed American National Standard S12.17-199X, Impulse Sound Propagation for Environmental Noise Assessment. (enclosed)

b. Meeting between Dr. Michael White, U.S. Army Construction Engineering Research Laboratory and myself, 31 March 1993.

2. When I submitted the semi-annual to ANSI on 1 March 1993, I expected to have the next draft for ballot completed by mid April. However, there appears to be problems with some of the technical input used in this draft. These are discussed in the following paragraphs.

3. The fourth draft of the proposed standard incorporated the comments and concerns of the negative ballots. I gave this draft to Dr. Paul Schomer for his review since most of the changes were the result of his comments. I also discussed this draft with Dr. White. The fifth draft incorporates the results of Dr. Schomer's review and the some of the discussions with Dr. White.

4. During my meeting with Dr. White, two areas of concerns were discussed. These are the mass correction and the weapon directivity.

a. Dr. White is in the process of developing a new relationship for the mass correction. The new relationship is very similar to the relationship presented in the proposed standard. This work is near completion and the necessary relationships will be available by 1 May.

b. There appears to be a problem with the directivity patterns for the weapons which have a supersonic projectile. It appears that the early work done by USACERL included the ballistic wave with the propellant wave, hence higher directivity corrections in front of the weapon. The later work does not include the ballistic wave. When comparing two weapons, such as

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an 105 and 120 mm tank main gun, the results are misleading. We are looking at a different approach to the directivity, i.e., modeling it as a series of cosine terms. If we can reduce the error with this approach, a new directivity procedure should be available by the fall, otherwise, I have no idea when it can be corrected. (This is not a new problem. We at AEHA have been aware of this problem in the BNOISE data base for some time. We reinformed CERL of this problem last month and Dr. White has taken an interest in it and is working toward a solution since it also affects his other projects.)

c. The ballistic wave is not included in the standard. At this time there is insufficient data to establish an empirical relationship for this event.

5. The work on the proposed standard will continue as soon as these concerns are resolved.

NELSON D. LEWIS, Ph.D. Acoustical Engineer Master Consultant Bio-Acoustics Division

encl

Conseil national de recherches Canada

Institute for Microstructural Sciences Institut des sciences des microstructures

September 1993



To: D.L. Johnson, Chair S12

From: Gilles Daigle

Subject: Draft Synopses of Standards on the measurement and prediction of sound levels

Copy: Chair of S1;

Vice Chairs of S1 and S12;

Any interested S1 and S12 Committee Member, Individual Expert. WG Chair, and WG Member of S1 and S12

At the S12 meeting during the Ottawa ASA meeting, I was asked to produce a draft synopses of ANSI efforts for the measurement, calculation or prediction of sound pressure levels in air.

I have looked at the ANSI S12.30-1990 - American National Standard Guidelines for the Use of Sound Sower Standards and for the Preparation of Noise Test Codes, as a guide. The details found in ANSI S12.30 is beyond the scope of this draft. I have therefore assembled the following material as a DRAFT and as a summary of my thoughts. In some cases American National Standards already exist while in other cases there is a Working Group preparing a draft Standard.

Committee S1, Acoustics

1) S1/WG2, Attenuation of Sound in the Atmosphere.

Preparation of standards describing recommended procedures to account for the attenuation of sound waves propagating through the atmosphere.

Does this imply attenuation due to molecular absorption alone - more precisely, a Standard to provide a method for calculating the absorption of sound propagating through a still homogeneous atmosphere of humid air of normal composition - and hence aims to revise ANSI S1.26-1978, American National Standard Method for the Calculation of the Absorption of Sound by the Atmosphere.

Ottawa, Canada If not them this Working Group is in conflict with S1/WG20 and S12/WG31, Docutax: (613) 957-8734



2) S1/WG4, Measurement of Sound Pressure Levels in Air

This is a revision of S1.13-1971 (R 1986) Methods for the Measurement of Sound Pressure Levels. This draft standard specifies requirements and provides recommendations for the measurement of sound pressure levels in air at a single point in space.

This is a fundamental standard applicable to a wide range of SPL measurements. The draft standard specifies definitions, types of sounds (temperal and frequency characteristics), types of environment, instrumentation for measuring sound pressure level and the fundamentals of measurement procedures and documentation.

All other standards that involve the <u>measurement</u> of sound pressure levels in air should rely on and refer to this basic fundamental draft standard.

- 3) S1/WG20, Ground Impedance
 - i) <u>Measurement of Ground Impedance</u> to develop a standard describing recommended prodedures to characterize and the instrumentation to measure the acoustic properties of a wide variety of natural ground surfaces outdoors
 - ii) <u>Attenuation of Sound due to the Ground</u> to develop a standard describing recommended prodedures to account for the attenuation of sound propagating in the presence of the ground.

This first part of the proposed draft standard is therefore aimed at obtaining the impedance (real and imaginary part) of a variety of grounds as a function of frequency. These values can then be used in conjunction with other standards such as ANSI S12.8 - 1987, American National Standard Methods for Determination of Insertion Loss of Outdoor Noise Barriers or ANSI S12.18 - 199x, proposed American National Standard Method for Outdoor Measurement of Sound Pressure Level. Both recommended methods invoke determination of Ground Equivalence by measurement of the specific impedance of the ground. However, it must admit that there are no standard procedures to measure this property.

The second part of the proposed draft standard would be aimed at producing recommended methods to calculate the attenuation of sound by a finite impedance reflecting plane (the ground) in the absence of meteorological effects. The recommended procedures would than be limited to distances less than about 30 m. Usage would be to calculated ground equivalence or to correct sound pressure levels (in particular, third-octave or narrow-band spectra) measured from a specific source on a specific site to the expected SPL from the same source on another site. For example the standard could be used to estimate the weighted sound levels from a heat pump at a distance of 15 feet from published values of sound power in bels.

These recommended methods would then complement ANSI S1.26 - 1978 as a precision method to calculate the attenuation of sound due to the ground. An extension to this second part could be a third part to produce a precision method to calculate the <u>total</u> attenuation of

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sound outdoors in a systematic way. It is also possible that the work of S12/WG31 could replace the efforts of S1/WG20 part ii) if the document produced by S12/WG31 turns out to be appropriate.

Committee S12, Noise

1) S12/WG15, Measurement and Evaluation of Outdoor Community Noise

To produce a standard for the measurement of outdoor environmental noise with emphasis on the classification of noise surveys relative to temporal and spatial sampling accuracies achieved.

S12/WG15 has produced ANSI S12.9, American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, Part 1, 2 and 3. The standard quantities and procedures recommended in ANSI S12.9 are an application of the recommended procedures of ANSI S1.13 to the specific cases of sampling environmental noise outdoors. Essentially, ANSI S12.9 samples environmental sound by accepting the environmental and meteorological conditions "as is." The standard therefore provides a statistical sampling of the sound levels of environmental noise from a variety of sources and meteorological conditions.

2) S12/WG 27, Outdoor Measurement of Sound Pressure Level

Develop standardization method for measuring sound pressure levels in the outdoor environment, considering the effects of refraction due to wind and temperature gradients, the effects due to thermal and mechanical turbulence and the effects of variable ground impedance and wind noise.

The draft standard, ANSI S12.18 is another application of ANSI S1.4 to recommend procedures for obtaining sound pressure level measurement that are individually reproducible from a specific source or sources outdoors. The measurements take into account the source height, receiver height, the type of ground, and the local atmospheric conditions. The measurements obtained using the recommended procedures can be used to calculate sound pressure levels at other distances from the source or extrapolated to other environmental or ground conditions. The procedures ensures that measurements from the same source at the same point on different days yeild the same results, or that measurements from the same source at different sites or distances can be corrected and compared reliably.

3) S12/WG31, Predicting Sound Pressure Levels Outdoors

Develop standard method for calculating the attenuation of sound during propagation outdoors in order to predict the levels of noise at a distance from a large variety of sources. The method should be a general engineering procedure that includes the combined effects of: geometrical divergence, atmospheric absorption, hte effects of variable ground impedance, the effects of refraction due to wind and temperature gradients, the effects due to thermal and mechanical trubulence, reflection from surfaces, as well as propagation through foliage.

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Whereas ANSI S1.26 - 1978 is a precision method to calculated the attenuation of sound due to molecular absorption alone, S12/WG31 is trying to achieve a document to recommend engineering procedures to calculated the total attenuation of sound during propagation outdoors. Under certain restrictive conditions and if the procedures recommended by S12/WG31 could be used for a variety of different impedance values (different grounds), then the procedures recommended by S12/WG31 could possibly replace the work of S1/WG20 part ii).

If the work of S1/WG2 is a counter part of Draft International Standard ISO/DIS 9613-2, then S1/WG2 is in direct conflict with S12/WG31.

MICHAEL & ASSOCIATES, INC. 246 WOODLAND DRIVE STATE COLLEGE, PA. 16803 814-234-7042 (PHONE/VAX)

TO

ATTACHMENT L

October 5, 1993

Consultion Correspondence ANSE Working Group 212/WG35 Evaluation of Communication Ability in Noise While Wearing Hearing Protection

Prom: Kevin Michael, Michael & Associates To: Avril Braniz, ASA

Paul Michael	PLM & Amogintes, Papa State Univ.	
Charles Nixon	WPAFE	
Richard McKinely	WPAFB	
Denise West	WPAFB	
Curris Smith	IHCS	
Tony Bovi	BEA. North Health Care	
Loonard Marcanocini	MSHA	
Alton Burks	U.S. Burent of Mines	
Georges Gariather	U.S. Army, HEL Abordeen Proving Ground	
Bd Toothman	FINCEP	
Donnis Willierus	U.S. Anny, Penn Space Univ.	

Our working group did not meet in Denver but we plan to meet at the next ASA meeting in the spring of 1994. We have meetly competed a first draft of the proposed standard. The draft will be circulated well before next spring, allowing us to discuss the draft and suggested modifications at our next meeting. The draft describes a relatively simple method for the hearing conservationist to select appropriate hearing protectors for specific noise environments. The proper hearing protection will provide enough protection to prevent noise-induced hearing loss while maximizing the ability to communicate.

Sincerely,

Kitchel

Kovin Michael

S12/284 ATTACHMENT M-1

ISO/TC 43 ACOUSTICS and ISO/TC 43/SC1 NOISE

U.S. TAG Chair: H.E. von Gierke U.S. TAG Vice Chair: P.D. Schomer

Documents processed by the ASA Standards Secretariat from May 1993 through September 1993

The following documents were received for <u>VOTE AND/OR COMMENT</u> by the U.S. Member Body:

Technical Coordinator	TAG	DRAFT INTERNATIONAL STANDARDS (DIS)
R. Lotz	S12	ISO/DIS 10302: Acoustics - Measurement for the measurement of airborne noise emitted by small air- moving devices.

announced to S12 (S12/270) on 27 April 1993. The U.S. position, <u>AFFIRMATIVE WITH</u> <u>COMMENTS</u>, was submitted to ANSI on 30 July 1993, and from ANSI to ISO on 4 August 1993.

S12

A. Konheim

ISO/DIS 3095: Acoustics - Measurement of noise emitted by railbound vehicles.

announced to S12 (S12/267) on 16 March 1993. The U.S. position, <u>AFFIRMATIVE WITH</u> <u>COMMENTS</u>, was submitted to ANSI on 16 June 1993, and from ANSI to ISO on 21 June 1993.

		ATTACHMENT M-2
Technical Coordinator	TAG	DRAFT INTERNATIONAL STANDARDS (DIS)
R.F. Schumacher	S12	ISO/DIS 6798: Acoustics - Test code for the measurement of airborne noise emitted by reciprocating internal combustion engines. Engineering method and survey method.

announced to S12 (S12/271) on 27 April 1993. The U.S. position, <u>AFFIRMATIVE WITH</u> <u>COMMENTS</u>, was submitted to ANSI on 19 July 1993, and from ANSI to ISO on 23 July 1993.

S.I. Roth S12 <u>ISO/DIS 11200</u>: Acoustics - Noise emitted by machinery and equipment. Guidelines for the use of basic standards for the determination of emission sound pressure levels at the work station and at other specified positions.

announced to S12 (S12/272) on 30 April 1993. The U.S. position, <u>NEGATIVE WITH</u> <u>COMMENTS</u>, was submitted to ANSI on 16 July 1993, and from ANSI to ISO on 23 July 1993.

S.I. Roth

S12

<u>ISO/DIS 11201:</u> Acoustics - Noise emitted by machinery and equipment. Measurement of emission sound pressure levels at the work stationand at other specified positions. Engineering method in an essential free field over a reflecting plane.

S12/284

announced to S12 (S12/273) on 30 April 1993. The U.S. position, <u>NEGATIVE WITH</u> <u>COMMENTS</u>, was submitted to ANSI on 16 July 1993, and from ANSI to ISO on 23 July 1993.

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		ATTACHMENT M-3	
Technical Coordinator	TAG	DRAFT INTERNATIONAL STANDARDS (DIS)	
S.I. Roth	S12	ISO/DIS 11202: Acoustics - Noise emitted by machinery and equipment. Measurement of emission sound pressure levels at the work station and at other specified positions. Survey method in situ.	

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announced to S12 (<u>S12/274</u>) on 30 April 1993. The U.S. position, <u>NEGATIVE WITH</u> <u>COMMENTS</u>, was submitted to ANSI on 16 July 1993, and from ANSI to ISO on 23 July 1993.

ISO/DIS 11203: Acoustics - Noise emitted by machinery and equipment. Determination of emission sound pressure levels at the work station and at other specified positions.

S12/284

announced to S12 (S12/275) on 30 April 1993. The U.S. position, <u>NEGATIVE WITH</u> <u>COMMENTS</u>, was submitted to ANSI on 16 July 1993, and from ANSI to ISO on 23 July 1993.

S.I. Roth

S.I. Roth

S12

S12

<u>ISO/DIS 11204</u>: Acoustics - Noise emitted by machinery and equipment. Measurement of emission sound pressure levels at the work station and at other specified positions. Method requiring environmental corrections.

announced to S12 (S12/276) on 30 April 1993. The U.S. position, <u>NEGATIVE WITH</u> <u>COMMENTS</u>, was submitted to ANSI on 16 July 1993, and from ANSI to ISO on 23 July 1993.

Technical Coordinator	TAG	DRAFT INTERNATIONAL STANDARDS (DIS)
S.I. Roth	S12	ISO/DIS 12001: Acoustics - Noise emitted by machinery and equipment. Rules for the drafting and presentation of a noise test code.

announced to S12 (S12/277) on 30 April 1993. The U.S. position, <u>NEGATIVE WITH</u> <u>COMMENTS</u>, was submitted to ANSI on 16 July 1993, and from ANSI to ISO on 23 July 1993.

R.M. Guernsey S12

ISO/DIS 11691: Acoustics -Measurements of insertion loss of ducted silencers without flow. Laboratory survey method.

announced to S12 (S12/266) on 16 March 1993. The U.S. position, <u>ABSTENTION</u> <u>WITHOUT COMMENTS</u>, was submitted to ANSI on 28 July 1993, and from ANSI to ISO on 30 July 1993.

P.C. Shang S12 <u>ISQ/DIS 2923</u>: Measurement of noise on board vessels.

announced to S12 (S12/282) on 30 June 1993. The U.S. position, <u>ABSTENTION</u> WITHOUT COMMENTS, was submitted to ANSI on 23 September 1993.

D. Nelson

S12

<u>ISO/DIS 11957</u>: Acoustics -Determination of sound insulation performance of cabins, Laboratory and in situ measurements.

announced to S12 (S12/283) on 26 July 1993. The U.S. position, <u>AFFIRMATIVE WITH</u> EDITORIAL COMMENTS, was submitted to ANSI on 3 September 1993.

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DOCUMENTS CIRCULATED AD/HOC

DOCUMENT	TITLE	COORDINATOR(S)	U.S. TAG
<u>ISO/DIS</u> 9611.2	Acoustics - Characterization of sources of structure-borne sound with respect to the airborne sound radiation of connected structures - Measurement of velocity at the contact points of machinery when resiliently mounted	A. Kilcullen	S12
sent to A. Kilcull <u>AFFIRMATIVI</u> ANSI to ISO on	en on an ad hoc basis (<u>S12 Ad-Hoc #2</u>) on 7 June 1 <u>E WITH COMMENTS</u> , was submitted to ANSI or 23 July 1993.	993. The U.S. positio 14 July 1993, and fro	n, m
ISO/CD 11688-1	Acoustics - Recommended practice for the design of low-noise machinery and equipment. <u>Part 1</u> : Planning	S. Roth	
sent to S. Roth o AFFIRMATIVI	on an ad hoc basis (<u>S12 Ad-Hoc #3</u>) on 11 August 1 <u>E WITH COMMENTS</u> , was submitted to ANSI of	993. The U.S. positio on 13 September 1993	n, 3.
<u>ISO/CD</u> 11690-3	Acoustics - Recommended practice for the design of low-noise workplaces containing machinery. <u>Part 3</u> : Sound propagation and noise prediction in workrooms.	B. Brooks	
sent to B. Brool position, <u>AFFIR</u> 1993.	ks on an ad hoc basis (<u>S12 Ad-Hoc #4</u>) on 12 A MATIVE WITH COMMENTS, was submitted t	lugust 1993. The U. o ANSI on 13 Septemb	S. Der

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DOCUMENTS CIRCULATED AD/HOC (continued)

DOCUMENT	TITLE	COORDINATOR(S)	U.S. TAG
<u>ISO 6393:1985</u>	Acoustics - Measurement of airborne noise emitted by earth-moving machinery - Method for determining compliance with limits for exterior noise - Stationery test condition.	L.A. Jennings	S12
<u>ISO 6395:1988</u>	Acoustics - Measurement of exterior noise emitted by earth-moving machinery - Dynamic test condition.	L.A. Jennings	S12

- a) Both documents were sent to L.A. Jennings on an ad hoc basis (S12 Ad-Hoc #5 & #6) on 12 August. The U.S. position, <u>AFFIRMATIVE</u>, for the work effort was submitted to ANSI on 12 August 1993.
- b) The U.S. position on the two documents, <u>AFFIRMATIVE</u>, was submitted to ANSI on 23 September 1993.

ISO/TC 43/SCI Draft Amendments: ISO 362:1981/DAM 2 ISO 7188:1985/DAM 1 R.F. Schumacher S12

These two documents were sent to R.F. Schumacher on an ad hoc basis (S12 Ad-Hoc #7) on 14 September 1993.

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OTHER ACTIONS:

• ISO/TC 43 and ISO/TC 43/SC1 Noise

1) U.S. response on questions regarding two ISO standards -ISO 9613-1: 1993 and ISO 9614-1: 1993

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The U.S. responded to the questionnaires on the two ISO standards noted above, on 23 September 1993.

S12/284 ATTACHMENT N-1

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S12/284 ATTACHMENT N-2

43/1/N 897(USA) 1993 September

INTERNATIONAL STANDARDS ORGANIZATION

TECHNICAL COMMITTEE 43: ACOUSTICS; SUBCOMMITTEE 1: NOISE

Comments of the United States Member Body on <u>Document ISO/TC 43/SC 1/N 897</u> New Work Item Proposal: Revision of B- and C-weighting and Lin response

The United States Member Body votes against and is strongly opposed to the subject proposal from Denmark for a New Work Item to revise the C- and B-frequency weightings and the "Lin" or flat frequency response of a sound level meter and other acoustical measuring instruments. Reasons for our opposition are enumerated below.

1 The reasons given by the Danish Member Body in the 1993 May "justification" for the New Work Item (included with the subject Document as ISO/TC 43/SC 1/N 876) are specious, unsupported by any measured data, and inappropriate. The lack of any measured data to substantiate the claims is of particular concern.

2 Sound levels are rarely, if ever today, measured with the B-frequency weighting. Hence it is wasteful to devote any time to unnecessary modifications of the obsolete B-weighting.

3 Tolerances on the flat (not the "Lin") frequency response are specified by the manufacturer of an instrument in the Instruction Manual. Those tolerances may be controlled at low and high frequencies by the response of the particular microphone that is mounted on the sound level meter, not by the electrical response of an instrument. Developing a requirement from ISO TC 43/SC 1 for specified low-frequency and high-frequency roll-offs of the electrical portion of the manufacturer-specified flat frequency response would negate a common use for the flat frequency-response characteristic of a sound level meter--namely as a wideband amplifier for driving auxiliary devices such as bandpass filter sets, magnetic tape recorders, and other data-analysis and datastorage systems. To preserve that valuable option wherein the flat part of the electrical frequency response is extended into the infrasonic and ultrasonic regions, no change should be mandated by TC 43 to the low- or highfrequency electrical portion of the manufacturer-specified flat frequency response.

4 The most-damaging and least-desirable aspect of the proposed New Work Item is to change the low- and high-frequency design-goal response of the long-standardized C-frequency weighting. The Danish "justification" for changing the standard C-weighting should have been accompanied by a numerical table of the proposed changes to the C-weighting and the flat response.

5 Tolerances as given in IEC 651:1979 around the design-goal frequency weightings reflect practical tolerances as of the time that Standard was developed over the period from about 1965 to 1975. The tolerances in that Standard did not reflect the capability of electrical elements in the sound level meter as much as they reflected the economic realities of the time regarding the low- and high-frequency response of the various microphones that were available for use with sound level meters. To minimize the cost of a Type 2 instrument, manufacturers offered those instruments with less expensive microphones than were offered for Type 1 instruments. This fact accounts for the $-\infty$ tolerance at low and high frequencies.

6 Changing the design-goal electrical characteristics of the standard C-weighting (or, for that matter, the standard A-weighting) would do nothing except increase the cost of instruments as well as the requirement for electrical power from the batteries and the weight of a hand-held instrument if additional battery capacity is included to satisfy the additional requirements. The response of lower-cost microphones will not be changed by deliberations of any Working Group charged with implementing the proposed New Work Item, if accepted. Users of new sound level meters designed to comply with a revised design goal for the C-weighting would observe no (or very small) reduction in the variability of future results obtained with different instruments.

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7 Another major reason for not changing a design-goal frequency weighting is that high-level sounds at infrasonic and ultrasonic frequencies, if present, should be included in a measurement of a frequency-weighted sound level, whether C or A, and not artificially excluded. The ability of an instrument to measure those sound signals is not so much a function of the design-goal frequency weighting as it is the microphone's response and directivity (and the instrument's accuracy class) and, for high-frequency sounds, the way the instrument is used.

8 A final, and almost over-riding, reason not to change the long-standardized design-goals for the C-frequency weighting (ignoring the obsolete B-weighting) is that measurements obtained with future-design sound level meters and equivalent instruments, that incorporate a frequency-weighting characteristic that is different from the design-goal frequency weighting characteristic incorporated in previous instruments, would produce C-weighted sound pressure level measurements that are not like those previously obtained and which may have been the basis for acceptability criteria such as the difference between a C-weighted and an A-weighted sound pressure level or a C-weighted sound exposure level.

9 The U.S. Member Body strongly believes that the best way to attack the problem of variability in measured results is to examine the practical tolerances that are required today for various current and future implementations of a sound level meter and equivalent acoustical instruments, not by changing the design goals that have served so well for so many years. This examination is underway as an active project under Technical Committee 29, Electroacoustics, of the International Electrotechnical Commission. We urge ISO Technical Committee 43 not to accept the New Work Item proposed in ISO/TC 43/SC 1/N 897.

S12/284

8 September 1993

ADDITIONAL U.S. COMMENTS ON ISO/TC 43/SC1 N 897

10. C-weighting is used by regulation in the United States to assess large-amplitude impulse sound and other countries such as Germany have similar laws and regulations in development. These regulations depend on the present low-frequency roll-off of Cweighting in the 5 to 30 Hz range. Thus, the United States and other countries with similar laws and regulations would require meters with two "C" weightings if this amendment were to be effected. This situation would be unacceptable.