

Offeror/Contractor: _____

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 finger-mounted light that is 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 to illuminate recessed areas of the cockpit. 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 develop and fabricate twenty (20) identical fingerlights with the following performance criteria:

(1) emit light only in the direction that the finger to which it is mounted is pointed.

(2) provide a minimum of one foot-candle and a maximum of twenty-five foot-candles of illumination at a distance of eight inches from the light.

(3) provide a minimum cone of light of 15 degrees and a maximum of 30 degrees. Any shielding used to create this cone must not produce shadows.

(4) emit light with an ANVIS radiance not to exceed 1.0×10^{-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 weigh more than one ounce nor exceed the size of one standard "AA" battery.

(6) be self-contained and not require any modification to the aviator's clothing or aircraft.

(7) not exceed one ounce in weight (without battery).

(8) be able to be operated by the hand to which the light is mounted. A push on/push off switch is desirable.

(9) require no maintenance other than change of battery.

(10) not degrade the crash survivability of the aircrew's protective equipment.

(11) not increase the risk of injury to the aircrew by any sharp

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edges or protrusions.

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

(13) withstand a total of 600 cycles during ten continuous hours without a failure and have a mean time between failure of 100 hours.

(14) 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 eight inches.

(15) emit light whose chromaticity coordinates lie within the area bounded by a circle with a center of $u'=0.180$ and $v'=0.500$ and a radius of 0.055.

(16) fit securely to any finger (with and without cold weather, warm weather, and chemical protective gloves), but not interfere with the aviator's ability to bend his finger or restrict blood circulation. Must not require the use of any special mounting tools.

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

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

c. The contractor shall evaluate the designed fingerlight 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