

ASA S12 Committee on Noise
Working Group (WG) 47 – Underwater Noise Measurement of Ships

Fourth Meeting November 15, 2007, 1-2pm (EST)
Via Teleconference

MEETING MINUTES
REVISION 0 – 11/19/2007
Prepared by Michael Bahtiarian

The meeting started around 1pm with 15 minutes spent getting the call-in telephone number straight. The meeting was held as a web meeting, courtesy of UNOLS which allowed us to use their web meeting account. Expenses for the meeting will be paid by Noise Control Engineering. The meeting agenda and the list of attendees are given on the two pages following the end of these minutes. These meeting minutes will be available on the WG47 website (www.noise-control.com/wg47/).

The purpose of this meeting was simply to review the Table of Contents (TOC), revision 3, and also see if web meeting was good approach to future meetings. The small group reviewed the table of contents with very few comments. One editorial matter is that the word “data” is plural word and two changes in TOC were made. Also the system of units in the standard must be metric, so reference distance units will be in meters not yards.

Section 6 was renamed from “Evaluation” to “Post-Processing/Evaluation”. Section 9 “Measurement Uncertainty” was moved up to become Section 7. “Reporting/Example” become new section 9, and additional sentence was added to address graphics plotting conventions. See the revised TOC attached at the end (changes are not shown).

The plotting conventions were discussed in depth related to specific scale for graphs (so that one graph can be overlaid on another). Navy required/used specific scale (i.e. 10-20 dB per inch). Data that was printed out on paper could then be overlaid using “light tables” as the chair remembers from his time at Electric Boat. The chair thought it was important issue that needed updating for the digital world.

A few issues were discussed that did not have changes in the TOC. First, John Diebold brought up issue about whether the standard could be applicable for permanent noise measurement sites. Everyone, agreed that it was less likely for it to be used for permanent installations, but their was nothing that we thought should prevent it from being used in such a manner.

The chair brought up issue of requiring results to be reported separately for port and starboard aspects, as he thought this could double cost. Matt Hawkins wondered why this would add some much cost. Chair replied that you want to make each run four times and if you did both port and starboard passes separately that would need to be eight runs vice four. Dave Vendittis suggested that data be taken separately and that during post-processing if the two sides are within 2 dB then they be reported simply as beam aspect. If difference was greater than 2 dB then the results would be reported separately as port aspect and starboard aspect.

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NEXT MEETING

As for next meeting, Dave Vendittis has invited the WG47 Committee to Florida Atlantic University (FAU) for our next meeting. The tentative dates of this meeting are Feb 5-6, 2008. The plan will be to start meeting 10am morning of Feb 5th. The main agenda item is to start drafting sections of the standard. The 6th will be spent reviewing work done the previous day. Dave also offered a facility tour during the meeting. He also suggested that we have reports by committee members that have developed underwater testing solutions using GPS or other technologies. We have to individuals in mind and the chair will contact you privately. However, if anyone has any work they can report please contact the chair. Another issue to be address at the next meeting is the details of narrowband processing.

The meeting was ended approximately 2:15pm. All agreed that the tele-meeting worked well and that is was good approach as fill-in between face-to-face meetings. All the participants are thanked for taking time to travel to attend the tele-meeting. The chair would also like to thank UNOLS and Mike Prince for arranging the Tele-meeting.

Minutes Prepared By
Michael Bahtiarian
Chair Working Group 47

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MEETING ATTENDEES

WG Member	Name	Company	Email
X	Michael Bahtiarian	Noise Control Engineering	mikeb@noise-control.com
X	David Vendittis	Florida Atlantic University	dvendittis@aol.com
X	John Diebold	LDEO	johnd@Ideo.columbia.edu
X	Matt Hawkins	University of Delaware	hawkins@udel.edu
X	Ben Racine	Glosten	bjracine@glosten.com

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AGENDA

- (1) Review the Table of Contents document that I have previously prepared (see attached). Discuss additions and subtractions.

- (2) Discuss dates for 1-2 day meeting week of February 4-8, 2008 at Florida Atlantic University (FAU), hosted by Dave Venditis.

- (3) Can any committee members report on successful measurement system? Using GPS? If so, may want to have some kind of report at Feb meeting.

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PROPOSED STANDARD TABLE OF CONTENTS
Revision 4 – 11/15/2007

Sections 0 to 3 are same for all standards
Sections 4 to 10 are specific to each standard

- 0 Abstract**
This is a one paragraph summary which appears on the standard title page which describes what the standard is to be used for and limitations on use (if any).
- 1 Scope, Purpose and Applications**
About the same information as given in the abstract with much more detail. This could probably start with the WG47 mission statement. It can also include first description of the different grades and some version of the Grades matrix.
- 2 References**
This section must list is the “Normative” references (if any). Normative means other standards you are required to comply with to achieve conformance to this one. So, likely candidates are terminology standard (ANSI S1.1, for instance) and calibration standards (ANSI S1.20-1988, maybe). It can also reference related documents on informative basis, such as the ICES Report CRR209 and any others as applicable.
- 3 Terms and Definitions**
This section would define measurement values such as L_p or L_s , and any technical terms relevant to this particular standard.
- 4 Instrumentation**
This section will include a list of the types of instruments needed and their requirements and specifications. This would include hydrophones, data acquisition & recording systems and range finding.
- 5 Measurement Requirements & Procedure**
This section would discuss the operational approach to making the measurements (i.e. what you do with the instruments given in Section 4). This would include requirements for deployment of the hydrophones such as how are they supported in the water. It would also include water depth, sea conditions (state), background noise, vessel range, speed, approaches, number of runs, etc.
- 6 Post-Processing/Evaluation**
This section would discuss how the raw data are handled. One computation that must be made is the distance adjustment. Also, this section should address how data from three hydrophones are combined or averaged.

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Another issue is handling (averaging) of multiple runs of data into a final result.

7 Measurement Uncertainty

This section would discuss uncertainty of the underwater measurements, measurement system, expected accuracy of the whole measurement process. This section probably needs to be written last.

8 Basis of Acceptability

This section might be fairly short and simply states how to compare or overlay data with underwater noise criteria and what constitutes acceptable noise levels and what is then considered unacceptable.

9 Reporting/Example

This section would list what information is to be reported. Such items would include the ship name and particulars (length, beam, depth, power plant, etc.), where ship was tested, water depth, instruments used, calibration dates, etc. This section could also give example graphs showing the labeling of axes, etc. This section could also give example graphs, giving plotting conventions and showing the labeling of axes, etc.

10 Application Guidance/General Notes

This section may become Informative Annex which provides some practical information on using the standard and making the measurements.