

DATA ITEM DESCRIPTION

Title: CALIBRATION DATA

Number: DI-SESS-82319

AMSC Number: N10182

DTIC Applicable: No

Preparing Activity: AS

Applicable Forms: N/A

Approval Date: 20200514

Limitation: N/A

GIDEP Applicable: No

Project Number: SESS-2020-034

Use/relationship: The Calibration Data will be used by the procuring activity to provide increased sensor data accuracy.

This Data Item Description (DID) contains format and content, and intended use information for the data deliverable resulting from the work task described in the contract.

Requirements:

1. Reference Documents. None.

2. Format.

2.1. The data files will be Comma Separated Value (.csv) spreadsheets and the names of the files shall be alphanumeric, maximum of 11 characters long with a .csv extension. The first two characters shall be the year of the contract. The next three characters shall be the assigned Manufacturer's Identification Symbol. The next three characters of the baseline data file shall be the lot number, and the last three characters shall be the baseline identification of CO or XCO. For the secondary calibration data, the sixth and seventh characters shall be two digits of the manufacturer's choice. The last character of secondary calibration data an "S".

2.2. The serial number of each sonobuoy is a fourteen character alphanumeric number. The first two characters shall be the year of the contract. The next three characters shall be the assigned Manufacturer's identification Symbol. The 6th through 8th characters of the baseline data file shall be the lot number. The last 6 characters shall be unique numbers, and sequential numbers are desired.

2.3. Data shall be presented on data sheets, Compact Discs and e-mail, see below descriptions for specific information.

2.4. A cover sheet for the Calibrated Omni (CO) sensor with the following information shall be attached to the data sheets:

2.4.1. Title: AN/SSQ-53G Sonobuoy Sonic System Frequency Response.

2.4.2. Manufacturer's Name.

2.4.3. Manufacturer's Federal Supply Code.

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2.4.4. Contract Number.

2.4.5. Lot Number.

2.4.6. Serial Numbers: (e.g. ddaaaddd000001 through ddaaaddd001632).

2.4.7. Baseline and Secondary calibration data file names: (e.g. ddaaadd.csv, ddaaaddS.csv, ...).

2.4.8. Date.

Notes: 1. Measurements include polarity and are rounded off to the nearest tenth dB.

2.5. Baseline Calibration Data sheets shall be provided with the following information presented in tabular form to include a header with serial number and frequency as defined in a. and b. below:

2.5.1. Serial number listed in increasing order.

2.5.2. System gain response at 5, 10, 30, 50, 100, 500, 1k, 2k, 5k, 10k, 12k, 14k, 16k, 18k, and 20k Hertz.

2.5.3. The file name of the secondary calibration data that pertains to that unit.

2.5.4. A summary table with the maximum, minimum, and average values for the calibration data pertaining to each unit in the whole lot.

2.6. Secondary Calibration Data sheets shall be provided with the following information presented in tabular form to include a header with serial number and frequency as defined in a. and b. below:

2.6.1. Channel number and operational depth setting listed in increasing order. The Channel number should increment after the operational depths have incremented through all four depths settings. Both the channel number and operational depth setting shall be represented by two alphanumeric characters, each with leading zero as required on the channel numbers.

2.6.2. System gain response at 5, 10, 30, 50, 100, 500, 1k, 2k, 5k, 10k, 12k, 14k, 16k, 18k, and 20k Hertz.

2.6.3. The file name of the secondary calibration data that pertains to that unit.

2.6.4. A summary table with the maximum, minimum, and average values for the calibration data pertaining to each variable.

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2.7. The baseline system calibration data file shall be named in accordance with paragraph (4). The baseline system calibration data file shall be in the same format (6.1.1) as the baseline system calibration data sheet except for the media, and the file shall not contain extraneous spaces or blanks. Each serial number and its related data are distinguishable as a record. Each line entry is a record and shall be delimited by a carriage return. A summary table with the maximum, minimum, and average calibration data pertaining to the file shall be designated in the following manner: The file name (without the extension) appended with the following alphanumeric characters `_MAX`, `_MIN`, and `_AVG` in the SN data field along with their respective data. The summary data shall be the last three data records on the file in the respective order listed above.

2.8. The secondary calibration data file shall be named in accordance with paragraph 4. The secondary calibration data file shall be in the same format as (6.2.2) the secondary calibration data sheet except for the media, and the file not contain extraneous spaces or blanks. Each channel number and operating depth with its related data is distinguishable as a record. Each line entry is a record and shall be by its delimit by a carriage return. A summary table with the maximum, minimum, and average for the calibration data pertaining to the file shall be designated in the following manner: The file name (without the extension) appended with the following alphanumeric characters `_MAX`, `_MIN`, and `_AVG` in the SN data field along with their respective data. The summary data shall be the last three data records on the file in the respective order listed above.

2.9. The requirements for the Compact Disc (CD) are specified below:

2.9.1. IBM PC Compatible.

2.9.2. ISO 9660 Mode 1.

2.9.3. All Files to be in Comma Delimited ASCII File Format.

2.9.4. Files shall not contain commas in the text except to separate data entries.

2.9.5. An end of file marker shall be the last entry in the file.

2.10. The CD shall be labeled on the exterior with the following information:

2.10.1. Title: AN/SSQ-53G Sonobuoy Sonic System Frequency Response.

2.10.2. Manufacturer's Name.

2.10.3. Manufacturer's Federal Supply Code: (FSCM).

2.10.4. Contract Number.

2.10.5. Lot Numbers.

2.10.6. Serial Numbers: (e.g. ddaaaddd000001 through ddaaaddd001632).

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2.10.7. Baseline and Secondary calibration data file names: (e.g. ddaaadd.csv, ddaaaddS.csv, ...)

2.10.8. Date of the last lot.

2.11. The CD shall contain all the calibration files required for each lot in the contract.

2.12. The requirements for e-mails are as follows:

2.12.1. After a lot has been accepted, the calibration data files shall be delivered via e-mail to the first e-mail distribution list found in BLK 16. The data files delivered in this e-mail shall contain all the calibration files required for each buoy in the lot. This e-mail shall include attachments of the baseline and secondary calibration data sheet files.

2.12.2. For acceptance testing a different e-mail distribution list is found in BLK 16. These files shall contain the calibration data for each sonobuoy in the test sample. The data shall be delivered concurrent with the test samples.

2.13. The baseline system calibration data file shall be named in accordance with paragraph (4) with the sixth character being a "T". The baseline system calibration data file shall be in the same format as (6.2.1) the baseline system calibration data sheet except for the media, and the file shall not contain extraneous spaces or blanks. Each serial number and its related data are distinguishable as a record. The serial number shall just include the last digits. Each line entry is a record and shall be distinguished by its delimit and a carriage return.

2.14. The secondary calibration data file shall be named in accordance with paragraph 3.4.1 with the sixth character being a "T". The secondary calibration data file shall be in the same format as paragraph 3.4.2 the secondary calibration data sheet except for the media, and the file not contain extraneous spaces or blanks. Each channel number and operating depth with its related data is distinguishable as a record.

3. Content. The content for Calibration Data shall be as follows:

3.1. The contractor shall compile and deliver calibration data. The calibration data shall be referenced to a signal, in SPL in dB relative to 1uPa, which produces 19 kHz of deviation in the sonobuoy. The baseline calibration data shall be the amplitude of signal in dB relative uPa minus 116 dB relative uPa. Secondary calibration data shall be in dBs. The addition of the secondary calibration data to the baseline shall correct the baseline system calibration due to changes to the operating depth and RF channel.

3.2. The Sonobuoy Sonic System Frequency Response Data will consist of the baseline and secondary system calibration data. The baseline system calibration data shall be representative of the sonobuoy being deployed at (D3) 400 ft and RF channel 1. Secondary calibration data corrects the baseline system calibration based operational setting.

3.3. No more than three (3) calibration curves, contained in (2) tables or files, shall be supplied per sonobuoy sensor to allow for correction factors associated to RF channel and depth.

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