

**SMALL BUSINESS INNOVATION RESEARCH**  
**PHASE II STATEMENT OF OBJECTIVES**  
**FOR**  
**LIGHT WEIGHT WIDE FIELD OF VIEW AVIATION GOGGLE**

**TOPIC SOCOM192-004**

**7 February 2019**

I. **INTERNATIONAL TRAFFIC AND ARMS REGULATION:** 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.

II. **BACKGROUND:** The objective of this topic is to develop an innovative night vision augmentation system for use by aviation crew members with increased capability and a smaller form factor than currently fielded systems. Legacy night vision system designs are characterized by a limited field of view and overall system weight at or above the limits acceptable for use by military aviators. Potential solutions should provide a novel design concept for improving on current vision augmentation capability in the areas of weight reduction, increased field of view, and increased visual image resolution; while maintaining a reliability rating and logistics burden similar or better than legacy night vision goggles.

III. **OVERALL OBJECTIVE:**

The objective of this Statement of Objectives is to develop a prototype Light Weight Wide Field of View Aviation Goggle to replace legacy night vision goggles and improve the situational awareness of air crews operating in low ambient light conditions.

IV. **Requirements**

A. **General:** The Contractor shall deliver six (6) Light Weight Wide Field of View Aviation Goggle systems, six (6) Goggle Storage Cases, and a prototype Operator/Maintenance manual (See CDRL A010) for follow-on testing and evaluation.

1. **Detailed Tasks:** The Contractor shall design, develop, fabricate, test, demonstrate, and deliver six (6) Light Weight Wide Field of View Aviation Goggle system prototypes that meet or exceed the requirements in the following Attribute Table:

<b>CRITICAL SYSTEM ATTRIBUTES</b>				
<b>Attribute</b>	<b>Description</b>	<b>Threshold Value</b>	<b>Objective Value</b>	<b>Notes</b>
Weight	Total system weight including power supply and required cabling	≤ 650 grams	< 535 grams	

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Field of View	Effective angular visualization area	≥ 80 degrees horizontal ≥ 40 degrees vertical	> 120 degrees horizontal > 40 degrees vertical	
Image Resolution	Fidelity of image provided to user's eye	≥ 72 line pairs per millimeter ≥ 32 Signal-to-Noise Ratio	> 80 line pairs per millimeter > 32 Signal-to-Noise Ratio	
Image Intensifier Tube	Tube type incorporated into goggle design	White Phosphor Tube (P-45)	O = T	
Spectral Filter	Filtering of light bands	Clip-on Aviation Class B Filter for all image intensifier tubes	Integrated and user selectable Aviation Class B Filter for all image intensifier tubes	5 gram weight allowance (over weight values specified above) per image intensifier tube for clip-on configuration
Mounting	Method of mounting to aviator's helmet	Aviation Night Vision System Mount	O = T	
Technology Readiness Level (TRL)	Technical maturity of delivered prototype	TRL 6*	TRL 7**	

**DESIRED SYSTEM ATTRIBUTES**

<b>Attribute</b>	<b>Description</b>	<b>Threshold Value</b>	<b>Objective Value</b>	<b>Notes</b>
Digital Display	Optic train display for external sensor or meta data	<ul style="list-style-type: none"> <li>- Integrated display for a single image intensifier tube</li> <li>- Monochromatic display</li> <li>- Automatic power cutoff at 20% remaining battery charge</li> <li>- Data port Metal Oxide Surge Arrester (MOSA) and Future Airborne Capability Environment (FACE) compliant</li> </ul>	<ul style="list-style-type: none"> <li>-- Integrated display for all image intensifier tubes</li> <li>- Color display</li> <li>- Automatic power cutoff at 20% remaining battery charge</li> <li>- Data port MOSA and FACE compliant</li> </ul>	50 gram weight allowance (over weight values specified above) for digital display

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Diopter Adjustment	Method of adjustment	Clip-on adjustment lens in .25 increments from -4 to +2	Continuously variable integrated adjustment from -4 to +2	
Power Consumption	Time between battery change or charge with all integrated component energized	14 hours	27 hours	
Power Supply	Battery type	NSN: 6130-01-476-0943 Description: Power Pack Assembly (80063) A3279600 (low profile)	O = T	
Environmental Standards		Designed for compliance with Military Standard (MIL-STD) 810G, (Department of Defense Test Method Standard: Environmental Engineering Considerations and Laboratory Tests, Change 1, 15 Apr 2014) and MIL-STD-461G, (Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment, 11 Dec 2015)	Tested for Military Standard 810G and 461G Compliance	
Maintenance / Cleaning Interval	Time between scheduled maintenance	≥ 6 months	O = T	

Note: TRL levels are defined as:

\*TRL 6 - 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.

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\*\*TRL 7 - 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. **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](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.

3. **SHIP TO ADDRESS:** The Contractor shall deliver all prototypes systems delivered under this contract to the following address:

US Army Special Operations Command (DoDAAC: W81RUC)  
Attn: Scott L. Forman  
2929 Desert Storm Dr.  
Fort Bragg, NC 28310  
(910) 396-4728

4. **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 included on the individual Contract Data Requirements List (CDRL) forms during the Phase II Period of Performance:

1. Kick-Off/System Requirements Review: See CDRL A001.
2. Monthly Progress Reports: See CDRL A002.
3. Financial Status Report: See CDRL A003.
4. Developmental Test Plan for Performance Validation: See CDRL A004.
5. Developmental Test Report for Performance Validation: See CDRL A005.
6. Business Plans: See CDRL A006.
7. Final Technical Report: See CDRL A007.
8. Preliminary Design Review: See CDRL A008.
9. Critical Design Review: See CDRL A009.
10. Prototype Operation/Maintenance Manual: See CDRL A010
11. Prototype System Specification: See CDRL A011

V. **TESTS AND DEMONSTRATIONS:** The Contractor shall conduct tests and demonstrations to validate that the Light Weight Wide Field of View Aviation Goggle prototypes meet or exceed all the requirements specified in this Statement of Objectives. (See CDRL A004 and CDRL A005).

- A. The Contractor shall demonstrate that the Light Weight Wide Field of View Aviation Goggle prototypes meet or exceed the threshold performance attributes specified in this Statement of Objectives. (See CDRL A004 and CDRL A005).
- B. The Contractor shall notify USSOCOM no less than thirty (30) calendar days prior to tests, demonstrations and reviews at the Contractor's facilities to allow USSOCOM representatives an opportunity to attend should they desire to do so.

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**VI. ENVIRONMENTAL AND SAFETY:** The Light Weight Wide Field of View Aviation Goggle prototypes developed under this Statement of Objectives shall be of safe design and meet the environmental and safety standards as specified in Attribute Table.

**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 may request 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 and identify risk reduction strategies if Government is unable to provide requested items.

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

A. Phase II Kick-Off Meeting/System Requirements Review: This meeting shall be conducted at Fort Campbell, Kentucky 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 / Financial Status Report for accomplishing all objectives specified in this Statement of Objectives. (See CDRLs A002 and A003).
3. Initial Conceptual Design Drawings no less than seven (7) 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 A008).
2. An updated version of Conceptual Design Drawings (See CDRL A008).
3. An analysis of Trade off Considerations for the Design. (See CDRL A008).
4. Results of any testing to date. (See CDRL A005).
5. An initial assessment of other potential benefits / impacts of the Light Weight Wide Field of View Aviation Goggle prototypes and a recommendation of any changes for consideration / incorporation into the subsequent design that will be provided to the Government at the follow-on Critical Design Review. (See CDRL A008).
6. Resolution to any previously identified Contractor/Government issues or concerns.

C. Critical Design Review (CDR): This meeting shall be conducted by the Contractor in Tampa, Florida no later than fourteen (14) calendar days prior to the end of the contract completion date. The Contractor shall provide the Government:

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1. A Critical Design Review and Materials Read-Ahead Briefing no less than ten (10) calendar days prior to the CDR (See CDRL A009).
2. A final version of Conceptual Design Drawings (See CDRL A009).
3. Final version of Trade off Considerations for the Design. (See CDRL A009).
4. Results of any testing to date. (See CDRL A005).
5. A System Specification for the prototype Light Weight Wide Field of View Aviation Goggle (See CDRL A011).
5. Resolution to any previously identified Contractor/Government issues or concerns.

D. Phase II Close-Out Meeting: The Phase II Close-Out Meeting shall be conducted via teleconference 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 A005).
2. An update of the progress to date. (See CDRL A002)
3. Resolution to any previously identified Contractor/Government issues or concerns.

IX. **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.

X. **TRAVEL REQUIREMENTS:** The costs associated with the below travel requirements will be included in a separate Contract Line Item Number as a cost reimbursable expense. 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: Fort Campbell, Kentucky; one (1) overnight, no more than three (3) Contractor representatives.
- B. Phase II Critical Design Review: Tampa, Florida; one (1) overnight, no more than three (3) Contractor representatives.
- C. As part of the Phase II proposal the Contractor shall propose when to conduct Form, Fit, and Function Evaluations that will be conducted at Fort Campbell, Kentucky; four (4) overnights, 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

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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/>.

### **XII. 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.

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