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REQUEST FOR INFORMATION (RFI)

ONR RFI Announcement # 11-RFI-0007

Title “Navy Solid State Laser (SSL) Technology Maturation Program”

**I. DISCLAIMER:**

This announcement constitutes a Request for Information (RFI) for the purpose of determining market capability of sources or obtaining information. It does not constitute a Request for Proposals (RFP), a Request for Quote (RFQ) or an indication that the Government will contract for any of the items and/or services discussed in this notice. Any formal solicitation that may subsequently be issued will be announced separately through Federal Business Opportunities (FedBizOpps). Information on the specific topics of interest is provided in the following sections of this announcement. Neither ONR nor any other part of the federal government will be responsible for any cost incurred by responders in furnishing this information.

**II. BACKGROUND:**

The Office of Naval Research, Naval Aviation and Weapons Department (ONR 35) in cooperation with the Naval Sea Systems Command, Directed Energy and Electric Weapon Systems Program Office (PMS-405) is conducting a market survey to determine current industry interest and capabilities in the development, maturation and demonstration of solid state laser (SSL) technologies (component, subsystem, and system –level) which would form the basis for a future Surface Navy Solid State Laser Weapon System. Of specific interest are companies and corporations who develop components for, or which integrate solid state laser technologies into a complete weapons system. The envisaged SSL weapon system with the ability to meet future operational and acquisition requirements in support of either ship based self defense missions or power projection operations from all current and future Navy surface combatants.

**III. SPECIFIC INFORMATION OF INTEREST:**

The government is interested in obtaining informed views from the commercial and industrial base on using solid state laser (SSL) directed energy weapons from US Navy surface platforms. Of specific interest is the development of methods & practices in research, development and acquisition activities in obtaining technologies which lead to refining operational requirements for a technology development program. We seek industry’s view regarding the Navy’s best approaches for open systems architectures and open systems software development, as related an SSL-based weapon system.

The Navy SSL Technology Maturation Program at ONR is primarily interested in a solid state laser weapon capability which will meet the needs of a future Navy weapons acquisition program within NAVSEA PMS 405. The basis for this mission with a laser weapon is defined as a “counter-material” capability, a laser weapon which achieves target mission kill by significantly damaging the target structure or obviating target sensors. Systems which perform ancillary functions with a laser of range

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finding, detection, or non-lethal capabilities are of limited interest and will be assessed with respect to how they enable the lethality of the weapon. All non-lethal efforts are expected to be coordinated with the Joint Non-Lethal Warfare Directorate (JNLWD) at Quantico, Virginia prior to possible inclusion in the SSL Technology Maturation Program. Similarly, most laser subsystem technical development is expected to be coordinated with the High Energy Laser Joint Technology Office, located in Albuquerque, New Mexico prior to possible inclusion in the SSL Technology Maturation Program.

Of specific interest are how industrial entities view the development of laser weapon systems and subsystems which A) enable weapons performance characteristics, and are compatible with use on the widest number of current and future Navy surface ships; B) enable SSL laser and beam director technologies in terms of power requirements and long term shipboard installation; C) provide capabilities to improve existing or future kinetic energy weapon systems which could increase performance, such as improved Combat Identification providing longer range hostile or non-hostile determination based on threat posture or visible signs of weapons specific features through optical augmentation via improved SSL beam director electro-optics; D) outline systems and subsystems which have already been tested, preferably in a maritime-type environment; E) meet requirements for safety in operational use of and testing of SSLs; F) provide data that calculates projected reliability, maintainability, supportability, training, manning and sustainment; G) significantly increase the availability to use a laser based weapon system while at sea for long periods of time, and H) have critical elements in either testing phases or limited material availability – such as those which would be identified in military strategic or critical materials lists. Also of high interest is how industry views the potential competitive nature of a process whereby a government-led effort establishes interfaces, whereby all technologies can then be installed and de-installed for testing in a test bed environment. This permits individual technical elements to be tested.

Typical subsystems of interest to the Navy include tracking, targeting, stabilization, optical components, beam directors, kinetic-motion compensation mountings, sensors, as well as the laser subsystem, which may be comprised of either single or multiple solid state slab or fiber lasers. Software development would also need to include tracking algorithm development, weapon control software, fire control software, and/or interface development. Further, should any reliance be placed on a piece of government furnished equipment (GFE) or the use of a government facilities, the responder should clearly outline a suggested government plan for developing agreements between companies and cognizant government technology officers.

Systems which rely on or are specific to chemical, gas or Free Electron Laser systems are not of interest at this time under this request for information. However, should information on alternative technologies to SSL approaches provide significant cost savings or unique or “break-through” levels of “leap ahead” capabilities, while maintaining support for a near term acquisition program - then due consideration will be given, based on information received on technical approach, technical maturity, subsystem availability and the suitability for use on manned naval platforms.

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Federally Funded Research & Development Centers (FFRDCs) and University Affiliated Research Centers (UARCs), including Department of Energy National Laboratories, may reply to this RFI. Navy laboratories and warfare centers as well as other Department of Defense and civilian agency laboratories may also submit responses to this RFI.

**IV. SUBMISSION INSTRUCTIONS and FORMATTING REQUIREMENTS**

a. Responses are requested within forty-five days, but in any case, prior to 1 November 2011. Any response received after this date will also be considered but may not be included in initial development of reports or industrial base assessments.

b. All responses should be in PDF file format and emailed as an attachment to the technical point of contact: Mr. Peter A. Morrison (peter.a.morrison@navy.mil). The subject line of the email should read as follows “RFI: Navy Solid State Laser Technology Maturation Program”.

All responses must be unclassified. If additional information at a classified level is required, the interested party may contact the technical point of contact listed above by email. All information received in response to this RFI that is marked proprietary will be handled accordingly. Responses to this notice will not be returned.

c. Responses should not exceed 15 pages and should be typed in 12-point Times New Roman font, single spaced, with 1-inch margins.

d. A suggested submission organization:

1. Cover Sheet – RFI number and company name, address, date of submission, primary and secondary technical points of contact, and primary business point of contact- each contact with printed name, title, email address, and commercial telephone numbers. (1 page)
2. Narrative on operational utility of a Navy SSL based weapon system (5 pages)
3. Technical discussion supporting operational narrative (5 pages)
4. Bibliography, References, Abbreviations and/or Appendices (4 pages)

No cost or pricing information should be provided since we are not seeking proposals. Any such information received will be deleted and destroyed.

**V. QUESTIONS AND POINT OF CONTACT**

Questions of a technical nature regarding this RFI may be sent to the following Technical Point of Contact:

Name: Mr. Peter A. Morrison

Title: Program Officer

Office of Naval Research

Division Code: 351

Address: 875 N. Randolph Street, Arlington, VA. 22203

Email Address: [peter.a.morrison@navy.mil](mailto:peter.a.morrison@navy.mil)