**SMALL BUSINESS INNOVATION RESEARCH**

**phase ii statement of objectives**

**for**

**MANEUVER-LEVEL LASER Target DESIGNATOR**

**TOPIC Number: SOCOM203-D007**

**29 July 2020**

I. **INTERNATIONAL TRAFFIC AND ARMS REGULATION:** Description of technology to respond to this topic and the technology within this topic is restricted under the International Traffic in Arms Regulation (ITAR), which controls the export and import of defense-related material and services. Offerors must disclose any proposed use of foreign nationals, their country of origin, and what tasks each would accomplish in the statement of work in accordance with section 5.4.c.(8) of the solicitation*.* Additionally Offerors will describe compliance mechanisms offerors have in place or will put in place to address any ITAR issues that arise during the course of agreement administration.

II. **BACKGROUND**:

Current North Atlantic Treaty Organization Standardization Agreement (STANAG) laser designators typically have a high optical peak power (2 to 10 megaWatts) and a low average optical power (0.5 W to 5 W). They generally operate with a low fixed pulse rate (called Pulse Repetition Frequency (PRF) between 8 and 20 Hz but can be pulse interval modulated around a fixed PRF. The STANAG compliant laser designators are generally large, expensive and not suitable for a rifle mount and require a substantial power source. Their operation time also depends on cooling capability. Also, many threats and all near peer threats now own and operate Semi-Active Laser Countermeasures that significantly reduce the effectiveness of many Special Operations Forces Semi-Active Laser guided weapons.

New technologies have emerged in the development of Semi-Active Laser seekers and have dramatically improved their sensitivity and performance, negating the need for high power designators. Additionally, a new type of laser coding now enables a lower pulse power alternative to PRF coding, while still enabling a coding method capable of interpretation and selection (lock) by the SAL seeker. These technologies now enable the development of a compact, low power, laser targeting device, capable of being mounted on small arms weapons (M4 carbine, M320 A1, Precision Sniper Rifles, etc.). In addition this lower power alternative to PRF coding defeats current Semi-Active Laser countermeasures used by the near peer threats.

III. **OVERALL OBJECTIVE**:

The purpose of this Statement of Objectives is to develop, test and quantify the performance of a small, rifle mounted, laser targeting device for the potential use of target designation for the new family of Semi-Active Laser guided weapons organic to maneuver level Special Operations Forces units (squad, team, platoon, etc.) that is out of the threat Semi Active Laser countermeasure wave length.

IV. **Requirements**

A. **General:** The Contractor shall deliver two (2) Maneuver Level Laser Target Designator (M-LTD) prototype systems that will be used for Government testing.

1. **Performance Parameters**: The Contractor shall design, develop, fabricate, test, demonstrate, and deliver two (2) maneuver level laser designator prototype systems that meet or exceed the following performance parameters:

1. Size shall be ~13cm X ~8cm X 4cm; Weight shall be 500g (Threshold = T), 300g (Objective - O) including batteries.
2. Shall be mountable to Picatinny Rail systems; physical shape shall not interfere with other weapon feature functionality or access to when mounted.
3. Shall be powered using CR123 or AA batteries; Batteries shall be accessible by gloved hands without the need for hand tools.
4. Functional Range shall be 2 km (T), 3km (O).
5. Laser Wavelength shall be 900nm to 999nm; Beam spread (laser spot size) shall be 2.0x2.0m@2km (T), < 1.0 x 1.0m @2km (O)
6. Designator shall support continuous operation for 3 minutes (T), 5 minutes (O).
7. Power activation shall be outward facing and accessible by a gloved hand of the operator while mounted to the weapon.
8. Laser pulse shall be modulation codable for operational safety; laser modulation coding shall have a minimum of 20 discrete settings; laser modulation coding settings shall be non-volatile and shall not reset when power is reset.
9. Laser modulation coding shall be outward facing and accessible by the gloved operator while mounted to weapon.
10. Device shall be designed for operation in all inclement weather including heavy rain, blowing sand, frost and snow.
11. Device shall be designed to be shock resistant to drop shock and shock associated with small arms fire of combat weapons.
12. The device shall meet Technology Readiness Level (TRL) 6 (T) and TRL 7 (O)

Notes:

TRL 6 is defined as: “System/subsystem model or prototype demonstration in a relevant environment. Representative model or prototype system, which is well beyond that of TRL 5, is tested in a relevant environment. Represents a major step up in a technology’s demonstrated readiness. Examples include testing a prototype in a high- fidelity laboratory environment or in a simulated operational environment”.

TRL 7 is define as: “System prototype demonstration in an operational environment. Prototype near or at planned operational system. Represents a major step up from TRL 6 by requiring demonstration of an actual system prototype in an operational environment (e.g., in an air-craft, in a vehicle, or in space).”

2. **COMPONENT REQUIREMENTS:** The Contractor shall be responsible for selecting and ensuring the quality of commercially acquired components and materials.

3. **Unique Item Identification:** The Contractor shall include the DoD unique item identifications or a DoD recognized unique identification equivalent for the prototypes delivered. This includes a description and cost breakout as applicable. Information on unique item identifier types is at <http://www.acq.osd.mil/dpap/UID/uid_types.html>. The guide is at <http://www.acq.osd.mil/dpap/UID/guides.htm>. This is in accordance with DFARS 252.211-7003.

4. **Ship To Address:** The Contractor shall deliver all prototypes systems delivered under this contract to the following address:

HQ USSOCOM

ATTN: SOF AT&L-ST

Jack Plessinger

7701 Tampa Point Blvd

MacDill AFB, FL 33621-5323

(813) 826-7952

(DoDAAC: F2VUG0)

5. **SHIPPING COSTS:** The Contractor shall pay all costs to ship all product deliverables to and from the validation testing /demonstration sites and to the final delivery location.

B. **DOCUMENT DELIVERABLES:** The Contractor shall provide the following documents to the respective specified addresses during the Phase II Period of Performance:

1. Kick-Off/System Requirements Review: See CDRL A001.
2. Monthly Progress Reports: See CDRL A002.
3. Developmental Test Plan for Performance Validation: See CDRL A003.
4. Developmental Test Report for Performance Validation: See CDRL A004.
5. Business Plans: See CDRL A005.
6. Final Technical Report: See CDRL A006.
7. Preliminary Design Review: See CDRL A007.
8. Critical Design Review: See CDRL A008.

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V. **TESTS AND DEMONSTRATIONS:** The Contractor shall conduct tests and demonstrations to validate that the maneuver laser designator prototypes meet or exceed all the performance parameters specified in this Statement of Objectives. (See CDRL A003 and CDRL A004).

VI. **ENVIRONMENTAL AND SAFETY:** The Contractor shall ensure that the prototypes developed under this Statement of Objectives are designed to meet the following environmental and safety standards:

1. MIL-STD-810G Method 519.6 Gunfire Shock; <https://pdfs.semanticscholar.org/d165/524fa56662a50b6448ad57d1b343ff0d25ab.pdf>
2. 21 CFR 1040 (Performance Standards for Light Emitting Products); <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfCFR/CFRSearch.cfm?CFRPart=1040&showFR=1>
3. ANSI z136.1, z 136.4, z136.6 (Safe Use of Lasers, NOTAL); <https://www.lia.org/resources/laser-safety-information/laser-safety-standards/ansi-z136-standards>
4. Military Handbook 828C (Range Laser Safety); <https://www.navsea.navy.mil/Portals/103/Documents/NSWC_Dahlgren/Laser/mil-hdbk_828B.pdf>
5. MIL-STD 1425A (Safety Design Requirements for Military Lasers); <http://everyspec.com/MIL-STD/MIL-STD-1400-1499/MIL_STD_1425A_1274/>
6. DoD Instruction 6055.15 (DoD Laser Protection Program) . <https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/605515p.pdf>

VII. **GOVERNMENT FURNISHED PROPERTY (GFP) / GOVERNMENT FURNISHED PROPERTY (GFE) / GOVERNMENT FURNISHED INFORMATION (GFI):** The Government does not intend to provide the Contractor any GFP, GFE or GFI. However, the Contractor shall specify by stock number and nomenclature any GFP/GFE/GFI the Contractor believes is needed to successfully complete the requirements specified in this Statement of Objectives.

VIII. **Period of Performance:** The maximum Period of Performance for this Phase II effort is twenty four (24) months. The Contractor can propose a lessor Period of Performance if a lessor Period of Performance does not jeopardize the Contractor’s successful completion of the requirements specified in this Statement of Objectives.

IX. **MEETINGS AND REVIEWS**: The Contractor shall attend the following meetings and reviews.

A. Phase II Kick-Off meeting shall be conducted in Tampa, Florida not later than thirty (30) calendar days after contract award. The Contractor shall provide the Government:

1. A Phase II Kick-Off Meeting Read-Ahead no less than seven (7) calendar days prior to the Phase II Kick-Off Meeting / System Requirements Review Meeting (See CDRL A001).

2. An initial Program Management Plan for accomplishing all the performance parameters specified in this Statement of Objectives. (See CDRLs A002).

3. Conceptual Design Drawings no less than ten (10) calendar days prior to the Phase II Kick-Off/System Requirements Review Meeting (See CDRL A001).

B. Preliminary Design Review (PDR) - This meeting shall be conducted at the Contractor’s facility no more than one hundred and eighty (180) calendar days after Phase II contract award. The Contractor shall provide teleconference capability for those participants unable to travel. The Contractor shall provide the Government:

1. A Preliminary Design Review and Materials Read-Ahead Briefing no less than ten (10) calendar days prior to the PDR (See CDRL A007).

2. A Detailed Design Report (See CDRL A007).

3. Trade off considerations for the design. (See CDRL A007).

4. Results of any testing to date. (See CDRL A007).

5. Resolution to any Contractor/Government issues or concerns.

C. Critical Design Review (CDR): This teleconference meeting shall be arranged by the Contractor two (2) weeks prior to the end of the contract completion date. The Contractor shall provide the Government:

1. A Critical Design Review and Materials Read-Ahead Briefing no less than ten (10) calendar days prior to the CDR (See CDRL A008).

2. A Detailed Design Report (See CDRL A008).

3. Trade off considerations for the design. (See CDRL A008).

4. Results of any testing to date. (See CDRL A004).

5. Resolution to any Contractor/Government issues or concerns.

D. Phase II Close-Out Meeting: The Phase II Close-Out Meeting shall be conducted in Tampa, Florida no earlier than seven (7) calendar days prior to the conclusion of the Phase II Period of Performance. The Contractor shall provide the Government:

1. A briefing on the test verification (See CDRL A004).

2. An update of the progress to date. (See CDRL A002)

3. Resolution to any Contractor/Government issues or concerns.

X. **NOTIFICATION:** The Contractor shall notify USSOCOM no less than thirty (30) calendar days prior to tests, demonstrations and reviews at the Contractor’s facilities to ensure USSOCOM representatives can attend should they desire to do so.

XI. **TRAVEL REQUIREMENTS:** The Contractor shall comply with the Federal Acquisition Regulation 31.205-46 (<http://www.gsa.gov/perdiem>) on proposing all travel related costs. The Contractor shall include the costs associated with the following travel requirements in the proposal:

A. Phase II Kick-Off Meeting: Tampa, Florida; one (1) overnight, no more than three (3) Contractor representatives.

B. Phase II Close-Out Meeting: Tampa, Florida; one (1) overnight, no more than three (3) Contractor representatives.

XI. **MANDATORY REPORTING:**

A. The Contractor shall report ALL contractor labor hours (including subcontractor labor hours) required for performance of services provided under this contract for the U.S. Special Operations Commands via a secure data collection site. The Contractor is required to completely fill in all required data fields using the following web address: <http://www.ecmra.mil/>.

B. Reporting inputs will be for the labor executed during the period of performance during each Government fiscal year (FY), which runs October 1 through September 30. While inputs may be reported any time during the FY, all data shall be reported no later than October 31 of each calendar year, beginning with 2014. Contractors may direct questions to the help desk at help desk at: http://www.ecmra.mil.

**XIII. DISCLOSURE OF UNCLASSIFIED INFORMATION:**

A. On September 21, 2001, the Department of Defense designated Headquarters US Special Operations Command (USSOCOM) a sensitive unit, as defined by Title 10 United States Code (USC) Section 552 (10 USC 552). In keeping with this designation, unclassified information related to USSOCOM military technology acquisitions managed by USSOCOM or any of its component commands, will be designated Controlled Unclassified Information (CUI). As such, the contractor hereby unequivocally agrees that it shall not release to anyone outside the Contractor’s organization any unclassified information, regardless of medium (e.g., film, tape, document, Contractor’s external website, newspaper, magazine, journal, corporate annual report, etc.), pertaining to any part of this contract or any program related to this contract, unless the Contracting Officer has given prior written approval. Furthermore, any release of information which associates USSOCOM, Special Operation Forces (SOF), or any component command with an acquisition program, contractor, or this contract is prohibited unless specifically authorized by USSOCOM.

B. Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Contractor shall submit its request to the Contracting Officer at least 45 days before the proposed date for release for approval. No release of any restricted information shall be made without specific written authorization by the Contracting Officer.

C. The Contractor shall include a similar requirement in each subcontract under this contract. Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.

D. The Contractor further understands that Title 18 USC Section 701 specifically prohibits the use of the USSOCOM emblem or logo in any medium (e.g., corporate website, marketing brochure, newspaper, magazine, etc.) unless authorized in writing by USSOCOM. Forward any requests to use the USSOCOM emblem or logo through the Contracting Officer.