

Offeror/Contractor: \_\_\_\_\_

SEITZ SCIENTIFIC INDUSTRIES

P. O. BOX 1584

ENTERPRISE, AL 36331-1584

**Section C- Description/Specifications/Work Statement****C-1. GENERAL SCOPE**

The Contractor shall furnish the necessary services, personnel, equipment, facilities and supplies and conduct all other actions necessary for or incident to the performance of the work set forth below.

**C-2. DETAILED SCOPE**

The Contractor shall develop a lip-activated light (liplight) that mounts to the microphone boom (M-87 or M-162 tempest mike) of the SPH-4 helmet. The light must be compatible with the AN/PVS-5 and AN/AVS-6 (Aviator's Night Vision Imaging System (ANVIS)) night vision systems in accordance with the requirements set forth in Section C herein. The light will be used by Army aviators to aid in reading maps and control panels that have no or low backlighting and for performing ground checks. Consideration will be given to a design that will allow for high production techniques producible in large quantities (e.g. injection molding).

**C-3. PHASE I**

a. The contractor shall design and fabricate twenty (20) identical liplights meeting the following performance requirements:

- (1) emit light only in the direction that the aviator's head is oriented.
- (2) provide a minimum of one foot-candle and a maximum of twenty-five foot-candles of illumination at a distance of eighteen inches from the light.
- (3) provide a minimum cone of light of 15 degrees and a maximum of 30 degrees.
- (4) emit light with an ANVIS radiance not to exceed  $1.0 \times 10^{-9}$  AR when luminance is scaled to 0.1 foot-lamberts (eqn. 14 of MIL-L-85762A).
- (5) use batteries that are currently in the Army inventory. A list of these is available from Natick (ATTN: STRNC-EPQ) or the U.S. Army Electronics Technology and Devices Laboratory (ATTN: DELET-P), Fort Monmouth, NJ 07703. The battery unit must not exceed two ounces in weight and must be no larger in size than two standard "AA" battery.
- (6) be operated by pressure from the aviator's lip and not require the use of hands to activate or deactivate the switch.
- (7) be self-contained and not require any modification to the aviator's clothing, helmet, or to aircraft.
- (8) not exceed one ounce in weight (without battery).
- (9) require no maintenance other than change of battery.
- 10) not degrade the crash survivability of the aircrew's protective equipment.

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(11) not increase the risk of injury to the aircrew by any sharp edges or protrusions, or unsecured wires.

(12) not interfere with the crewmember's ability to perform cockpit tasks (e.g. communication).

(13) withstand a total of 600 cycles during ten continuous hours without a failure.

(14) have a mean time between failure of 100 hours.

(15) have chromaticity coordinates which lie within an area bounded by a circle with a center at  $u'=0.180$  and  $v'=0.500$  and a radius of 0.055.

(16) operate a minimum of ten continuous hours on a new battery and still provide a minimum of one foot-candle of illumination at a distance of eighteen inches.

(17) be capable of being operated and stored in temperatures ranging from -50F to 130F.

(18) have a push "on"/push "off" type of switch as opposed to a momentary switch.

(19) be capable of mounting to the M-87 microphone and M-162 tempest microphone requiring no special mounting tools.

(20) have no exposed metal that may come in contact with skin during use.

b. A preliminary design review will be held three months into the performance period of Phase I.

c. The contractor shall evaluate the designed lplight at the end of Phase I for conformance with the requirements listed in the scope of work. Natick personnel reserve the right to be present during the item evaluation. Results of the tests shall be documented in the scientific and Technical Report (DI-MISC-80711).

C-4. - PHASE II