ONR BAA Announcement # 11-016
Date: 31 March 2011

Long Endurance Undersea Vehicle Propulsion

INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2), and 35.016. 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.

ONR reserves the right to select for award all, some or none of the proposals received 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 BAA will not be returned. It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

I. GENERAL INFORMATION

1. Agency Name:

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

2. Research Opportunity Title:

Long Endurance Scalable Air Independent Energy Solution for Undersea Vehicles

3. Program Name:

Long Endurance Undersea Vehicle Propulsion Future Naval Capability

4. Research Opportunity Number:

ONR BAA 11-016

5. Response Date:

Full Proposals Due Date: 16 May 2011, 2:00 PM Eastern Daylight Time

6. Research Opportunity Description:

The Office of Naval Research (ONR) is interested in receiving proposals for an energy dense air –independent, rechargeable/refuelable energy system for a long duration unmanned undersea vehicle (UUV). The performers will deliver a scalable energy system with threshold and objective performances as defined in Table 1.

	Threshold	Objective
Nominal Power Density (Watts/liter)	10	20
Energy Section Length	76.2 cm (30'')	76.2 cm (30'')
Energy Volume (liter) 47.0 cm (18.5'') (ID) x 76.2 cm (30'')	132	132
Energy Mass (kg) w/o hull & bulkhead	132 (neutrally buoyant)	132 (neutrally buoyant)
Energy (kWh)	42	68
Duration (hrs)	$\geq$30	$\geq$30

Table 1. Threshold and Objective Metrics

The goal of this program is to develop and demonstrate power system technologies capable of the performance specifications and characteristics contained in Tables 1-3 with the purpose of transitioning the technology to the Navy. Proposals shall describe a complete system concept, provide a detailed scope of work for the development of the core technology(ies) and conduct integrated bench-top system testing to achieve a Technology Readiness Level (TRL) of no less than 4 (Phase I Base). In addition to the specific S&T performance capabilities, proposers are expected to conduct a safety analysis of the system energy technology concept. Any proposal that does not provide a specific full system solution, as well as a safety analysis, will not be considered.

PLEASE NOTE: NUCLEAR POWER OPTIONS WILL NOT BE CONSIDERED FOR THIS EFFORT.

6.1 Background:

This background is provided for informational purposes only. Greater breadth of mission profiles for current and future Naval Unmanned Undersea Vehicles (UUVs) require longer endurance stealthy propulsion systems that extend the current capability of 10-40 hours to several days or weeks (UUV Master Plan; www.navy.mil/navydata/technology/uuvmp.pdf). Current and future anticipated technologies based solely on high energy density batteries will not provide adequate endurance for future Naval UUV missions. Solutions beyond battery-only technology capabilities are required.

Briefs that describe the Navy need, current state-of-the-art, and program goals from the ONR Industry Day for ONR BAA 11-016, held on 08 February 2011, are available on the ONR web site at the hyperlink in Appendix B.

Information in ONR BAA 11-016 regarding desired capabilities, metrics, and any other technical or contracting information supersedes any previously published information (including that briefed at the industry day). Only the information published in ONR BAA 11-016 and any ensuing amendments will be used during source selection.

6.2 Program Plan:

It is anticipated that awards will be in the form of cost-type contracts, specifically Indefinite Delivery/Indefinite Quantity (IDIQ) contracts with cost-type Task Orders under those IDIQ contract vehicles, with the evaluation criteria provided in Section V of this BAA.

The three (3) planned phases, Phase I Base, Phase I Option, and Phase II, are covered by this BAA, and the objectives for each are described below. **Only full technical and cost proposals for Phase I Base and Phase I Option are being requested at this time.** However, consistent with the BAA requirement for a full system description, proposers must include a preliminary description of their anticipated Phase II effort together with a ROM Phase II cost estimate. Decisions for continuation to Phase I Option and Phase II will be based on the degree to which Phase I Base results meet key metrics as described in the following section below and the proposed path to achieve objective metrics.

Phase I Base (up to 18 months):
Phase I Base has an up to 18-month period of performance that must be capable of meeting at a minimum, the **THRESHOLD** metrics listed in Table 1, and be capable of meeting the mission profile in Figure 1.

Objective:

- Conduct subscale (>1 kW) component and/or full-scale critical component and integration testing and analysis as a basis to meet at a minimum the Table 1 threshold metrics and the Figure 1 Mission Profile at a TRL 4 system level demonstration. Integration of the major components (i.e. power plant, fuel and oxidant storage/delivery subsystems, reaction product storage/handling subsystem

and Balance of Plant (BOP) components) must be part of the system demonstration. In addition, proposers must demonstrate that their proposed technology has the ability to meet a load profile representative (in regards to transients, duration) of the Figure 1 mission profile (Data Table in Appendix A). A matrix listing all test parameters and test conditions of component and full-scale testing should be provided in the proposal. System reliability should be demonstrated by conducting several starts/stops without refueling.

- Develop a preliminary Energy System 3D CAD-based Solid Model demonstrating attainment of the performance specifications as stated in Table 1. This solid model must contain all components/subsystems of the energy section, necessary interfaces, and representative volumes of the final system. Provide a development plan that details how the desired and environmental metrics as listed in Tables 2 and 3 will be met. Environmental metrics MUST be met and desired metrics *should* be met if possible. Identify low, medium and high risk items along with mitigation plans to address the risks.
- Generate a table listing the weights and volumes of all the representative full-system energy section components, TRLs of the subcomponents, and necessary BOP items. Table *should* also include an initial high level cost analysis of identified components; a more detailed cost analysis is a Phase I Option deliverable. This table will be updated monthly (provided with each monthly report) and a final version will be included as a deliverable in the final report.
- Demonstrate via analysis and documentation the safe and reliable operation of high specific energy reactants (fuels, oxidizers, etc.) and power conversion equipment/systems via a Preliminary Hazards Analysis (PHA) for both component level hardware and systems level hardware and their subsequent operations in an autonomous environment. This will include identification and control of hazards, subsequent risk assessment and the necessary mitigation/countermeasure strategies to eliminate/control those hazards as necessary to manage those risks at an acceptable level.

Deliverables:

- Monthly Technical Reports
- Monthly Financial Reports
- Preliminary Hazard/Safety Analysis for the energy subsection using MIL-STD-882D as guidance. Format shall be in accordance with DI-SAFT 80101B (links available in Appendix B).
- Preliminary System Design
- Preliminary Design Review
- Final Report that includes a table of all system components with weights/volumes, TRLs, etc.
- Phase II Plan of Action (including a prioritized list of risks associated with the Phase II final system); due 30 days prior to the end of the contract
- A 3D solid model of a full scale energy system in one of the following CAD universal exchange formats:
    - STEP (214)
    - IGES

- Energy System layout drawings of critical components, interfaces and subsystems integrated into the hull; this would be 2-D Level I drawings at a minimum. Use both .dxf and .pdf formats
- Table describing all observables, emissions and signatures of the system. Neutral buoyancy must be maintained and effluence is prohibited during peak power operations.

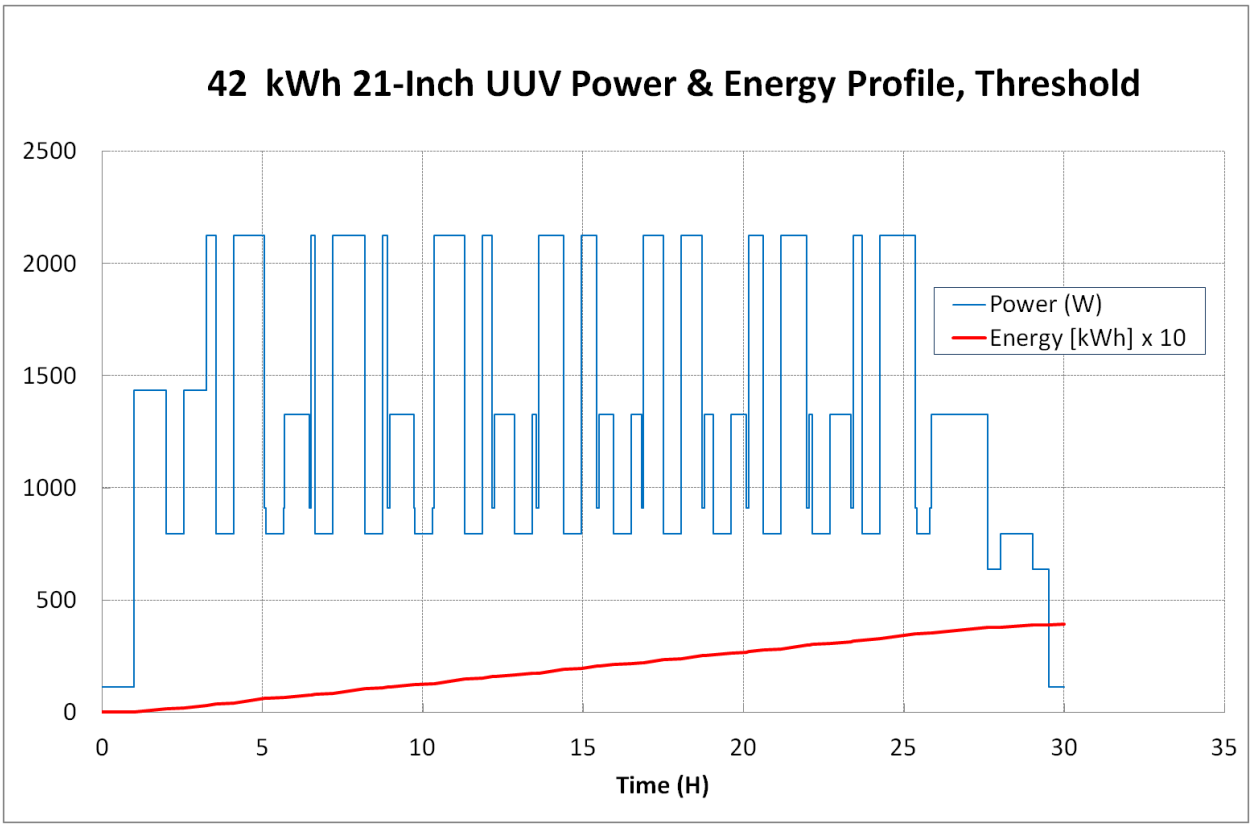

Figure 1. Threshold Mission Profile
(Data available in Appendix A)

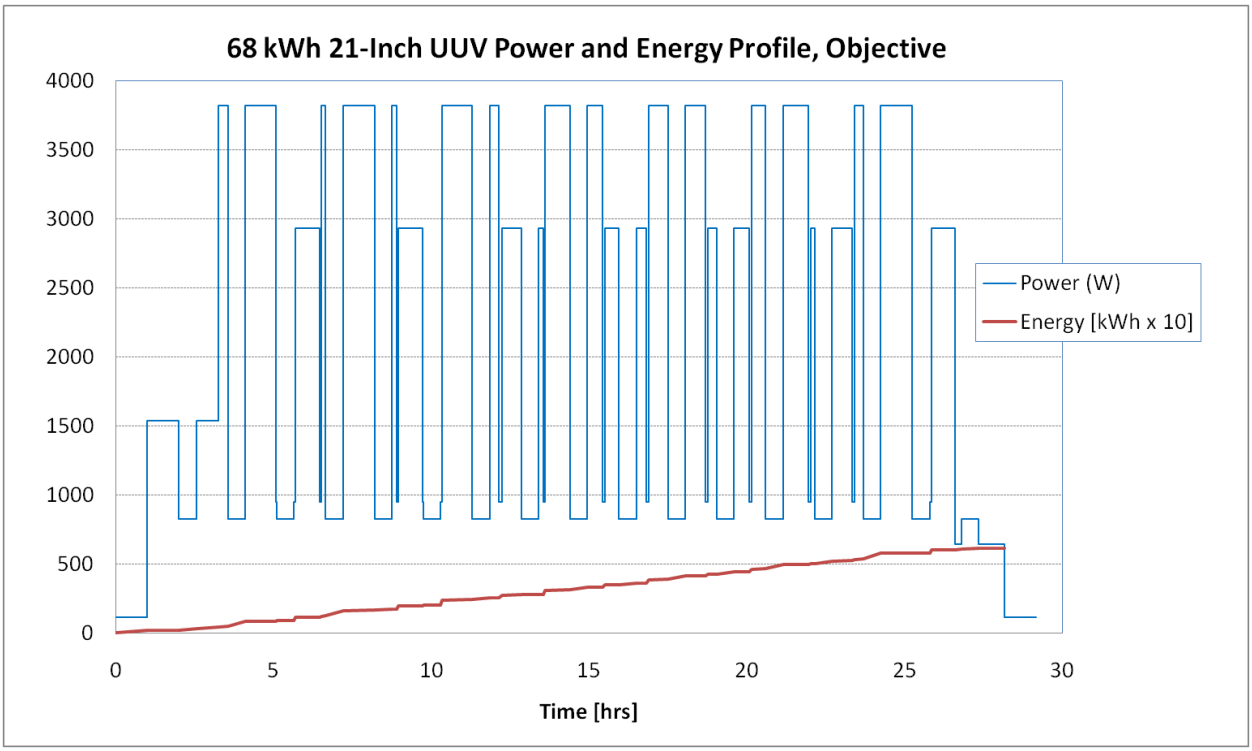

Figure 2. Objective Mission Profile
(Data available in Appendix A)

Specification	Metric
Platform Diameter Size	53.3 cm (21'')
Energy Density	300-600 Wh/liter, neutrally buoyant (calculation based on 18.5" diameter)
Endurance	≥ 30 hours
Start/Stop Cycles	3-5
Refuelability	Yes, without breaking the hull[1]
Scalable	Yes
Open vs. Closed Cycle	Closed[2]
Operating Depth	152.4 M (500') (depth independent desirable and assume operation at depth). Proposers must note any depth restrictions inherent in their proposal
Power Profile	See Figures 1 and 2
Peak Power	See Figures 1 and 2
Orientation: Roll, Pitch	± 45 Degrees
Refueling Turn-around Time	2 hour threshold/ 1 hour objective
Maintenance Specifications	Corrective maintenance tasks: < 5 hours threshold; < 2 hrs objective. Depot level maintenance: > 180 days or >300 hours operating hours threshold; > 360 days or > 600 operating hours objective
Safety	See Section 6.2, page 10
Key Interfaces	24-48VDC (bus voltage) conduit for vehicle cable pass-through; health/remaining energy monitor. Systems need to provide conversion to electrical power on demand at the bus voltage.

1. Refueling may be accomplished via panels or ports installed in the UUV hull. However, refueling solutions that involve sectioning or disassembly of the UUV will not be considered.
2. Open systems will be considered. For both closed and open systems, proposers must describe all observables, emissions and signatures of the system. Neutral buoyancy must be maintained and effluence is prohibited during peak power operations.

Table 2. Desired Metrics

Specification	Metric
Environment (Operating Conditions)	
Salinity	0 to 50 parts per thousand (ppt)
Salinity Variation	± 10 ppt during a single sortie
Water Temperature	-1.1°C – 35.0°C (30°F to 95°F)
Air Temperature	-28.9°C to 50°C (-20°F to 122°F)
Temperature Shock	-28.9°C to 50°C (-20°F to 122°F)
Shipboard Shock	MIL-STD-901D (Grade B) while secured to transportation pallet
Shipboard Vibration	MIL-STD-167-1
Humidity	0-100 % relative humidity
Salt Fog	Marine Environment
Fungus	Avoid Materials that promote fungal growth
Icing/Freezing Rain	Operate where icing may occur from sea splash/spray
Electromagnetic Environment	MIL-STD-461F (RE101, RE102, RS101, RS103)
Environment (Non Operating Conditions)	
Transportation Altitude	0 to 12,192 M(0-40,000 ft) (pressurized or non-pressurized)
Transportation & Storage Temperature	-40.0°C to 108.9°C (-40°F to 160°F)
Transportation Shock & Vibration	Withstand ground, air, rail, ship transport (MIL-STD-1366E guidance)

Table 3. Environmental Metrics

Phase I Option (6 months):

Decisions for continuation to Phase I Option will be based on the degree to which Phase I Base results meet key metrics as described in Section 6.2 above.

Objective:

- Finalize the design and initiate full-scale system component procurement for the Phase II demonstration, final BOP integration strategy and the test plan detailing the conditions for the final TRL 6 demonstration.
- Conduct Critical Design Review
- Conduct system level cost analysis, including up front (capital cost) and life cycle cost. Cost analysis should include the following:
  - Projected procurement cost of each system in production lots of 4, 10 and 100 per year over 10 years
  - Consumable costs per mission (Figure 2)
  - Manpower requirements for the turnaround of the vehicle's energy section

Deliverables:

- Monthly Technical Reports
- Monthly Financial Reports
- 3D solid model of a full scale energy system in one of the following CAD universal exchange formats:
  - STEP (214)
  - IGES
- Energy System layout drawings of critical components, interfaces and subsystems integrated into the hull; this would be 2-D Level I drawings at a minimum. Use both .dxf and .pdf formats.
- Prioritized list of Phase II risk and mitigation strategies
- Table of final system components with weights, volumes, and associated cost
- Final Report
- Cost Analysis. Cost analysis should include both Non-Recurring Engineering acquisition cost and/or timeline in relation to achievable TRL as well as the Recurring operational costs, in terms of labor hours and consumables, of the mature system, i.e. refueling/recharging/reconfiguring/maintaining before and/or after mission operations. Cost should be analyzed assuming the UUV Energy Section experiences *72* missions per year at 68 kWh per mission.
- Phase II Technical and Cost Proposal

Phase II (up to 30 months):

The Government intends to evaluate Phase II Proposals from those contractors whose efforts have met at least the THRESHOLD metrics and whose Phase II Plan of Action quantifies the extent to which the OBJECTIVE metrics listed in Table 1 and the mission profile in Figure 2 (data table in Appendix A) can be attained. The performers will conduct integrated full-scale testing, at a TRL 6 land-based demonstration in a UUV energy section. Proposers must demonstrate that their proposed technology has the potential to meet a load profile representative (in regards to transients, duration) of the Figure 2 mission profile. A full scale UUV Energy

Section hull and interface documentation will be provided as GFE/GFI. ***NOTE: These energy section hulls will not be customized beyond the need for fueling/penetrator ports.***

Objectives:

- Full scale system integration into a UUV Energy Section hull
- Land-based (TRL 6) test demonstration of the OBJECTIVE metrics (Table 1) and OBJECTIVE mission profile (Figure 2) in a UUV Energy Section hull.
- Develop all necessary Standard Operating Procedures (SOPs), operating manuals, maintenance schedules, a detailed system flow and instrumentation schematic to show the functional relationship of piping, instrumentation and system equipment components, and a parts list for the energy system (this system package will be a deliverable).

Deliverables:

- Monthly Technical Reports
- Monthly Financial Reports
- Final Report (along with the summary of all the test results, this report should also include recommendations necessary to further mature the technology, such as component risks that need further development/testing, component system reliability, component system manufacturing improvements, etc.)
- 3-D Solid model of a full scale energy system in one of the following CAD universal exchange formats:
    - STEP (214)
    - IGES
- Detailed Design Package, containing Level II 2-D drawings and an accompanying parts list. Use both .dxf and .pdf formats.
- Energy System layout drawings of critical components, interfaces and subsystems integrated into the hull; this would be 2-D Level I drawings at a minimum. Use both .dxf and .pdf formats
- Standard Operating Procedures (SOPs), operating manuals, maintenance schedules.
- Piping and Instrumentation Diagram (P&ID) schematic illustrating the functional relationship of piping, instrumentation and system equipment
- Hazards Assessment using MIL-STD-882D as guidance. Format shall be in accordance with DI-SAFT 80101B (links available in Appendix B).
- Full scale system integrated into a UUV energy section hull and tested.

The Energy System shall be designed for safety of the ship, its crew, and all personnel involved in shipping, loading and handling, operation, and maintenance of the system. No single point of failure or human error shall lead to initiation of a Category I hazard (Catastrophic - defined as death, system loss, or severe damage) or Category II hazard (Critical - defined as severe injury, severe occupational illness, major system or environmental damage). Two or more independent faults, which may result in a Category I or II hazard, shall not be permitted unless their total probability of occurrence is less than or equal to $1 \text{ X } 10^{-6}$.

Although ONR expects a program phasing plan similar to the above to be executed, ONR reserves the right to make one or more changes as determined to be in the best interest of the Government

7. Point(s) of Contact:

All UNCLASSIFIED communications shall be submitted via e-mail. All technical questions of an UNCLASSIFIED nature to the Technical Point of Contact (POC) shall be sent via e-mail with a copy to the designated Business POC.

Questions of a **technical** nature should be submitted to:

Name:	Ms. Maria Medeiros
Occupation Title:	Program Officer
Code:	Sea Platforms and Weapons, Code 333
Address:	Office of Naval Research One Liberty Center 875 North Randolph Street Arlington, VA 22203-1995
Email Address:	Maria.Medeiros1@navy.mil

Questions of a **business** nature should be submitted to:

Business Point of Contact:

Name:	Ms. Tracie Simmons
Occupation Title:	Business Analyst
Code:	Contracts & Grants, BD 253
Address:	Office of Naval Research One Liberty Center 875 North Randolph Street Arlington, VA 22203-1995
Email Address:	tracie.simmons@navy.mil

Questions of a **security** nature should be submitted to:

Name:	Ms. Diana Pacheco
Occupation Title:	Industrial Security Specialist
Code:	Security Department, Code 43
Address:	Office of Naval Research One Liberty Center 875 North Randolph St. Arlington, VA 22203-1995
Email Address:	diana.pacheco@navy.mil

CLASSIFIED questions shall be handled through the ONR Security POC. Specifically, any entity wanting to ask a CLASSIFIED question shall send an email to the ONR Security POC with a copy to both the Technical POC and the Business POC stating that the entity would like to ask a CLASSIFIED question. DO NOT EMAIL ANY CLASSIFIED QUESTIONS. The Security POC will contact the entity and arrange for the CLASSIFIED question to be asked through a secure method of communication.

All questions are due no later than 2:00 PM Eastern Daylight Time 29 April 2011.

Answers to questions submitted in response to ONRBAA11-016 will be addressed in the form of an Amendment and will be posted to the following web pages:

Federal Business Opportunities (FEDBIZOPPS) Webpage – https://www.fbo.gov/
ONR Broad Agency Announcement (BAA) Webpage – http://www.onr.navy.mil/en/Contracts-Grants/Funding-Opportunities/Broad-Agency-Announcements.aspx

8. Instrument Type(s):

Awards will be in the form of cost-type contracts, specifically Indefinite Delivery/Indefinite Quantity (IDIQ) contracts with cost-type Task Orders made from those IDIQ contract vehicles.

ONR reserves the right to award a different instrument type if deemed to be in the best interest of the Government.

9. Catalog of Federal Domestic Assistance (CFDA) Numbers:

N.A.

10. Catalog of Federal Domestic Assistance (CFDA) Titles:

N.A.

11. Other Information:

Work funded under a BAA may include basic research, applied research and some advanced research. With regard to any restrictions on the conduct or outcome of work funded under this BAA, 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 Category 1 (Basic Research), whether performed by universities or industry or (b) funded by Budget Category 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 applied research 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 Category 6.2 (Applied Research) and NOT performed on-campus at a university or b) funded by Budget Category 6.3 (Advanced Research) does not meet the definition of "contracted fundamental research." In conformance with the USD(AT&L) guidance and National Security Decision Direction 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. **Regarding this BAA, the Research and Development efforts to be funded consist of applied research and advanced technology development. Therefore, the funds available to support awards are Budget Activities 2 and 3.**

FAR Part 35 restricts the use of Broad Agency Announcements (BAAs), such as this, to the acquisition of basic and applied research and that portion of advanced technology development not related to the development of a specific system or hardware procurement. Contracts and grants and other assistance agreements made under BAAs are for scientific study and experimentation directed towards advancing the state of the art and increasing knowledge or understanding.

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

II. AWARD INFORMATION

ONR anticipates that up to three (3) IDIQ contracts and task order 0001 awards will result from this BAA. A total of approximately $18M is anticipated to be available over the 5 year span (FY12-16). Although the amount of funds and period of performance for each proposal will vary depending on the technical approach to be pursued by the proposer, it is expected each proposal will be structured according to the Research Opportunity Description above.

The IDIQ minimum quantity will be $25,000. The IDIQ maximum quantity will be based on the total program estimate, which is approximately $18M.

It is expected that each Phase I (base plus option) Task Order 0001 will total approximately $3.5M. ONR is looking for the best value with regards to this research.

Subsequent Task Orders will be issued based on the success of the prior phase and will follow the criteria established in FAR 16.505.

ONR currently expects to make Phase II awards to all Phase I Base/Option performers whose products have met key metrics (Tables 1-3 and Figure 1) and have the likelihood to meet overall objectives described in the BAA. Approximately $8M is available for Phase II awards, however if sufficient funds are not available to make Phase II awards to all Phase I contractors that have met these criteria, then a down-selection would occur that provides fair opportunity in accordance with FAR 16.505 by making awards to the Phase I performer or performers that have best met or exceeded the metrics and have the best likelihood to meet the overall objectives described in the BAA.

In the case of funded proposals for the production and testing of prototypes, ONR may during the contract period add a contract line item or contract option for the provision of advanced component development or for the delivery of additional prototype units. However, such a contract addition shall be subject to the limitation contained in Section 819 of the National Defense Authorization Act for Fiscal Year 2010.

III. ELIGIBILITY INFORMATION

All responsible sources from industry and academia may submit proposals under this BAA. 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 BAA will be set aside for HBCU and MI participation.

Federally Funded Research & Development Centers (FFRDCs), including Department of Energy National Laboratories, are not eligible to receive awards under this BAA. However, teaming arrangements between FFRDCs and eligible principal bidders are allowed so long as they are permitted under the sponsoring agreement between the Government and the specific FFRDC.

Navy laboratories and warfare centers as well as other Department of Defense and civilian agency laboratories are also not eligible to receive awards under this BAA and should not directly submit full proposals in response to this BAA. If any such organization is interested in the program described herein, the organization should contact the technical POC to discuss their interest. As with FFRDCs, these types of federal organizations may team with other responsible sources from industry and academia that are submitting proposals under this BAA.

University Affiliated Research Centers are eligible to submit proposals under this BAA unless precluded from doing so by their Department of Defense UARC contracts.

Teams are also encouraged and may submit proposals. However, proposers 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.

This BAA topic covers export controlled technologies. Research in these areas is limited to "U.S. persons" as defined in the International Traffic in Arms Regulation (ITAR) – 22 CFR § 1201.1 et seq. Additionally, since access to US Navy and other access controlled research facilities will be required, **All Key Personnel** for each proposer must be United States citizens.

Proposers must possess an active PKI certificate (External Certificate Authority) from 30 days after contract award through the duration of the performance period. This is required for access to a government run sharepoint site for report and briefing materials submission.

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process: Full Proposals

Full Proposals – Only proposals for the Phase I Base and Phase I Option are being solicited at this time. The due date for receipt of Full Proposals is 2:00 PM (Eastern Daylight Time) on 16 May 2011. It is anticipated that initial selections will be made by 15 Aug 2011. As soon as the final proposal evaluation process is completed, the proposers will be notified via email of their selection or non-selection for an award. Full Proposals shall be mailed to the technical point of contact listed above in Section I.7.

2. Content and Format of Full Proposals:

Proposals submitted under this BAA are expected to be unclassified.

Proposal submissions will be protected from unauthorized disclosure in accordance with FAR Subpart 15.207, applicable law, and DoD/DoN regulations. Proposers are expected to appropriately mark each page of their submission that contains proprietary information.

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

NOTE: *Submission instructions for BAAs issued after FY2010 have changed significantly from previous requirements. Potential proposers are advised to carefully read and follow the instructions below. The new format and requirements have been developed to streamline and ease both the submission and the review of proposals. Both the Template and the Spreadsheet have instructions imbedded into them that will assist in completing the documents. Also, both the Template and the Spreadsheet require completion of cost-related information – both documents must be fully completed to constitute a valid proposal.*

All *proposals* ***must*** *use both ONR's Technical and Cost Proposal Template as well as its Cost Proposal Spreadsheet.* In addition to following the requirements in the *Technical and Cost Proposal Template,* the following additional guidance stated below is provided when completing the

sections for "Technical Approach and Justification", "Future Naval Relevance", "Operational Naval Concept", Operational Utility Assessment Plan", and "Statement of Work".

The Technical and Cost Proposal Template can be found by following this link: http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/cost-proposal.aspx

a. Technical Content Section III.1 entitled "Technical Approach and Justification" in the *Technical and Cost Proposal Template* **is limited to a total of 20 pages**, including supplementary attachments to further explain scientific approach.

b. Sections entitled, "Future Naval Relevance", "Operational Naval Concept", and "Operational Utility Assessment Plan" stated in Section III.1 of the *Technical and Cost Proposal Template* **are not required** for this solicitation.

c. SOW Section III.2 (3.0) entitled, "Requirements" in the *Technical and Cost Proposal Template* has numbering requirements for tasks, which **must** map directly to the Work Breakdown Structure (WBS) developed for pricing the proposal. Additionally, all subcontractors and internal organizations must use the same SOW and WBS numbering/definitions in their proposal to the prime contractor.

*Please note that the following **additional** factors listed below; Intellectual Property, Patents, Intellectual Property Representations, and Letters of Commitment **must** be addressed within your proposal under this BAA, which can be incorporated **into the Template file for submission** as attachments to the Technical and Cost Proposal Template.*

. **3. Intellectual Property Information:**

Below are three aspects of intellectual property that each proposer should address as part of its proposal. Rapid transitioning of successful R&D projects to production and to the warfighters has too often in the past been delayed or prevented because of unanticipated intellectual property issues that surfaced only later. It is a key desire of the ONR program office to understand in advance any IP issues that might adversely impact implementation by the Navy of an otherwise successful energy system for long duration, unmanned undersea vehicles.

- **Intellectual Property:** (Does not count towards page limit)

a. Noncommercial Items (Technical Data and Computer Software):

Each proposer responding to this BAA shall identify all noncommercial technical data and noncommercial computer software that it plans to acquire, generate, develop, utilize and/or deliver under any award if the Government will acquire less than unlimited rights in the technical data and software. Proposers will follow the format under DFARS 252.227-7017 to assert specific rights restrictions on these deliverables. In the event that a proposer and its subcontractors do not submit any Data Rights Assertions, the Government will assume that it has unlimited rights to all noncommercial technical data and noncommercial computer software acquired, generated, developed, utilized and/or delivered under any award instrument, unless it is

substantiated that development of the noncommercial technical data and noncommercial computer software occurred with mixed funding. If mixed funding is used in the development of noncommercial technical data and noncommercial computer software acquired, generated, developed, used and/or delivered under any award, then the proposer should identify the data and software in question as subject to Government Purpose Rights (GPR) in accordance with DFARS 252.227-7013 Rights in Technical Data - Noncommercial Items, and DFARS 252.227-7014 Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation. Equivalent data/software generated under an SBIR contract may be subject to SBIR rights in accordance with DFARS 252.227-7018. The Government will assume that any such GPR or SBIR rights restriction is limited to a period of five (5) years in accordance with the applicable DFARS clauses. At the end of that period the Government will acquire unlimited rights in the data and software unless the parties have agreed otherwise. Be aware that the Government will use the proposer's Data Rights Assertions during the source selection evaluation process to evaluate the impact of any identified IP restrictions and may request additional information from the proposer, as may be necessary, to evaluate the proposer's assertions. If no IP restrictions are intended, then the proposer should so indicate in his proposal.

A sample Data Rights Assertion table for noncommercial items is shown below:

NONCOMMERCIAL			
Technical Data Computer Software To be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(LIST)	(LIST)	(LIST)	(LIST)

b. Commercial Items (Technical Data and Computer Software):

Each proposer responding to this BAA shall identify all commercial technical data and commercial computer software that may be delivered under the research effort, along with any applicable restrictions on the Government's use of such commercial technical data and/or commercial computer software. DFARS 252.227-7015 shall apply as regards rights in technical data involving commercial items. In the event that a proposer and its subcontractors do not submit Data Rights Assertions regarding commercial items, the Government will assume that there are no restrictions on the Government's use of such commercial items. The Government will use the proposer's Data Rights Assertions during the source selection evaluation process to evaluate the impact of any identified restrictions and may request additional information from the proposer, as may be necessary, to evaluate the proposer's assertions. If no restrictions are intended, then the proposer should state "NONE."

A sample Data Rights Assertion table for commercial items is shown below:

COMMERCIAL			
Technical Data Computer Software To be Furnished	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions

With Restrictions			
(LIST)	(LIST)	(LIST)	(LIST)

- **Patents:** (Does not count towards page limit)

Each proposer responding to this BAA shall include documentation proving their ownership of, or possession of, appropriate licensing rights to all patented inventions (or inventions for which a patent application has been filed) that will be utilized under their proposal for the ONR program, or each invention that the proposer will utilize. The proposer shall provide to the extent known and applicable, the patent number, serial number, inventor name(s), assignee names (if any), filing date, filing date of any related provisional application, and a summary of the patent title, together with either: 1) a representation the proposer owns the invention, or 2) proof of possession of appropriate licensing rights in the invention.

- **Intellectual Property Representations:** (Does not count towards page limit)

Each proposer responding to this BAA shall provide a good faith representation that they either own or possess appropriate licensing rights to all other intellectual property that will be utilized under their proposal for the ONR program. Additionally, proposers shall provide a short summary for each item asserted with less than unlimited rights. The summary shall describe the nature of the restriction and the intended use of the intellectual property in the conduct of the proposed research.

Proposers shall provide for each patented invention (or invention for which a patent application has been filed) to be provided to the Government without at least a worldwide, nonexclusive, nontransferable, irrevocable, paid-up license to practice, or have practiced for or on its behalf, the invention throughout the world, a short summary that describes the nature of any restriction on the Government's use, including the conditions under which the Government may acquire a license to the invention. The proposer shall also clarify the intended use of the invention in any deliverable under the proposed award instrument.

- **Letters of Commitment:** (Does not count towards page limit)

Include Letters of Commitment from key member companies/organizations. These letters shall not exceed one page in length and must reflect commitment (e.g., cost share, other donated services, etc.) to the project and not discuss technical information.

In addition, all of the attachments listed in Section III.8 of the *Technical and Cost Proposal Template* can be incorporated into the Template file for submission.

The format requirements for any attachments to the *Technical and Cost Proposal Template* are as follows:

- Paper Size – 8.5 x 11 inch paper
- Margins – 1 inch
- Spacing – single or double spaced

- Font – Times New Roman, 12 point

The Cost Proposal Spreadsheet can be found by following this link: http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/cost-proposal.aspx.

For proposed subcontracts or interorganizational transfers over $150,000, proposers must provide a separate fully completed Cost Proposal Spreadsheet in support of the proposed costs. This spreadsheet, along with supporting documentation, must be provided either in a sealed envelope with the prime's proposal or via e-mail directly to both the Program Officer and the Business Point of Contact at the same time the prime proposal is submitted. The e-mail should identify the proposal title, the prime proposer and that the attached proposal is a subcontract, and should include a description of the effort to be performed by the subcontractor. Proposers should also familiarize themselves with the new subcontract reporting requirements set forth in Federal Acquisition Regulation (FAR) clause 52.204-10, Reporting Executive Compensation and First-Tier Subcontract Awards. From October 1, 2010 through February 28, 2011, any newly awarded subcontract must be reported if the prime contract award amount is $550,000 or more. Starting March 1, 2011, any newly awarded subcontract must be reported if the prime contract award amount was $25,000 or more. The pertinent requirements can be found in Section VII, Other Information, of this document.

Offerors must submit one (1) original, plus five (5) hard copies of their Technical and Cost Proposal package, and one (1) electronic copy on a CD-ROM. Offerors shall follow the Technical and Cost Proposal Template. The electronic Technical and Cost Proposal should be submitted in a secure, pdf compatible format, save for the electronic file for the Cost Proposal Spreadsheet which should be submitted in a Microsoft Excel 2007 compatible format. All attachments should be submitted in a secure, pdf compatible format.

The secure pdf compatible format is intended to prevent unauthorized editing of the proposal prior to any award. A password should not be required for opening the proposal document, but the Government must have the ability to print and copy text, images, and other content. Offerors may also submit their Technical and Cost Proposal in an electronic file that allows for revision (preferably in Microsoft Word) to facilitate the communication of potential revisions. Should an offeror amend its Technical and Cost Proposal package, the amended proposal should be submitted following the same hard and electronic copy guidance applicable to the original proposal.

The electronic submission of the Excel spreadsheet should be in a "useable condition" to aid the Government with its evaluation. The term "useable condition" indicated that the spreadsheet should visibly include and separately identify within each appropriate cell any and all inputs, formulas, calculations, etc. the Offeror should not provide "value only spreadsheets" similar to a hard copy.

Significant Dates and Times

Anticipated Schedule of Events		
Event	Date (MM/DD/YEAR)	Time (Eastern Daylight Time)
Pre-Proposal Conference/Industry Day	02/08/2011	
Questions Due	04/29/2011	1400
Full Proposals Due Date	5/16/2011	1400
Notification of Selection for Award *	08/15/2011	
Contract Awards*	145 days after award notification	

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

NOTE: Due to changes in security procedures since September 11, 2001, the time required for hard-copy written materials to be **received** at the Office of Naval Research has increased. Materials submitted through the U.S. Postal Service, for example, may take seven days or more to be received, even when sent by Express Mail. Thus it is **strongly recommended** that any hard-copy proposal should be submitted long enough before the deadline established in the solicitation so that it will not be received late and thus be ineligible for award consideration.

Submission of Late Proposals

Any proposal, modification, or revision, that is received at the designated Government office after the exact time specified for receipt of proposals is "late" and will not be considered unless it is received before award is made, the contracting officer determines that accepting the late proposal would not unduly delay the acquisition and

a) If it was transmitted through an electronic commerce method authorized by the announcement, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

b) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government's control prior to the time set for receipt of proposals; or

c) It was the only proposal received.

However, a late modification of an otherwise timely and successful proposal that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

Acceptable evidence to establish the time or receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the Government office designated for receipt of proposals by the exact time specified in the announcement, and urgent Government requirements preclude amendment of the announcement closing date, the time specified for receipt of proposals will be deemed to be extend to the same time of day specified in the announcement on the first work day on which normal Government processes resume.

The Contracting Officer must promptly notify any proposer if its proposal, modifications, or revision was received late and must inform the proposer whether its proposal will be considered.

Address for Submission of Full Proposals

All hard copies of full proposal shall be **mailed or hand delivered** to the Technical Point of Contact located in Section I.7 above. If hand delivered, building security will contact the Technical Point of Contact or Mr. Frank Pennypacker @ 703-696-5074 if the Technical Point of Contact is not available to receive the proposal in person.

NOTE: PROPOSALS SENT BY FAX OR E-MAIL WILL NOT BE CONSIDERED

V. EVALUATION INFORMATION

1. Evaluation Criteria

Award decisions will be based on competitive selection of proposals resulting from a scientific/technical and cost review. Evaluations will be conducted using the following evaluation criteria:

1. Ability to Meet Program Technical Metrics:
The feasibility and likelihood of the proposed approach to meet the program technical objectives/metrics. The extent to which the proposal reflects a mature, substantiated, and quantitative understanding of the program technical objectives/metrics, the statistical confidence with which they may be measured, and their relationship to the concept of operations that will result from successful performance in the program. A proposal that fails to adequately address how it will meet Program Technical Objectives/Metrics shall not be reviewed further. If the proposal is rated unacceptable in this category it shall not be reviewed any further.

2. Overall Scientific and Technical Merit:
The extent to which the proposed technical approach is feasible, achievable, and complete. Task descriptions and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that a final product that achieves the goal can be expected as a result of award. The proposal identifies major technical risks, and planned mitigation efforts are clearly defined and feasible.

Proposers must demonstrate that their proposal is innovative; that the technical approach is comprehensive, systematic and sound; that they have an understanding of critical technical issues and risks; that they have a plan for mitigation of those risks; and that the technical elements are well integrated into a cohesive program. Task descriptions and associated technical elements provided are complete and in a logical sequence with all proposed deliverables clearly defined such that the final product can be expected to achieve the program goals.

3. Potential for the Technology to Transition:
This factor assesses a technology's potential and likelihood of implementation on Navy platforms.

A concern for the government is the ability to transition the Long Endurance Undersea Vehicle (LE UV) energy program to production once the technology is proven. Key to a successful transition is upfront planning, acknowledging and resolving all aspects of IP rights. The following criteria will be considered to evaluate best value and best fit to any future transition:

- IP assertions are clearly delineated.
- IP assertions are well substantiated.
- Licensing terms are clear and enforceable.

4. Proposer's Capabilities and/or Related Experience:
The proposer's prior experience in similar efforts must clearly demonstrate an ability to deliver products that meet the proposed technical performance within the proposed budget and schedule. The proposed team has the expertise to manage the cost and schedule. Similar efforts completed/ongoing by the proposer in this area are fully described including identification of other Government sponsors.

5. Cost:
The proposed costs are realistic and reasonable for the technical and management approach offered and substantiates the proposer's practical understanding of the effort. Cost reasonableness and realism will be principally measured by cost per labor hour and number of labor hours proposed. Undue emphasis on cost may motivate proposers to offer low-risk ideas with minimum uncertainty and to staff the effort with junior personnel in order to be in a more competitive posture costwise. ONR discourages such cost strategies. Cost reduction approaches that will be received favorably include innovative management concepts that maximize direct funding for technology and limit diversion of funds into overhead.

Overall the Technical Factors (Factors 1- 4 above) are significantly more important than the Cost Factor (Factor 5 above), with the Technical Factors weighted in descending order of importance, from Factor 1 through Factor 4.

Award(s) will be made to proposers whose proposals are determined to be of best value to the Government, all factors considered, including the potential contributions of the proposed work to the overall research program and the availability of funding for the effort.

2. Commitment to Small Business

The Office of Naval Research is strongly committed to providing meaningful subcontracting opportunities for small businesses, small disadvantaged businesses, woman-owned small businesses, HUBZone small businesses, veteran-owned small business, service disabled veteran-owned small businesses, historically black colleges and universities, and minority institutions through its awards. For proposed awards to be made as contracts (that exceed $650K) to other than small businesses, the Offeror is required to submit a Small Business Subcontracting Plan in accordance with FAR 52.219-9. For proposed awards made as contracts to small businesses at any value or to other than Small Businesses that are less than $650K, the Offeror shall provide a statement which demonstrates how they intend to provide meaningful subcontracting opportunities to support this policy.

3. Evaluation Panel

Technical and cost proposals submitted under this BAA will be protected from unauthorized disclosure in accordance with FAR 3.104-4 and 15.207. 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. Similarly, support contractors may be utilized to evaluate cost proposals. 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 BAA will be required to sign a non-disclosure statement prior to receipt of any proposal submissions.

VI. AWARD ADMINISTRATION INFORMATION

Administrative Requirements –

The North American Industry Classification System (NAICS) code - The NAICS code for this announcement is 541712 with a small business size standard of 500 employees.

- Central Contractor Registration - All proposers submitting proposals or applications **must**:

  (a) Be registered in the Central Contractor Registration (CCR) prior to submission;

  (b) Maintain an active CCR registration with current information at all times during which it has an active Federal award or an application under consideration by any agency; and

  (c) Provide its DUNS number in each application or proposal it submits to the agency.

Subcontracting Plans: Successful contract proposals that exceed $650,000 shall be submitted by all but small business concerns. Subcontracting Plans will be required prior to award in accordance with FAR 52.219-9.

NOTE: Central Contractor Registry (CCR), Subcontracting Plan requirements and Certification requirements are all set forth in the ONR Technical and Cost Proposal Template.

Export Control:
(1) The contractor shall comply with all U.S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, in the performance of this contract. In the absence of available license exemptions/exceptions, the contractor shall be responsible for obtaining the appropriate licenses or other approvals, if required, for exports of hardware, technical data, and software (including deemed exports), or for the provision of technical assistance.

(2) The contractor shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of this contract, including instances where the work is to be performed on-site at any Government installation (whether in or outside the United States), where the foreign person will have access to export-controlled technologies, including technical data or software.

(3) The contractor shall be responsible for all regulatory record-keeping requirements associated with the use of licenses and license exemptions/exceptions.

(4) The contractor shall be responsible for ensuring that the provisions of this clause apply to its subcontractors**.**

CERTIFICATION REGARDING LOBBYING ACTIVITIES

(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.

VII. OTHER INFORMATION

1. Government Property/Government Furnished Equipment (GFE) and Facilities

Government research facilities and operational military units are available and should be considered as potential government-furnished equipment/facilities. These facilities and resources are of high value and some are in constant demand by multiple programs. It is unlikely that all facilities would be used for any one specific program. The use of these facilities and resources will be negotiated as the program unfolds. Proposers should indicate in the Technical and Cost Proposal Template, Section II, Blocks 8 and 9, which of these facilities are critical for the project's success.

A full scale UUV Energy Section hull and interface documentation will be provided as GFE/GFI. ***NOTE: these energy section hulls will not be customized beyond the need for fueling/penetrator ports.***

2. Security Classification

In order to facilitate intra-program collaboration and technology transfer, the Government will attempt to enable technology developers to work at the unclassified level to the maximum extent possible. If access to classified material will be required at any point during performance, the proposer must clearly identify such need in Section II, Block 11 of the Technical and Cost Proposal Template.

3. Department of Defense High Performance Computing Program

The DoD High Performance Computing Program (HPCMP) furnishes the DoD S & T and DT & E communities with use-access to very powerful high performance computing systems. Awardees of ONR contracts, grants, and 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/.

4. Organizational Conflicts of Interest

All proposers and proposed subcontractors must affirm whether they are providing scientific, engineering, and technical assistance (SETA) or similar support to any ONR technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the proposer supports and identify the prime contract numbers. Affirmations shall be furnished at

the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure shall include a description of the action the proposer has taken or proposes to take to avoid, neutralize, or mitigate such conflict. In accordance with FAR 9.503 and without prior approval, a contractor cannot simultaneously be a SETA and a research and development performer. Proposals that fail to fully disclose potential conflicts of interests or do not have acceptable plans to mitigate identified conflicts will be rejected without technical evaluation and withdrawn from further consideration for award. If a prospective proposer believes that any conflict of interest exists or may exist (whether organizational or otherwise), the proposer should promptly raise the issue with ONR by sending his/her contact information and a summary of the potential conflict by e-mail to the Business Point of Contact in Section I, item 7 above, before time and effort are expended in preparing a proposal and mitigation plan. If, in the sole opinion of the Government after full consideration of the circumstances, any conflict situation cannot be effectively avoided or mitigated, the proposal may be rejected without technical evaluation and withdrawn from further consideration for award under this BAA.

5. 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, proposers should assume one kick-off meeting in the Washington D.C. area, one review meeting per year at the proposer's location, and one annual review in the Washington D.C. area.

6. Executive Compensation and First-Tier Subcontract Reporting (Applies only to Contracts)

Section 2(d) of the Federal Funding Accountability and Transparency Act of 2006 (Pub. L. No. 109-282), as amended by section 6202 of the Government Funding Transparency Act of 2008 (Pub. L. 110-252), requires the Contractor to report information on subcontract awards. The law requires all reported information be made public, therefore, the Contractor is responsible for notifying its subcontractors that the required information will be made public.
Unless otherwise directed by the Contracting Officer, by the end of the month following the month of award of a first-tier subcontract with a value of $25,000 or more, (and any modifications to these subcontracts that change previously reported data), the Contractor shall report the following information at http://www.fsrs.gov for each first-tier subcontract:

(a) Unique identifier (DUNS Number) for the subcontractor receiving the award and for the subcontractor's parent company, if the subcontractor has one.

(b) Name of the subcontractor.

(c) Amount of the subcontract award.

(d) Date of the subcontract award.

(e) A description of the products or services (including construction) being provided under the subcontract, including the overall purpose and expected outcomes or results of the subcontract.

(f) Subcontract number (the subcontract number assigned by the Contractor).

(g) Subcontractor's physical address including street address, city, state, and country. Also include the nine-digit zip code and congressional district.

(h) Subcontractor's primary performance location including street address, city, state, and country. Also include the nine-digit zip code and congressional district.

(i) The prime contract number, and order number if applicable.

(j) Awarding agency name and code.

(k) Funding agency name and code.

(l) Government contracting office code.

(m) Treasury account symbol (TAS) as reported in FPDS.

(n) The applicable North American Industry Classification System (NAICS) code.

By the end of the month following the month of a contract award, and annually thereafter, the Contractor shall report the names and total compensation of each of the five most highly compensated executives for the Contractor's preceding completed fiscal year at http://www.ccr.gov, if –

(a) In the Contractor's preceding fiscal year, the Contractor received –

(i) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

(ii) $25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

(b) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at http://www.sec.gov/answers/execomp.htm.).

Unless otherwise directed by the Contracting Officer, by the end of the month following the month of a first-tier subcontract with a value of $25,000 or more, and annually thereafter, the Contractor shall report the names and total compensation of each of the five most highly compensated executives for each first-tier subcontractor for the subcontractor's preceding completed fiscal year at http://www.fsrs.gov, if –

(a) In the subcontractor's preceding fiscal year, the subcontractor received –

(i) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

(ii) $25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

(b) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at http://www.sec.gov/answers/execomp.htm.).

If the Contractor in the previous tax year had gross income, from all sources, under $300,000, the Contractor is exempt from the requirement to report subcontractor awards. Likewise, if a subcontractor in the previous tax year had gross income from all sources under $300,000, the Contractor does not need to report awards to that subcontractor.

APPENDIX A: Power Data

Threshold:

Time (H)	**Power (W)**
0.0	113
1.0	113
1.0	1436
2.0	1436
2.0	797
2.6	797
2.6	1436
3.3	1436
3.3	2126
3.6	2126
3.6	797
4.1	797
4.1	2126
5.1	2126
5.1	909
5.1	909
5.1	797
5.7	797
5.7	909
5.7	909
5.7	1328
6.5	1328
6.5	909
6.5	909
6.5	2126
6.7	2126
6.7	797
7.2	797
7.2	2126
8.2	2126
8.2	797
8.8	797
8.8	2126
8.9	2126
8.9	909
9.0	909
9.0	1328
9.7	1328
9.7	909
9.8	909
9.8	797
10.3	797

Time (H)	Power (W)
10.3	909
10.3	909
10.3	2126
11.3	2126
11.3	797
11.9	797
11.9	2126
12.2	2126
12.2	909
12.2	909
12.2	1328
12.9	1328
12.9	797
13.4	797
13.4	1328
13.5	1328
13.5	909
13.6	909
13.6	2126
14.4	2126
14.4	797
15.0	797
15.0	2126
15.4	2126
15.4	909
15.5	909
15.5	1328
16.0	1328
16.0	797
16.5	797
16.5	1328
16.8	1328
16.8	909
16.9	909
16.9	2126
17.5	2126
17.5	797
18.1	797
18.1	2126
18.7	2126
18.7	909
18.8	909
18.8	1328
19.1	1328

Time (H)	Power (W)
19.1	797
19.6	797
19.6	1328
20.1	1328
20.1	909
20.2	909
20.2	2126
20.6	2126
20.6	797
21.2	797
21.2	2126
22.0	2126
22.0	909
22.0	909
22.0	1328
22.2	1328
22.2	797
22.7	797
22.7	1328
23.3	1328
23.3	909
23.4	909
23.4	2126
23.7	2126
23.7	797
24.3	797
24.3	2126
25.4	2126
25.4	909
25.4	909
25.4	797
25.8	797
25.8	909
25.9	909
25.9	1328
27.6	1328
27.6	638
28.0	638
28.0	797
29.0	797
29.0	638
29.5	638
29.5	113
30.0	113

Objective:

Time (H)	Power (W)
0.0	113
1.0	113
1.0	1535
2.0	1535
2.0	823
2.6	823
2.6	1535
3.3	1535
3.3	3825
3.6	3825
3.6	823
4.1	823
4.1	3825
5.1	3825
5.1	946
5.1	946
5.1	823
5.7	823
5.7	946
5.7	946
5.7	2932
6.5	2932
6.5	946
6.5	946
6.5	3825
6.7	3825
6.7	823
7.2	823
7.2	3825
8.2	3825
8.2	823
8.8	823
8.8	3825
8.9	3825
8.9	946
9.0	946
9.0	2932
9.7	2932
9.7	946
9.8	946
9.8	823
10.3	823
10.3	946
10.3	946

Time (H)	Power (W)
10.3	3825
11.3	3825
11.3	823
11.9	823
11.9	3825
12.2	3825
12.2	946
12.2	946
12.2	2932
12.9	2932
12.9	823
13.4	823
13.4	2932
13.5	2932
13.5	946
13.6	946
13.6	3825
14.4	3825
14.4	823
15.0	823
15.0	3825
15.4	3825
15.4	946
15.5	946
15.5	2932
16.0	2932
16.0	823
16.5	823
16.5	2932
16.8	2932
16.8	946
16.9	946
16.9	3825
17.5	3825
17.5	823
18.1	823
18.1	3825
18.7	3825
18.7	946
18.8	946
18.8	2932
19.1	2932
19.1	823
19.6	823

Time (H)	Power (W)
19.6	2932
20.1	2932
20.1	946
20.2	946
20.2	3825
20.6	3825
20.6	823
21.2	823
21.2	3825
22.0	3825
22.0	946
22.0	946
22.0	2932
22.2	2932
22.2	823
22.7	823
22.7	2932
23.3	2932
23.3	946
23.4	946
23.4	3825
23.7	3825
23.7	823
24.3	823
24.3	3825
25.2	3825
25.2	946
25.3	946
25.3	823
25.8	823
25.8	946
25.9	946
25.9	2932
26.6	2932
26.6	642
26.8	642
26.8	823
27.4	823
27.4	642
28.2	642
28.2	113
29.2	113

APPENDIX B: Hyperlinks

ONR Industry Day Briefs	http://www.onr.navy.mil/en/Contracts-Grants/Funding-Opportunities/Special-Notices.aspx (Click on the expired tab at the top of the page to access briefs under the Industry Day notice the briefs)
MIL-STD-882D	https://assist.daps.dla.mil/docimages/A/0000/0003/6027/000000198718_000000141972_DJLKNMXRWC.PDF?CFID=24160174&CFTOKEN=97572158&jsessionid=5c30dbe089c6fbefce5740556634e187b109
DI-SAFT 80101B	https://assist.daps.dla.mil/quicksearch/basic_profile.cfm?ident_number=209470
MIL-STD-901D (Grade B)	http://www.assistdocs.com/search/document_details.cfm?ident_number=2640&StartRow=1&PaginatorPageNumber=1&doc%5Fid=MIL%2DS%2D901D&status%5Fall=ON&search%5Fmethod=BASIC
MIL-STD-167-1	http://www.assistdocs.com/search/document_details.cfm?ident_number=35544&StartRow=1&PaginatorPageNumber=1&doc%5Fid=MIL%2DSTD%2D167%2D1&status%5Fall=ON&search%5Fmethod=BASIC
MIL-STD-461 (RE101,RE102,RS101,RS103)	http://www.assistdocs.com/search/document_details.cfm?ident_number=35789&StartRow=1&PaginatorPageNumber=1&doc%5Fid=MIL%2DSTD%2D461&status%5Fall=ON&search%5Fmethod=BASIC
MIL-STD-1366E	http://www.assistdocs.com/search/document_details.cfm?ident_number=35789&StartRow=1&PaginatorPageNumber=1&doc%5Fid=MIL%2DSTD%2D461&status%5Fall=ON&search%5Fmethod=BASIC