



Funding Opportunity Announcement from the Office of Naval Research (ONR) Navy and Marine Corps FY2016 for the HEL-JTO High Energy Laser Multidisciplinary Research Initiative (HEL-MRI) Program

INTRODUCTION:

This publication constitutes a Funding Opportunity Announcement (FOA) as contemplated in the Department of Defense Grants and Agreements regulations (DoDGARS) 22.315(a). A formal Request for Proposals (RFP), solicitation, and/or additional information regarding this announcement will not be issued.

The Office of Naval Research (ONR) will not issue paper copies of this announcement. The ONR reserves the right to select for award and fund all, some, or none of the proposals in response to this announcement. ONR provides no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this FOA will not be returned. It is the policy of ONR to treat all proposals submitted under this FOA as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

This FOA is intended for proposals related to basic research projects. Proposals that do not meet the criteria specified by this document will not be reviewed. Awards will take the form grants.

All grant proposals are to be submitted through Grants.gov. Offerors should include responses to the Representations indicated in [Section VII, D](#), of this FOA and located at <http://www.onr.navy.mil/en/Contracts-Grants/submit-proposal/grants-proposal.aspx>

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I. PROGRAM DESCRIPTION

A. Agency Name

Office of Naval Research
One Liberty Center
875 N. Randolph Street
Arlington, VA 22203-1995

This FOA will be executed by the Office of Naval Research on behalf of the Office of the Secretary of Defense (OSD) High Energy Laser - Joint Technology Office (HEL-JTO).

B. Research Opportunity Title

Funding Opportunity Announcement from the Office of Naval Research (ONR) Navy and Marine Corps FY2016 for the HEL-JTO High Energy Laser Multidisciplinary Research Initiative (HEL-MRI) Program.

C. Program Name

High Energy Laser Multidisciplinary Research Initiative (HEL-MRI) Program of the OSD High Energy Laser - Joint Technology Office (HEL-JTO).

D. Research Opportunity Number

N00014-16-R-FO13

E. Response Date

Questions due: 27 July 2016 (Wednesday) 3:00 PM Eastern Daylight Time

Full Proposals due: 29 August 2016 (Monday) 11:59 PM Eastern Daylight Time

IMPORTANT NOTE: White Papers are NOT being solicited and will NOT be accepted. This FOA is for full proposal submission only.

F. Research Opportunity Description

This FOA HEL-MRI will be executed by the Office of Naval Research (ONR) on behalf of the Office of the Secretary of Defense (OSD) High Energy Laser - Joint Technology Office (HEL-JTO).

The HEL-MRI is sponsored by the HEL-JTO and the Office of the Deputy Under Secretary of Defense for Science and Technology (DUSD (S&T)) to enhance the capabilities of U.S.

institutions of higher education (hereafter referred to as universities) to perform basic science and engineering research and related education in lasers, optics, and other areas critical to national defense applications of HELs.

The HEL-MRI will support university-led multidisciplinary teams whose research efforts intersect more than one traditional science and engineering discipline within the general area of HELs. Multidisciplinary team effort can accelerate research progress in areas particularly suited to this approach by cross-fertilization of ideas and also can help to hasten the transition of basic research findings to practical application.

The HEL-MRI solicits proposals from U. S. universities (Service Academies and Postgraduate Schools are included) to conduct basic research in five thrust areas of High Energy Laser (HEL) technologies. The awards will be made on behalf of the DUSD (S&T) Basic Research Office and the HEL-JTO, under the supervision of the Office of Naval Research.

The six research thrust areas are:

- [Thrust Area #1](#): Next Generation High Energy Laser Technologies
- [Thrust Area #2](#): High-Power Propagation through Deep Turbulence
- [Thrust Area #3](#): Next Generation Beam Combination Techniques
- [Thrust Area #4](#): Modeling of the Lower Atmosphere
- [Thrust Area #5](#): Low Stress Coatings for HEL Deformable Mirrors
- [Thrust Area #6](#): Materials Development for High Energy Laser Systems

Thrust Area #1: Next Generation High Energy Laser Technologies

Background: The High Energy Laser Joint Technology Office (HEL-JTO) has supported a large amount of research into increasing the power and lethality of high energy lasers. Past examples of such developments include funding the Robust Electric Laser Initiative (RELI) program, and numerous smaller programs to develop novel and advanced technologies to increase the power of solid-state laser systems.

HEL-JTO plans to continue these developments, supporting fundamental research of technologies that could lead to the next generation of high energy lasers. Such lasers should not only be more lethal than current lasers, but also have a path to improve overall high energy laser system size, weight and electrical power consumption (SWaP). For this topic, methods of increasing the effectiveness of a single aperture laser system are sought, and not methods of combining multiple beams.

Objective: Novel research in power scalable lasers and laser architectures is sought. Proposals should lead to next-generation high lethality lasers, e.g. higher intensity on target, lower weight, higher electrical efficiency, environmentally robust, all with good beam quality. Interest encompasses all electrically driven laser technologies that can access windows of high atmospheric transmittance, including but not limited to retina-safe wavelengths.

Proposals need not address the whole system architecture, but may focus on subsystems. Subsystems may include but are not limited to:

- a) power scalable and combinable fiber lasers,
- b) single aperture or combinable non-fiber electrically pumped lasers,
- c) advances in thermal management.

Impact: The successful development of next generation efficient, robust electrically powered lasers could drastically improve the effectiveness of high energy laser systems for the warfighter. It could enable new missions and significantly reduce the risk of current missions.

Anticipated Resources: It is anticipated that up to 8 awards will be made under this topic with an average of \$600K per year for 3 years, plus 2 option year periods for a program total of up to \$24M.

Thrust Area #2: Advanced Beam Control Technologies

Background: The HEL-JTO is chartered to advance the state of the art in High Energy Laser (HEL) technology with a focus on complimenting existing service HEL System demonstrations as well as looking ahead to Beam Control requirements for the next generation HEL systems. In the next 10 years or more, a number of tactical HEL missions will require the ability to image and track targets in deep turbulence and precisely point and compensate the wavefront of an outgoing HEL beam.

The HEL-JTO Advanced Beam control for Locating and Engaging (ABLE) program is actively pursuing adaptive optics and tracking technologies for demonstrating improved beam control effectiveness under severe atmospheric and aero-optics turbulence conditions expected for Service platform scenarios. However, these solutions in their current state are complicated systems that will require significant SWaP reductions prior to deployment onboard weapon platforms.

Examples of past HEL- JTO efforts to reduce beam control SWaP and improve performance include: Digital holography imaging and wavefront sensing, Stochastic Parallel Gradient Descent (SPGD), passive wavefront sensing, Digital Focal Plane Array (DFPA), Light Weight Beam Director (LWBD), and Active Primary Deformable Mirror (APDM). HEL-JTO is actively pursuing adaptive optics technology via the Advanced Beam Control Demonstration project as a part of the ABLE program to address moderate turbulence levels, with Rytov levels between 0.5 and 1.0. The next generation beam control systems will require operating in Rytov levels >1.0 .

Objective: New techniques are sought for the correction and control of high-average-power and/or high-peak-power (pulsed) laser propagation through the atmospheric boundary layer, low altitude atmosphere, aero-optic flows, and other environments with strong turbulence (Rytov > 1.0).

Proposals could include analysis, 3-D modeling, simulation (including adaptive optics and advanced control algorithms), component development and experiments.

Impact: The successful development of methods for propagating high energy lasers through deep turbulence could drastically improve the effectiveness of high energy laser systems for the warfighter. It could enable missions and platforms previously thought to be precluded from high energy lasers.

Anticipated Resources: It is anticipated that up to 2 awards will be made under this topic with an average of \$600K per year for 3 years, plus 2 option year periods for a program total of up to \$6M.

Thrust Area #3: Next Generation Laser Source Combining Techniques

Background: The High Energy Laser Joint Technology Office (HEL-JTO) has funded research and development of combining multiple individual lasers into a single high energy laser beam. Past examples of such developments in the Robust Electric Laser Initiative (RELI) program including spectral and diffractive combination. These combination methods have allowed the creation of composite laser systems with much higher output power than that of a single fiber laser.

HEL-JTO intends to support basic research into different beam combining techniques that could lead to next generation laser systems. Beam combining methods are sought that could be more lethal than current techniques, while having the potential to improve SWaP, ruggedness, and cost.

Objective: Proposals are sought for developing new techniques for increasing high energy laser lethality by compounding power from many laser sources. Approaches should be different from coupling methods currently used in high energy laser programs.

Proposal goals should offer significant improvements in the state of the art. Areas of interest include reducing laser system weight and complexity, and improving ruggedness and lethality. Proposals should point out technical obstacles of combining high energy laser sources and offer innovative device-based solutions.

Impact: The successful development of advanced beam combining techniques could greatly improve the affordability, SWaP and lethality of high energy laser systems. New beam combination methods could be an enabling technology for next generation laser systems.

Anticipated Resources: It is anticipated that up to four awards will be made under this topic with an average of \$600K per year 3 years, plus 2 option year periods for a program total of up to \$12M.

Thrust Area #4: Modeling of the Lower Atmosphere

Background: The HEL-JTO is interested in generating models to better represent the lower atmosphere. Current atmospheric models do not accurately represent the lower atmosphere, in particular, the lowest 100 meters.

Modeling turbulence in this region is difficult due to drastic thermal gradients in the lower atmosphere. Refractive index structure constant (Cn2) values can be orders of magnitude worse over a horizontal propagation path than a slant or vertical path. Models like HV 5/7

have been used, but poorly represent experimental data for horizontal and slant paths. Other models like the HAP Model can be useful in generating slant path Cn2 models. These models have been developed fairly recently and need better verification. Using data collected at various altitudes over varying terrain, models can be generated to help better determine the refractive index structure constant.

Analysis of current data indicates the terrain over which measurements are made such as asphalt, grass, desert sand, water, etc. and weather conditions such as cloud coverage affect the values of Cn2 measured. This effort shall address such conditions in modeling Cn2.

Objective: Proposals are requested for acquiring data and generating models to better represent the lower atmosphere. Using data collected at various altitudes over varying terrain, models can be generated to help better determine parameters such as the refractive index structure constant. Responses on this solicitation may be directed specifically to maritime environments, land environments, or include both.

The deliverable of this category are data and a group of models that will help the community better represent the lower atmosphere, helping the community predict how laser performance is degraded in this region. Initial efforts shall determine a physical model to represent experimental data. Follow on efforts will be to implement a robust software module of the model for integration into widely used software packages in the HEL community.

Impact: The successful development of more accurate models for the lower atmosphere could increase understanding of how to improve laser propagation in this regime. The models could improve test planning, and help direct the deployment of high energy laser systems.

Anticipated Resources: It is anticipated that 2 awards will be made under this topic for up to \$600K per year for 3 years, plus 2 option year periods for a program total of up to \$6M.

Thrust Area #5: Low Stress coatings for HEL Deformable Mirrors

Background: The HEL-JTO has supported a variety of programs to improve adaptive optics. Currently, adaptive optics is part of the ABLE program to increase the performance of beam directors. Deformable mirrors are a component common to many adaptive optical systems throughout the services.

Deformable mirrors for Directed Energy (DE) applications have very stringent performance requirements. The high power optical coatings that are required for DE operation impact many of those performance parameters. The highest performance optical coatings are usually generated by high energy ion beam bombardment coating processes like IBS. These coatings have very high tensile stress deforming the thin face sheet that requires the use of a significant amount of actuator stroke to correct, limiting the use of these DM's.

Objective: Proposals are requested for the development of low stress, low absorption (ppm level), very low transmission, high reflectivity optical coatings for high energy DM applications. It is acceptable to propose research for fully integrated face sheet structures that have minimal optical deformation while unpowered. End goal is to achieve a flat optical surface with the DM in a passive state.

Impact: The successful development of low-stress high energy laser coatings for deformable mirrors could improve the performance of adaptive optical systems, increasing the effectiveness of high energy lasers. It could enable military missions previously thought to be too difficult for high energy laser systems.

Anticipated Resources: It is anticipated that 2 awards will be made under this topic for up to \$600K per year for 3 years, plus 2 option year periods for a program total of up to \$6M.

Thrust Area #6: Laser Source and Optical Materials Development for High Energy Laser Systems

Background: Historically, the HEL-JTO has consistently supported the development of optical materials for high energy laser systems. Results of these investments have included novel fiber laser gain material, crystal fibers, improved high energy laser coatings and solid state laser modeling software.

High energy laser materials often require a combination of low loss, high thermal conductivity, and desirable nonlinear coefficients. There is a need for modeling and experimentation aimed at significant advancement of optical materials that is farsighted, high-payoff and provides the basis for technological progress. This basic research may lead to subsequent applied research, advanced technology developments, and new or improved capabilities.

New construction technologies, such as additive manufacturing, are now commonly used in many industries, and many integrated systems are being constructed using techniques from semiconductor fabrication. Thus, there are opportunities to develop new construction methods for optical materials to improve the affordability, production speed, and automation of optical materials that could be used in high energy laser systems. There is great interest in the development of such techniques which could be applied to the domestic manufacture of laser components and systems.

Objective: Proposals are sought to develop novel high energy laser materials. Materials of interest include both gain host material, and materials for optical components of a high energy laser system.

Proposals are also sought which optimize processes that enhance the development of high energy laser material. Such proposals may include, but are not limited to, additive manufacturing, integrated optics, and automated construction.

Impact: The successful development of optical materials and assembly techniques is a long-term process that could drastically improve the performance of high energy laser systems. It could enable the construction of greatly improved devices, and lead to an affordable domestic supplier base.

Anticipated Resources: It is anticipated that up to four awards will be made under this topic for up to \$600K per year for 3 years, plus 2 option year periods for a program total of up to \$12M.

G. Points of Contact (POC)

Questions of a Technical nature:

Sarwat Chappell
Program Officer for Weapons, Power & Energy
Office of Naval Research, Code 333
875 North Randolph Street
Arlington VA 22203-1995
(703) 696-4224
sarwat.chappell@navy.mil

and

Matthew Leigh
HEL-JTO Navy Representative
801 University Blvd SE, Suite 209
Albuquerque, NM 87106
(505) 248-8215
matthew.leigh@jto.hpc.mil

All questions shall be submitted via email and must not be classified. Questions presented by telephone call, fax message, or other means will not be responded to. Comments or questions should be concise and to the point eliminating any unnecessary verbiage. The relevant part and paragraph of the FOA should be referenced. Questions must be submitted no later than 27 July 2016, 3:00 PM EDT. Questions submitted after this date will not be answered and the due date for submission of proposals will not be extended.

Questions of a Business nature, and suggestions for improvement should be submitted to:

Mr. David Broadwell
Grant Management Specialist
Code 255
Office of Naval Research
875 North Randolph Street
Arlington VA 22203-1995
david.broadwell@navy.mil

Amendments to this FOA will be posted to one or more of the following web pages:

-Grants.gov Webpage – <http://www.grants.gov/>
-ONR Broad Agency Announcement (BAA) Webpage -
<http://www.onr.navy.mil/en/Contracts-Grants/Funding-Opportunities/Broad-Agency-Announcements.aspx>

H. Instrument Type

Awards will take the form of grants. These awards will be governed by the guidance in title 2 of the Code of Federal Regulations (CFR) Part 200, “Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards,” as supplemented by the Department of Defense’s (DoD) interim implementation found at 2 CFR Part 1103, “Interim Grants and Cooperative Agreements Implementation of Guidance in 2 CFR Part 200” (79 FR 76047, December 19, 2014), all of which are incorporated herein by reference.

Examples of model grants can be found on the ONR website at the following link:
<http://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal.aspx>

I. Catalog of Federal Domestic Assistance (CFDA) Numbers

12.300 Office of Naval Research (ONR)

J. Catalog of Federal Domestic Assistance (CFDA) Titles

Basic and Applied Scientific Research (ONR)

K. Other Information

Work funded under a FOA may include basic research, applied research and some advanced technology development research. With regard to any restrictions on the conduct or outcome of work funded under this FOA, ONR will follow the guidance on and definition of “contracted fundamental research” as provided in the Under Secretary of Defense (Acquisition, Technology and Logistics) Memorandum of 24 May 2010.

As defined therein the definition of “contracted fundamental research,” in a DoD contractual context, includes research performed under grants and contracts that are (a) funded by Research, Development, Test and Evaluation Budget Activity 1 (Basic Research), whether performed by universities or industry or (b) funded by Budget Activity 2 (Applied Research) and performed on campus at a university. The research shall not be considered fundamental in those rare and exceptional circumstances where the Basic Research funded effort presents a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense, and where agreement on restrictions have been recorded in the contract or grant.

Pursuant to DoD policy, research performed under grants and contracts that are a) funded by Budget Activity 2 (Applied Research) and NOT performed on-campus at a university or b) funded by Budget Activity 3 (Advanced Technology Development) does not meet the definition of “contracted fundamental research.” In conformance with the USD (AT&L) guidance and National Security Decision Directive 189, ONR will place no restriction on the conduct or reporting of unclassified “contracted fundamental research,” except as otherwise required by statute, regulation or Executive Order. For certain research projects, it may be

possible that although the research being performed by the prime contractor is restricted research, a subcontractor may be conducting “contracted fundamental research.” In those cases, it is the *prime contractor’s responsibility* in the proposal to identify and describe the subcontracted unclassified research and include a statement confirming that the work has been scoped, negotiated, and determined to be fundamental research according to the prime contractor and research performer.

Normally, fundamental research is awarded under grants with universities and under contracts with industry. Non-fundamental research is normally awarded under contracts and may require restrictions during the conduct of the research and DoD pre-publication review of such research results due to subject matter sensitivity. Potential Offerors should consult with the appropriate ONR Technical POCs to determine whether the proposed effort would constitute basic research, applied research or advanced research.

THIS ANNOUNCEMENT IS NOT FOR THE ACQUISITION OF TECHNICAL, ENGINEERING AND OTHER TYPES OF SUPPORT SERVICES.

II. AWARD INFORMATION

A. Funding Amount and Period of Performance

The DoD intends to award approximately \$66 million under this FOA competition over the life of the Multidisciplinary Research Initiative (MRI). The average individual award amount is estimated to be \$600,000.00 per year. The MRI programs are up to five years duration (3 year base period, plus 2 option year periods). The funded amount and period of performance of each proposal selected for award may vary depending on the research thrust area and the technical approach to be pursued by the Offeror selected.

There is no guarantee that any of the proposals submitted in response to a particular research thrust area will be recommended for funding. On the other hand, more than one proposal may be recommended for funding for a particular thrust area.

B. Peer Reviews

In the case of proposals funded as basic research, ONR may utilize peer reviewers from academia, industry, and Government agencies to assist in the periodic appraisal of performance under the awards, as outlined in ONR Instruction 3966.1A. Such periodic program reviews monitor the cost, schedule and technical performance of funded basic research efforts. The reviews are used in part to determine which basic research projects will receive continued ONR funding. Peer reviewers who are not U.S. Government employees must sign nondisclosure agreements before receiving full or partial copies of proposals and reports submitted by the basic research performers. Offerors may include travel costs for the Principal Investigator (PI) to attend the peer review.

III. ELIGIBILITY INFORMATION

- A.** Proposals may be submitted only by U.S. universities with degree-granting programs in science and/or engineering. Ineligible organizations (e.g., industry, DoD laboratories, Federally Funded Research and Development Centers (FFRDCs), and foreign universities) may collaborate on the research. Eligible universities may submit proposals either individually or collectively, as consortia. Proposing universities may establish research collaborations with industry or FFRDCs. This measure allows universities the ability to access relevant experience outside of academia. Costs for industry and/or FFRDC participation can be covered by sub-award of HEL-MRI funds and/or by funds otherwise available to them. The main purpose of this initiative is to support university research; hence it is expected that award funds will remain vested substantially with the university, at least fifty-one percent (51%). DoD laboratories can team with the universities to conduct the research but cannot receive HEL-MRI funds awarded via this funding opportunity announcement. Proposals involving multiple organizations must name one principal investigator at a university as the responsible technical point-of contact. This university will be the primary awardee for purposes of award execution. The relationship among the research team members and their respective roles, as well as the apportionment (i.e., subaward by the primary awardee) of funds must be described in both the proposal text and budget.
- B.** All responsible sources from academia and industry may submit proposals under this FOA. Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals. However, no portion of this FOA will be set aside for HBCU and MI participation, due to the impracticality of reserving discrete or severable items of this research for exclusive competition among such entities.
- C.** FFRDCs, including Department of Energy National Laboratories, are not eligible to receive awards under this FOA. However, teaming arrangements between FFRDCs and eligible principal Offerors are allowed so long as such arrangements are permitted under the sponsoring agreement between the Government and the specific FFRDC.
- D.** Navy laboratories and warfare centers as well as other DoD and civilian agency laboratories are also not eligible to receive awards under this FOA and shall not directly submit full proposals in response to this FOA. If any such organization is interested in one or more of the programs described herein, the organization should contact an appropriate ONR Technical [POC](#) to discuss its area of interest. The various scientific divisions of ONR are identified at <http://www.onr.navy.mil/>. As with FFRDCs, these types of federal organizations may team with other responsible sources from academia and industry that are submitting proposals under this FOA.
- E.** University Affiliated Research Centers (UARCs) are eligible to submit proposals under this FOA unless precluded from doing so by their DoD UARC contract.

- F. Teams are also encouraged and may submit proposals in any and all areas. However, Offerors must be willing to cooperate and exchange software, data and other information in an integrated program with other contractors, as well as with system integrators, selected by ONR.
- G. Offerors should be aware of recent changes in export control laws. Offerors are responsible for ensuring compliance with all applicable International Traffic in Arms Regulation (ITAR) requirements as found in 22 CFR §120 *et. seq.* In some cases, developmental items funded by the DoD are now included on the United States Munition List (USML) and are therefore subject to ITAR jurisdiction. Offerors should address in their proposals whether ITAR restrictions apply or do not apply, such as in the case when research products would have both civil and military application, to the work they are proposing to perform under this FOA. The USML is available online at <http://www.ecfr.gov/cgi-bin/text-idx?node=pt22.1.121> Additional information regarding the President's Export Control Reform Initiative can be found at <http://export.gov/ecr/index.asp>.
- H. Cost sharing is not expected and will not be used as a factor during the merit review of any proposal hereunder. However, the Government may consider voluntary cost sharing if proposed.

IV. APPLICATION AND SUBMISSION INFORMATION

A. Application and Submission Process

Full Proposals: The due date for receipt of Full Proposals is 11:59 PM (EDT) on Monday, 29 August 2016. Full proposals received after the published due date and time will not be considered.

Proposal Evaluation/Notification of request for Oral Presentation: OSD-JTO evaluations of the proposals will be conducted after receipt of proposal. An expanded oral presentation will be subsequently requested from those Offerors whose proposed technologies have been identified as being of “particular value” to the OSD-JTO. However, any such request does not assure a subsequent award. Any Offeror whose technology was not identified as being of “particular value” to the OSD-JTO is ineligible to make an oral presentation under this FOA.

Oral Presentations: ONR requests that Principal Investigators (PIs) provide expanded presentations of their selected proposals. The purpose of the oral presentation is to provide additional information and address how the proposed technology will affect military applications. The time, location, and briefing format of the oral presentations, if requested, will be provided within two (2) months of the full proposal due date via email notification.

Oral Presentation Evaluation/Notification: It is anticipated that final selections will be made within two (2) weeks after oral presentation.

As soon as the final full proposal evaluation process is completed, PIs will be notified via email of their project's selection or non-selection.

B. Content and Format of Full Proposals

Full proposals submitted under this FOA shall be unclassified basic research. Full proposal submissions will be protected from unauthorized disclosure in accordance with applicable laws and DoD regulations. **No classified proposals shall be submitted.**

Do not put proprietary data or markings in or on the Statement of Work. For proposals containing data that the Offeror does not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, the contractor shall mark the title page with the following legend:

“This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed--in whole or in part--for any purpose other than to evaluate the proposal. If, however, a contract is awarded to this Offeror as a result of--or in connection with-- the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government’s right to use information contained in this data if is obtained from another source without restriction. The data subject to this restriction are contained in (insert numbers or other identification of sheets).”

Also, mark each sheet of data that the Offeror wishes to restrict with the following legend:

“Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.”

IMPORTANT NOTE: Titles given to the Full Proposals should be descriptive of the work they cover and not be merely a copy of the title of this solicitation.

1. Full Proposals

The following information must be completed as follows in the Standard Form (SF) 424 located on <http://www.grants.gov> to ensure that the application is directed to the correct individual for review:

Block 4a, Federal Identifier: Enter N00014

Block 4b, Agency Routing Number: Enter the three (3) digit Program Office Code and the Program Officer’s name, last name first, in brackets (e.g., 333 [Chappell, Sarwat]).

Block 4c, Previous Grants.gov Tracking ID: Enter the Grants.gov tracking number of the previous proposal submission if this submission is for a Changed/Corrected Application; otherwise, leave blank.

Applicants who fail to provide a Program Officer Code identifier may receive a notice that their proposal is rejected.

Attach the technical proposal in Grants.gov: download the application package.

> click on "Research and Related Other Project information"

> click on "Move form to Submission List"

> click on "Open Form"

You will see a new PDF document titled "Research & Related Other Project Information"

Block 7, Project Summary/Abstract: > click on "Add attachment" and attach the project summary/abstract. (You will not be able to type in the box, therefore, save the file you want to attach as Project Summary or Abstract that should be marked Approved for Public Release). Abstracts of all funded research projects will be posted on a TBD website that will be open to the public. **Do not** include proprietary or confidential information. Use only characters available on a standard QWERTY keyboard. Spell out all Greek letters, other non-English letters and symbols. Graphics are not allowed and there is a 500 character limit.

Block 8, Project Narrative: > click on attachment and attach the technical proposal. (Save the file as Volume I- Technical Proposal since you will not be able to type in the box).

Full Proposal Format - Volume 1: Technical Proposal, and Volume 2: Cost Proposal

- Paper Size – 8.5 x 11 inch paper
- Margins – 1 inch
- Spacing – single spaced
- Font – Times New Roman, 12 point
- Page limit – **Technical Proposal** - not more than 10 pages (excluding the cover page, table of contents, and curriculum vitae)
- Page limit – **Cost Proposal** - there is no page limitation

The full proposal must be submitted electronically at <http://www.grants.gov/> as delineated in paragraph 5 below.

NOTE: The electronic file name for all documents submitted under this FOA must not exceed 68 characters in length, including the file name extension.

Volume 1: Technical Proposal

Cover Page: This must include the words "Technical Proposal" and the following:

- 1) FOA Number: N00014-16-R-FO13
- 2) Title of Proposal
- 3) Identity of prime Offeror and complete list of subawards, if applicable
- 4) Technical contact (name, address, phone/fax, electronic mail address)
- 5) Administrative/business contact (name, address, phone/fax, electronic mail address) and
- 6) Proposed period of performance (identify both the base period and any options, if included).

Table of Contents: An alphabetical/numerical listing of the sections within the proposal, including corresponding page numbers.

Technical Approach and Justification: The major portion of the proposal should consist of a clear description of the technical approach being proposed. This discussion should provide the technical foundation/justification for pursuing this particular approach/direction and why one would expect it to enable the objectives of the proposal to be met.

Future DoD Relevance: A description of potential DoD relevance and contributions of the effort to the agency's specific mission.

Operational DoD Concept: A description of the project objectives, the concept of operation for the new capabilities to be delivered, and the expected operational performance improvements.

Operational Utility Assessment Plan (where applicable): A plan for demonstrating and evaluating the operational effectiveness of the Offeror's proposed products or processes in field experiments and/or tests in a simulated environment.

Project Schedule and Milestones: A summary of the schedule of events and milestones:

Reports: The following are sample reports that are typically required under a research effort:

- Technical and Financial Progress Reports
- Annual Program Review
- Final Report

Grants do not include the delivery of software, prototypes, and other hardware deliverables.

Management Approach: Identify which personnel and subcontractors/subrecipients (if any) will be involved. Include a description of the facilities that are required for the proposed effort, along with a description of any Government Furnished Equipment/Hardware/Software/Information required, by version and/or configuration.

Current and Pending Project and Proposal Submissions: Offerors are required to provide information on all current and pending support for ongoing projects and proposals, including subsequent funding in the case of continuing contracts, grants, and other assistance agreements. Offerors shall provide the following information of any related or complementary proposal submissions from whatever sources (e.g., ONR, Federal, State, local or foreign government agencies, public or private foundations, industrial or other commercial organizations).

The information must be provided for all proposals already submitted or submitted concurrently to other possible sponsors, including ONR. Concurrent submission of a proposal to other organizations will not prejudice its review by ONR:

- 1) Title of Proposal and Summary;

- 2) Source and amount of funding (annual direct costs; provide contract and/or grant numbers for current contracts/grants);
- 3) Percentage effort devoted to each project;
- 4) Identity of prime Offeror and complete list of subwards, if applicable;
- 5) Technical contact (name, address, phone/fax, electronic mail address)
- 6) Administrative/business contact (name, address, phone/fax, electronic mail address);
- 7) Period of performance (differentiate basic effort);
- 8) The proposed project and all other projects or activities requiring a portion of time of the PI and other senior personnel must be included, even if they receive no salary support from the project(s);
- 9) The total award amount for the entire award period covered (including indirect costs) must be shown as well as the number of person-months or labor hours per year to be devoted to the project, regardless of source of support; and
- 10) State how projects are related to the proposed effort and indicate degree of overlap.

Curriculum Vitae: One (2 page) curriculum vitae of the Principal Investigator and a brief description (not to exceed 1/2 page each) of the qualifications of each co-investigator.

Volume 2: Cost Proposal

The Offeror must use the Grants.gov forms (including the SF-424 Research and Related (R&R) Budget Form) from the application package template associated with the FOA on the Grants.gov web site located at <http://www.grants.gov/>. If options are proposed, the cost proposal must provide the pricing information for the option periods; failure to include the proposed costs for the option periods will result in the options not being included in the award. Assume that performance will start 1 March 2017.

A separate Adobe .pdf document should be included in the application that provides appropriate justification and/or supporting documentation for each element of cost proposed.

Part 1: The itemized budget must include the following

Direct Labor: Individual labor categories or persons, with associated labor hours and unburdened direct labor rates. Provide escalation rates for out years.

Administrative and Clerical Labor: Salaries of administrative and clerical staff are normally indirect costs (and included in an indirect cost rate). Direct charging of these costs may be appropriate when a major project requires an extensive amount of administrative or clerical support significantly greater than normal and routine levels of support. Budgets proposing direct charging of administrative or clerical salaries must be supported with a budget justification which adequately describes the major project and the administrative and/or clerical work to be performed.

Fringe Benefits and Indirect Costs (F&A, Overhead, G&A, etc.): The proposal must show the rates and calculation of the costs for each rate category. If the rates have been approved/negotiated by a Government agency, provide a copy of the memorandum/agreement. If the rates have not been approved/negotiated, provide sufficient detail to enable a determination of allowability, allocability and reasonableness of the allocation bases, and how the rates are calculated. Additional information may be requested, if needed. If composite rates are used, provide the calculations used in deriving the composite rates.

Travel: The proposed travel cost must include the following for each trip: the purpose of the trip, origin and destination if known, approximate duration, the number of travelers, and the estimated cost per trip must be justified based on the organizations historical average cost per trip or other reasonable basis for estimation. Such estimates and the resultant costs claimed must conform to the applicable Federal cost principles. Offerors may include travel costs for the PI to attend the peer reviews described in [Section II, B.](#) of this FOA.

Subawards/Subcontracts: Provide a description of the work to be performed by the subrecipient/subcontractor. For each subaward, a detailed cost proposal is required to be submitted by the subrecipient(s). A proposal and supporting documentation must be received and reviewed before the Government can complete its cost analysis of the proposal and enter negotiations. ONR's preferred method of receiving subcontract information is for this information to be included with the Prime's proposal. However, a subcontractor's cost proposal can be provided in a sealed envelope with the recipient's cost proposal or via e-mail directly to the Program Officer at the same time the prime proposal is submitted. The e-mail should identify the proposal title, the prime Offeror and that the attached proposal is a subcontract. Fee/profit guidance for subawards/subcontracts: Fee/Profit is unallowable under assistance agreements at either the prime or subaward level but may be permitted on any subcontracts issued by the prime awardee.

Consultants: Provide a breakdown of the consultant's hours, the hourly rate proposed, any other proposed consultant costs, a copy of the signed Consulting Agreement or other documentation supporting the proposed consultant rate/cost, and a copy of the consultant's proposed statement of work if it is not already separately identified in the prime contractor's proposal.

Materials & Supplies: Provide an itemized list of all proposed materials and supplies including quantities, unit prices, and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).

Recipient Acquired Equipment or Facilities: Equipment and/or facilities are normally furnished by the Recipient. If acquisition of equipment and/or facilities is proposed, a justification for the purchase of the items must be provided. Provide an itemized list of all equipment and/or facilities costs and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists). Allowable items normally are limited to research equipment not already available for the project. General purpose equipment (i.e., equipment not used exclusively for research, scientific or other technical activities, such as personal computers, laptops, office

equipment) should not be requested unless they will be used primarily or exclusively for the project. For computer/laptop purchases and other general purpose equipment, if proposed, include a statement indicating how each item of equipment will be integrated into the program or used as an integral part of the research effort.

Other Direct Costs: Provide an itemized list of all other proposed other direct costs such as Graduate Assistant tuition, laboratory fees, report and publication costs, and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).

Fee/Profit: Fee/profit is unallowable under assistance agreements at either the prime or subaward level but may be permitted on subcontracts issued by the prime awardee.

Part 2: Cost breakdown by Government fiscal year and task/sub-task corresponding to the same task breakdown in the proposed Statement of Work. When options are contemplated, options must be separately identified and priced by task/subtask.

For submission instructions, see [Part IV, Section D. Submission of Grant Proposals through Grants.gov](#)

C. Significant Dates and Times

Schedule of Events		
Event	Date	Time
Questions Regarding Full Proposals	27 July 2016 (Wednesday)*	3:00 PM Eastern Daylight Time
Full Proposals Due	29 August 2016 (Monday)	11:59 PM Eastern Daylight Time
Notifications of Oral Presentations	17 October 2016 (Monday)	
Oral Presentations	8-10 November 2016 (Tuesday thru Thursday)	
Notification of Selection for Award	15 November 2016 (Tuesday)**	
Start Date of Grant	1 March 2017 (Wednesday)**	

* Questions submitted after the Q&A deadline may not be answered. The due date for submission of the full proposal will not be extended.

** These dates are estimates as of the date of this announcement.

D. Submission of Grant Proposals through Grants.gov

Detailed instructions entitled “Grants.Gov Electronic Application and Submission Information” on how to submit a Grant proposal through Grants.gov are under the Contracts and Grants — Submitting Proposals section of the ONR website at <http://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal/grants-gov.aspx>.

For electronic submission of full proposals for grants, there are several one-time actions that must be completed in order to submit an application through Grants.gov. These include obtaining a Dun and Bradstreet Data Universal Numbering System (DUNS) number, registering with System for Award Management (SAM), registering with the credential provider, and registering with Grants.gov. See www.grants.gov, specifically <http://www.grants.gov/web/grants/support.html>. Click on Grants.gov Online User Guide.

Use the Grants.gov Organization Registration Checklist which can be found at:

<http://www.grants.gov/web/grants/applicants/organization-registration.html>

This document will provide guidance through the process. Designating an E-Business Point of Contact (E-Biz POC) and obtaining a special password called ‘MPIN’ are important steps in the SAM registration process. Applicants who are not registered with SAM.gov and Grants.gov should allow at least 21 days to complete these requirements. The process should be started as soon as possible. Any questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 (1-606-545-5035 for foreign applicants) or support@grants.gov.

Special Notices Relative to Grant Applications to be submitted through Grants.Gov:

All attachments to grant applications submitted through Grants.Gov must be in Adobe Portable Document Format (PDF). Proposals with attachments submitted in word processing, spreadsheet, or any format other than Adobe Portable Document Format (PDF) will not be considered for award.

Proposal Receipt Notices: After a full proposal is submitted through Grants.gov, the Authorized Organization Representative (AOR) will receive a series of three e-mails. It is extremely important that the AOR watch for and save each of the e-mails. You will know that your proposal has reached ONR when the AOR receives e-mail Number 3. You will need the Submission Receipt Number (e-mail Number 1) to track a submission.

The three e-mails are:

Number 1 – The applicant will receive a confirmation page upon completing the submission to Grants.gov. This confirmation page is a record of the time and date stamp that is used to determine whether the proposal was submitted.

Number 2 – The applicant will receive an e-mail indicating that the proposal has been

validated by Grants.gov within two days of submission (This means that all of the required fields have been completed). After an institution submits an application, Grants.gov generates a submission receipt via email and also sets the application status to "Received." This receipt verifies the Application has been successfully delivered to the Grants.gov system. Next, Grants.gov verifies the submission is valid by ensuring it does not contain viruses, the opportunity is still open, and the applicant login and applicant DUNS number match. If the submission is valid, Grants.gov generates a submission validation receipt via email and sets the application status to "Validated." If the application is not validated, the application status is set to "Rejected." The system sends a rejection email notification to the institution, and the institution must resubmit the application package. Applicants can track the status of their application by logging in to Grants.gov.

Number 3 – The third notice is an acknowledgment of receipt in e-mail form from ONR within ten days from the proposal due date, if applicable. The e-mail is sent to the authorized representative for the institution. The e-mail for proposals notes that the proposal has been received and provides the assigned tracking number.

V. APPLICATION REVIEW INFORMATION

A. Evaluation Criteria

Awards under this FOA will be made to Offerors on the basis of the evaluation criteria listed below, and program balance to provide overall value to the Government. The Government reserves the right to request any additional, necessary documentation after the decision to award is made. The Government reserves the right to remove Offerors from award consideration should the parties fail to reach agreement on award terms, conditions, and cost/price within a reasonable time, or the Offeror fails to timely provide requested additional information.

The primary basis for selecting proposals for acceptance will be technical, importance to agency programs and fund availability. Cost realism and reasonableness will also be considered. The following criteria, all being of equal value, will be used for the technical evaluation:

- 1) Overall scientific and technical merits of the proposal and responsiveness to the topic.
- 2) Potential DoD relevance and contributions of the effort to the agency's specific mission.
- 3) The Offeror's capabilities, related experience, facilities, techniques or unique combinations of these which are integral factors for achieving the proposal objectives.
- 4) The qualifications, capabilities and experience of the proposed PI, team leader and key personnel who are critical in achieving the proposal objectives.

The ultimate recommendation for award of proposals is made by HEL-JTO evaluators. Recommended proposals will be forwarded to the ONR Contracts and Grant Awards

Management office. Any notification received from ONR that indicates that the Offeror's full proposal has been recommended does not ultimately guarantee an award will be made. This notice indicates that the proposal has been selected in accordance with the evaluation criteria above and has been sent to the contracting department to conduct cost analysis, determine the Offeror's responsibility, and to take other relevant steps necessary prior to commencing negotiations with the Offeror.

Industry-Government Partnering – ONR encourages partnering among industry and Government with a view toward speeding the incorporation of new science and technology into fielded systems.

B. Options

The Government will evaluate options for award purposes by adding the total cost for all options to the total cost for the basic requirement. Evaluation of options will not obligate the Government to exercise the options during grant performance.

C. Evaluation Panel

Technical and cost proposals submitted under this FOA will be protected from unauthorized disclosure. The cognizant Program Officer and other Government scientific experts will perform the evaluation of technical proposals. Restrictive notices notwithstanding, one or more support contractors may be utilized as subject- matter-expert technical consultants. However, proposal selection and award decisions are solely the responsibility of Government personnel. Each support contractor's employee having access to technical and cost proposals submitted in response to this FOA will be required to sign a non- disclosure agreement prior to receipt of any proposal submissions.

D. General Information Regarding the Review and Selection Process for Grants

- i) Prior to making an award with total amount of Federal share greater than the simplified acquisition threshold, ONR shall review and consider any information about the applicant that is in the designated integrity and performance system accessible through SAM (currently FAPIIS).
- ii) The applicant, at its option, may review information in the designated integrity and performance systems accessible through SAM and comment on any information about itself that a Federal awarding agency previously entered and is currently in the designated integrity and performance system accessible through SAM.
- iii) ONR will consider any comments by the applicant, in addition to the other information in the designated integrity and performance system, in making a judgment about the applicant's integrity, business ethics, and record of performance under Federal awards when completing the review of risk posed by the applicant as described in 2 CFR 200.205, Federal awarding agency review of risk posed by applicants.

VI. AWARD ADMINISTRATION INFORMATION

A. Administrative Requirements

System for Award Management (SAM): All Offerors submitting proposals or applications must:

- 1) be registered in the SAM prior to submission;
- 2) maintain an active SAM registration with current information at all times during which it has an active Federal award or an application under consideration by any agency; and
- 3) provide its DUNS number in each application or proposal it submits to the agency.

SAM may be accessed at <https://www.sam.gov/portal/SAM/>

B. Reporting

In general, for each grant award, annual research performance progress reports and a final report are required to summarize the technical progress and accomplishments during the performance period. These reports must be submitted electronically.

C. Access to your Grant Award

ONR award/modification documents are only available via the DoD Electronic Document Access System (EDA) within the WideArea WorkFlow e-Business Suite (<https://wawf.eb.mil/>).

Unless otherwise specified by the Offeror, notifications for the posting of award and modification documents to EDA will be directed to both the Technical Point of Contact and the Business Point of Contact identified in the Offeror's proposal.

EDA is a Web-based system that provides secure online access, storage and retrieval of awards and modifications to DoD employees and vendors.

If you do not currently have access to EDA, you may complete a self-registration request as a "Vendor" via <https://wawf.eb.mil/> following the steps below:

- 1) Click "Accept"
- 2) Click "Register" (top right)
- 3) Click "Agree"
- 4) In the "What type of user are you?" drop down, select "Vendor"
- 5) Select the systems you would like to access (iRAPT at a minimum)
- 6) Complete the User Profile and follow the site instructions

Allow five business days for your registration to be processed. EDA will notify you by email when your account is approved.

To access awards after your registration has been approved, log into <https://wawf.eb.mil/>, select "EDA", select either EDA location, Select "Contracts", select your search preference, enter the Grant Number in the Contract Number field, and select "View".

Registration questions may be directed to the EDA help desk toll free at 866-618-5988, commercial at 801-605-7095, or via email at disa.ogden.esd.mbx.cscassig@mail.mil (Subject: EDA Assistance).

VII. OTHER INFORMATION

A. Federal Funding Accountability and Transparency Act of 2006:

The Federal Funding Accountability and Transparency Act of 2006 (Public Law 109-282), as amended by Section 6202 of Public Law 110-252, requires that all agencies establish requirements for recipients reporting information on subawards and executive total compensation as codified in 2 CFR Part 170. Any company, non-profit agency or university that applies for financial assistance (either grants, cooperative agreements or other transaction agreements) as either a prime or sub-recipient under this FOA must provide information in its proposal that describes the necessary processes and systems in place to comply with the reporting requirements identified in 2 CFR Part 170 Appendix A. Entities are required to meet reporting requirements unless an exception or exemption applies. Please refer to 2 CFR Part 170, including Appendix A, for a detailed explanation of the requirements, exceptions, and exemptions.

B. Military Recruiting on Campus (DoDGARS Part 22.520):

This applies to domestic U. S. colleges and universities. Appropriate language from 32 CFR 22.520, Campus access for military recruiting and Reserve Officer Training Corps (ROTC), will be incorporated in all university grant awards.

C. Certification regarding Restrictions on Lobbying:

Grant and Cooperative Agreement awards greater than \$100,000, as well as Other Transaction Agreements (OTAs) not under Section 845, require a certification of compliance with a national policy mandate concerning lobbying. Grant applicants shall provide this certification by electronic submission of SF-424 (R&R) as a part of the electronic proposal submitted via Grants.gov (complete Block 17). The following certification applies likewise to each Cooperative Agreement and normal OTA applicant seeking federal assistance funds exceeding \$100,000:

- (1) No Federal appropriated funds have been paid or will be paid by or on behalf of the applicant, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative

agreement.

- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the Federal contract, grant, loan, or cooperative agreement, the applicant shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (3) The applicant shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S.C. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

D. Representation Regarding an Unpaid Delinquent Tax Liability or a Felony Conviction Under any Federal Law - DOD Appropriations:

All grant applicants are required to complete the "Representation on Tax Delinquency and Felony Conviction" found at <http://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal.aspx> by checking the "I agree" box in block 17 and attaching the representation to block 18. of the SF-424 (R&R) as part of the electronic proposal submitted via Grants.gov. The representation reads as follows:

- (1) The applicant represents that it ____ is not ____ a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.
- (2) The applicant represents that it ____ is not ____ a corporation that was convicted of a felony criminal violation under any Federal law within the preceding 24 months.
NOTE: If an applicant responds in the affirmative to either of the above representations, the applicant is ineligible to receive an award unless the agency suspension and debarment official (SDO) has considered suspension or debarment and determined that further action is not required to protect the Government's interests. The applicant therefore must provide information about its tax liability or conviction to the agency's SDO as soon as it can do so, to facilitate completion of the required consideration before award decisions are made.

E. Representation Regarding the Prohibition on Using Funds with Entities that Require Certain Internal Confidentiality Agreements

Agreement with the representation below will be affirmed by checking the "I agree" box in block 17 of the SF-424 (R&R) as part of the electronic proposal submitted via Grants.gov. The representation reads as follows:

By submission of its proposal or application, the applicant represents that it does not require any of its employees, contractors, or subrecipients seeking to report fraud, waste, or abuse to sign or comply with internal confidentiality agreements or statements prohibiting or otherwise restricting those employees, contractors, subrecipients from lawfully reporting that waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.

The basis for this representation is found in section 743 of the Financial Services and General Government Appropriations Act, 2015, Pub. L. 113-235, which prohibits appropriated funds from being made available under a contract, grant or cooperative agreement to an entity that requires such confidentiality agreements. Section 743 also states that this prohibition does not contravene requirements applicable to SF-312, Form 4414, or any other form issued by a Federal department or agency governing the nondisclosure of classified information.

F. Applicants for grants, cooperative agreements, or other transaction agreements as applicable are required to comply with 2 CFR 215.42, Codes of Conduct, to prevent real or apparent conflicts of interest in the award and administration of any contracts supported by federal funds. This provision will be incorporated into all assistance instruments awarded under this FOA.

G. Security Classification:

ONR does not provide access to classified material under grants.

H. Use of Animals and Human Subjects in Research:

If animals are to be utilized in the research effort proposed, the Offeror must submit prior to award a Full Appendix or Abbreviated Appendix with supporting documentation (copies of IACUC Approval, IACUC Approved Protocol, and most recent USDA Inspection Report) prior to award. For assistance with submission of animal research related documentation, contact the ONR Animal Use Administrator at (703) 696-4046. Guidance:

<http://www.onr.navy.mil/en/About-ONR/compliance-protections/Research-Protections/Animal-Recombinant-DNA.aspx>

Use of Human Subjects in Research:

Similarly, for any proposal for research involving human subjects, the Offeror must submit prior to award: documentation of approval from an Institutional Review Board (IRB); IRB-approved research protocol; IRB- approved informed consent form; proof of completed human research training (e.g., training certificate or institutional verification of training); an application for a DoD- Navy Addendum to the Offeror's DHHS-issued Federal wide Assurance (FWA) or the Offeror's DoD-Navy Addendum. In the event that an exemption criterion under 32 CFR 219 101(b) is claimed, provide documentation of the determination

by the Institutional Review Board (IRB) Chair, IRB vice Chair, designated IRB administrator or official of the human research protection program including the category of exemption and short rationale statement. Determinations that the activity is not research involving human subjects must also be provided. This documentation must be submitted to the ONR Human Research Protection Official (HRPO), by way of the ONR Program Officer. Information about assurance applications and forms can be obtained by contacting ONR_343_contact@navy.mil. If the research is determined by the IRB to be greater than minimal risk, the Offeror also must provide the name and contact information for the independent medical monitor. For assistance with submission of human subject research related documentation, contact the ONR Human Research Protection Official at (703) 696-4046.

Guidance: <http://www.onr.navy.mil/About-ONR/compliance-protections/Research-Protections/Human-Subject-Research.aspx>

I. Recombinant DNA:

Proposals which call for experiments using recombinant DNA must include documentation of compliance with Department of Health and Human Services (DHHS) recombinant DNA regulations, approval of the Institutional Biosafety Committee (IBC), and copies of the DHHS Approval of the IBC letter.

J. Institutional Dual Use Research of Concern:

As of September 24, 2015, all institutions and USG funding agencies subject to the [United States Government Policy for Institutional Oversight of Life Sciences Dual Use Research of Concern](#) must comply with all the requirements listed therein. If your research proposal directly involves certain biological agents or toxins, contact the cognizant Technical Point of Contact. U.S. Government Science, Safety, Security (S3) guidance may be found at <http://www.phe.gov/s3/dualuse>.

K. Department of Defense High Performance Computing Program:

The DoD High Performance Computing Program (HPCMP) furnishes the DoD S&T and RDT&E communities with use-access to very powerful high performance computing systems. Awardees of ONR contracts, grants, and other assistance instruments may be eligible to use HPCMP assets in support of their funded activities if ONR Program Officer approval is obtained and if security/screening requirements are favorably completed. Additional information and an application may be found at <http://www.hpcmo.hpc.mil/>.

L. Project Meetings and Reviews:

Individual program reviews between the ONR sponsor and the performer may be held as necessary. Program status reviews may also be held to provide a forum for reviews of the latest results from experiments and any other incremental progress towards the major demonstrations. These meetings will be held at various sites throughout the country. For costing purposes, Offerors should assume that 40% of these meetings will be at or near ONR, Arlington VA and 60% at other contractor or government facilities.