

## **SOCOM213-007: High Performance Lightweight White Phosphor Image**

### **Intensification Clip-On**

#### **MODERNIZATION PRIORITIES:**

General Warfighting Requirements (GWR)

#### **TECHNOLOGY AREA(S):**

Battlespace, Human Systems, Sensors, Weapons

#### **OBJECTIVE:**

The objective of this topic is to develop applied research toward an innovative capability that will allow operators to detect and engage targets for 0-1500 meters and beyond in night engagements in the Near Infrared (NIR) spectrum. This capability shall meet the requirements in the description below.

#### **ITAR:**

The technology within this topic is restricted under the International Traffic in Arms Regulation (ITAR), 22 CFR Parts 120-130, which controls the export and import of defense-related material and services, including export of sensitive technical data, or the Export Administration Regulation (EAR), 15 CFR Parts 730-774, which controls dual use items. Offerors must disclose any proposed use of foreign nationals (FNs), their country(ies) of origin, the type of visa or work permit possessed, and the statement of work (SOW) tasks intended for accomplishment by the FN(s) in accordance with section 3.5 of the Announcement. Offerors are advised foreign nationals proposed to perform on this topic may be restricted due to the technical data under US Export Control Laws.

#### **DESCRIPTION:**

The AN/PVS-26 and AN/PVS-30 Night Vision Clip-On Weapon Sights have been proven systems in the SOF and ARMY forces for the past 15 years. They were developed under the Improved Night/Day Fire Control/Observation Device INOD program which was an Evolutionary Acquisition (EA) of which these were Block II. They provide a sniper with the capability to easily and quickly transition from day to night operations by mounting this clip-on directly in front of their existing direct view sniper dayscope. The sniper can then use the same dayscope reticle and adjustments to accomplish his mission during night time operations. In addition, the transition to white phosphor image intensifier tubes over the past several years, for example, have provided better perceived contrast as well as the lower signal to noise ratio and higher resolution of these newer image intensifier tubes. Also, a significant reduction in weight is desired to reduce the payload of the operator.

This topic is seeking information regarding advanced technology pertaining to advancements in materials, miniaturization, weight reduction, weapon shock and environmental durability, and NIR detect/recognize/identify performance.

#### **PHASE I:**

Conduct a feasibility study to assess what is in the art of the possible that satisfies the requirements specified in the above paragraphs entitled "Objective" and "Description".

The objective of this USSOCOM Phase I SBIR effort is to conduct and document the results of a thorough feasibility study ("Technology Readiness Level 3") to investigate what is in the art of the possible within the given trade space that will satisfy a needed technology. The feasibility study should investigate all options that meet or exceed the minimum performance parameters specified in this write up. It should also address the risks and potential payoffs of the innovative technology options that are investigated and recommend the option that best achieves the objective of this technology pursuit. The funds obligated on the resulting Phase I SBIR contracts are to be used for the sole purpose of conducting a thorough feasibility study using scientific experiments and laboratory studies as necessary. Operational prototypes will not be developed with USSOCOM SBIR funds during Phase I feasibility studies. Operational prototypes developed with other than SBIR funds that are provided at the end of Phase I feasibility studies will not be considered in deciding what firm(s) will be selected for Phase II.

#### **PHASE II:**

Develop, install, and demonstrate up to 12 prototype systems determined to be the most feasible solution during the

Phase I feasibility study on a lightweight white phosphorus clip-on units that will allow operators to detect and engage targets for 0-1500 meters and beyond in engagements. This capability shall meet the requirements in the description above. The testing and demonstration will contain scenarios, environments, and test objectives to demonstrate program and operational objectives.

**PHASE III DUAL USE APPLICATIONS:**

This LWPI2C unit could be used for observation, fire control, and target engagement for various rifles platforms that have a monolithic or extended MIL-STD-1913 mounting rail systems in a broad range of military, law enforcement, and homeland security applications.

**REFERENCES:**

- 1) MIL-STD-810H DEPARTMENT OF DEFENSE TEST METHOD STANDARD ENVIRONMENTAL ENGINEERING CONSIDERATIONS AND LABORATORY TESTS (<https://quicksearch.dla.mil/ImageRedirector.aspx?token=5755401.35978>);
- 2) MIL-STD-1913 NOTICE 1 MILITARY STANDARD DIMENSIONING OF ACCESSORY MOUNTING RAIL FOR SMALL ARMS WEAPONS ([https://quicksearch.dla.mil/qsDocDetails.aspx?ident\\_number=115317](https://quicksearch.dla.mil/qsDocDetails.aspx?ident_number=115317));
- 3) JOINT PUB. 1-02, DOD DICTIONARY OF MILITARY AND ASSOCIATED TERMS;
- 4) <https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/dictionary.pdf>

**KEYWORDS:**

Optics; Night Vision; Clip-On; Target Engagement; Sniper; Sensors; Target Engagement; Image Intensification

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