Hangar Bay Lighting; Large-Area Lighting System;
SOURCES SOUGHT

Naval Surface Warfare Center, Carderock Division (NSWCCD Code 9343) is soliciting manufacturers of lighting systems, for a lighting system to be used on U.S. Naval Platforms. The Lighting System is intended for the illumination of CVN68 Class Hangar Bays with anticipated goals of improved illumination coupled with a reduced maintenance profile as compared to legacy lighting systems.

The subject lighting system shall meet the requirements of references:

(1) MIL-STD-3009; DOD Interface Standard, Lighting, Aircraft, Night Vision Imaging System (NVIS) Compatible
(2) MIL-DTL-16377; Detail Specification, Fixtures, Lighting and Associated Parts; Shipboard Use, General Specification For
(3) MIL-E-917; Electric Power Systems, Basic Requirements
(4) NFPA-70 (National Electric Code, latest edition)
(5) MIL-STD-461E (Requirements for the Control of Electromagnetic Interference Emissions and Susceptibility)
(6) MIL-S-901D (Shock Testing)
(7) MIL-STD-167/1 (Vibration Testing)
(8) MIL-STD-1399 Section 300A; Interface standard for shipboard systems, Electric Power, Alternating Current
(9) UL 1598 Standard for Safety for Luminaires
(10) UL 1598A Supplemental Requirements for Luminaires for Installation on Marine Vessels
(11) UL 844 Standard for Safety for Electric Lighting Fixtures for Use in Hazardous (Classified) Locations
(12) UL 1570 "Fluorescent Lighting Fixtures", UL 1571 "Incandescent Lighting Fixtures", or UL 1572 "High Intensity Discharge Lighting Fixtures", as applicable, including Marine Supplement, or IEC 92-306"
(13) NAEC -MISC- 06900 "Aircraft Carrier Reference Data Manual"

All lighting systems shall:

* Operate on 115 VAC, 60 Hz per ref (8). The system shall meet the ref (8) harmonic generation limits, when measured at the secondary terminals of the delta-connected feeder transformer.

* The system shall operate with ungrounded electrical service and shall be designed such that it does not impose a ground upon the electrical power system from which it is energized.

* The fixture will provide a white light suitable for work involving color coded objects.

* Be designed to illuminate a space with dimensions approximately (240') L x (100') W x (25') H

* Provide 14 footcandles at the 50% rated life design point (as measured 30 inches from the deck), based on reflectances of 40% for the overhead and bulkheads, and 20% for the deck.

* Not require more than 13KW to light the area specified above.

* Provide spraytight construction or better.

* The light source shall be maintainable without requiring personnel lifts more than 12 feet above the deck. Maintenance includes lamp and ballast replacement.

* This product shall be certified by a nationally recognized testing laboratory (NRTL) accredited for testing lighting fixtures by the Occupational Safety and Health Administration (OSHA), U.S. Department of Labor for compliance refs (9) and (10) and the requirements specified herein.

* Operate in an ambient temperature range of 0°F (-17.8°C) to 122°F (50°C).

* Be designed to withstand the high impact shock tests for grade A, type A equipment per MIL-S-901.

* Be designed to withstand a Type I vibration test per MIL-STD-167-1.

* Electromagnetic Interference (EMI). The system shall meet the emissions requirements and limits of MIL-STD-461.

* The installation of the system and the maintenance envelope of the system should comply with the hangar bay space restriction documented in NAEC - MISC- 06900 "Aircraft Carrier Reference Data Manual", so as not to interfere with the movement or maintenance of aircraft in the hangar bay.

* Have a light source with a minimum operating life of 12,000 hours and retain 80% of its initial illumination levels after 9,000 hours of operation.

* The system shall provide 10% illumination level within 10 seconds of energization under all conditions. If required to meet this, separate light fixtures shall be considered part of the "system" for the purpose of evaluating maintenance reductions.

* During initial system startup at an ambient temperature of 60°F, the system shall provide 50% illumination level within 2 minutes of startup and full illumination within 10 minutes of startup.

Optional Requirements: The following features are considered to be desirable.

* Be fully dimmable from a central control point.

* When used in conjunction with the optional filter assembly and dimming device shall be compatible with "Night Vision Devices" (NVDs) per ref (1) and shall not cause users of such devices to become "blind" when used in areas where the lighting system is operating. Switching between White and NVD-compatible modes shall not require personnel lifts above twelve feet.

Remote Source Lighting/Hollow Light Guide (RSL/HLG) Systems: RSL/HLG system consist of multiple distinct components: 1) a light source, including a housing, lamp, ballast, reflector and/or lens which transfers the light into 2) the light distribution system (LDS) which feeds the light over a distance to 3) one or more light diffusing devices which emit the light uniformly into the space. The LDS and diffusers may be integrated.

* RSL/HLG systems are considered to be potentially viable solutions to the above requirements. RSL/HLG systems must meet the following additional requirements:

- All RSL/HLG illuminators are to be installed on the port/stbd side perimeter. (These sides are on opposite sides of the compartment short axis.)

- The materials used in the construction of the LDS shall have a UL 94 Horizontal Burn (HB) rating indicating that the material has been subjected to and passed the UL 94 HB test. The maximum burn rate of the material shall not exceed 3.0 inches/minute. It is preferable that the test specimens exhibit no dripping, puddling or exfoliation during the test and do not continue to burn or smolder after the flame source has been removed.

- When burned, the LDS material shall not produce smoke that is toxic that would impede the progress of personnel attempting to extinguish the blaze. The LDS system shall have a maximum specific optical density of the smoke of less than 50 when tested in accordance with ASTM D2843.

- The LDS shall be furnished with a mounting system. The mounting system shall be adjustable such that no deflection of the LDS is evident after installation.

This announcement is issued to consider all potential sources and does not obligate the Government to award a contract. Descriptive literature, such as specifications, drawing and technical requirements can be forwarded to:
NSWCCD C/9343
1569 Constitution Ave

Phila, Pa 19112-5083.
No telephone request will be accepted

All submissions are due by 31 Oct 03.