

STATEMENT OF WORK

Millimeter Wave (MMW) Anechoic Chamber Refurbishment

This acquisition consists of three parts: removal (or redesign) and replacement of existing absorber in the chamber, performing a Voltage Standing Wave Ratio (VSWR) acceptance test, and refurbishment of a pneumatic door that seals the entry of the chamber.

Offerors may submit a proposal for an individual Contract Line Item Number (CLIN), several CLINS, or all CLINS. Multiple awards may be made from this solicitation.

The contractor shall comply with all appropriate federal and state regulations and instructions, such as 29 CFR 1926, EM-385-1-1, and NRL Requirements for Onsite Contractors.

The following links provide access to regulations and instructions.

<http://www.osha.gov/index.html>

29 CFR 1926:

http://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1926

EM-385-1-1:

<http://www.usace.army.mil/inet/usace-docs/eng-manuals/em385-1-1/toc.htm>

A site-specific "Accident Prevention and Safety Plan" shall be prepared IAW EM-385-1-1 and submitted for review and approval prior to commencement of construction.

NRL Requirements for On-Site Contractors:

<http://heron.nrl.navy.mil/contracts/11onsite.htm>

BACKGROUND

The current chamber dimensions and performance are as follows:

Size: 28 feet - 11 inches in length / 16 feet in height / 16 feet - 7 ½ inches in width

Quiet Zone: 3 feet diameter sphere centered above the azimuth axis of rotation

Range Length: 20 feet

Reflections in quiet zone do not exceed the following:

8.0 - 18.0 GHz >40 dB

18.0 to 100 GHz >50 dB

CLIN 0001 - Remove and Replace Existing Absorber Material

The contractor shall remove and replace all anechoic tiles with the same or improved performance type of material. The contractor shall custom fit the anechoic tiles around all openings, on the positioner support structure, and where conduits run on the walls and floor. Anechoic tiles must be removable over cable trays.

All new anechoic tiles must meet the NRL Report 8093 (Attachment 2) specification for fire retardancy.

The contractor shall dispose of all replaced anechoic tiles and construction wastes in accordance with all applicable federal, state, and local environmental regulations.

The original absorber layout drawing is Attachment 3.

CLIN 0002 - **Optional Item - Redesign, Remove and Relocate Millimeter Wave Mount Positioner**

Of concern is the placement of the antenna positioner in the chamber. Currently, the center of azimuth rotation is 4 feet-7 inches from the back wall. Taking into account covering the mount in absorber, there is currently an 8 inch gap for movement in the elevation axis. There is a 20 foot separation between the transmit axis and the Antenna Under Test (AUT).

The contractor shall make a recommendation to reduce the separation by up to 5 feet to improve the VSWR performance in the quiet zone of the chamber. The contractor shall design a new absorber layout that takes into account the new location of the positioner. For this design, the vendor must utilize 18.0 GHz to 100 GHz as the frequency range of coverage. The end result shall be an effective range length that provides field performance above 18 GHz and VSWR reflections that do not exceed 50 dB from 18 to 100 GHz and the capability for the positioner to be tilted back in elevation by 25 degrees and not touch the back wall of the chamber.

The contractor shall relocate the positioner to include installation of new studs and welding the studs into place. The contractor shall ensure the electromagnetic integrity of the room is not affected by installation of the studs. The contractor shall supply all rigging and hoists required to move the positioner. The contractor shall provide to the government two sets of absorber layout drawings (one electronic and one paper) that reflect the new location of the mount and new layouts of the absorber.

CLIN 0003 - VSWR Test

The contractor shall perform a VSWR test to ensure all reflecting structures within the millimeter wave chamber have been shielded with anechoic absorber and do not degrade the quiet zone of the chamber. The test must be performed at the following four frequencies: 26 GHz, 37 GHz, 60 GHz, and 95 GHz.

CLIN 0004 - Pneumatic Door Refurbishment

The contractor shall refurbish the Lectromagnetics Type LSW-2001-L, 6 feet x 8 feet pneumatic door that provides entry into the chamber. This door is an integral part of a halon fire protection system for the chamber. The contractor shall repair or replace as required any or all of the pneumatic controls required to close the door, the inflatable bladder inside the door, and recoat the contact surface of the door to provide an airtight seal when the door is closed. The contractor shall supply all required rigging material to remove and refurbish the pneumatic door. The contractor must remove and replace all access covers for the door in order for the electromagnetic shielding not to be degraded.

An outline drawing of the door (Reference Door #108) and all applicable pneumatic control drawings is Attachment 4.

CONTRACT DATA REQUIREMENTS LIST
(2 Data Items)

Form Approved
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 220 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Services and Communications Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please do not return your form to the above organization. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. listed in Block E.

A. CONTRACT LINE ITEM NO. 0002AA - 0003AA	B. EXHIBIT A	C. CATEGORY: TDP _____ TM _____ OTHER <u> X </u>
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D. SYSTEM/ITEM 0001 - 0004	E. CONTRACT/PR NO.	F. CONTRACTOR
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1. DATA ITEM NO. A001	2. TITLE OF DATA ITEM Absorber Layout Drawings	3. SUBTITLE
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4. AUTHORITY (Data Acquisition Document No.) N/A	5. CONTRACT REFERENCE SOW (entire)	6. REQUIRING OFFICE NRL Code 5733
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7. DD 250 REQ NO	9. DIST STATEMENT REQUIRED N/A	10. FREQUENCY OTIME	12. DATE OF FIRST SUBMISSION *	14. DISTRIBUTION		
8. APP CODE N/A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION	a. ADDRESSEE	b. COPIES	
					Draft	Final
						Reg Repro

16. REMARKS The contractor shall provide absorber layout drawings that identify the revised location of the mount and new layouts of the absorber. Must provide one paper version and one electronic version. Must be provided at contract completion.	14. DISTRIBUTION
	TM
	0 1 1
	15. TOTAL → 0 1 1

17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

1. DATA ITEM NO. A002	2. TITLE OF DATA ITEM Accident Prevention & Safety Plan	3. SUBTITLE
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4. AUTHORITY (Data Acquisition Document No.) N/A	5. CONTRACT REFERENCE SOW (entire)	6. REQUIRING OFFICE NRL Code 5733
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7. DD 250 REQ NO	9. DIST STATEMENT REQUIRED N/A	10. FREQUENCY OTIME	12. DATE OF FIRST SUBMISSION *	14. DISTRIBUTION		
8. APP CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION	a. ADDRESSEE	b. COPIES	
					Draft	Final
						Reg Repro

16. REMARKS The contractor shall provide the plan IAW EM-385-1-1. Must be submitted to TM for review and approval prior to commencement of work.	14. DISTRIBUTION
	TM
	0 1 0
	15. TOTAL → 0 1 0

17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

G. PREPARED BY NRL Code 5733	H. DATE 5/22/06	I. APPROVED BY	J. DATE
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