Advanced Topcoat Systems (ATS) for Air and Ground Vehicles

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), other solicitation, 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 fund all, some or none of the proposals received under this BAA. 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.
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I. **GENERAL INFORMATION:**

A. **Agency Name** – 

    Office of Naval Research  
    One Liberty Center – 800 North Randolph Street  
    Arlington, VA  22203-1995

B. **Research Opportunity Title** - Advanced Topcoat Systems (ATS) for Air and Ground Vehicles

C. **Program Name** – Office of Naval Research (ONR) Future Naval Capabilities (FNC) Program Enterprise Platform Enablers (EPE) Advanced Topcoat System, EPE-FY16-01

D. **Research Opportunity Number** – N00014-16-R-BA02

E. **Response Date** - 

    White Papers:  01/19/2016  
    Full Proposals:  03/30/2016

F. **Research Opportunity Description** -

The Office of Naval Research (ONR) is soliciting proposals for the development and optimization of a durable coating system that provides substantially improved corrosion inhibition and reduced environmental, safety and health (ESOH) impacts for Navy and Marine Corps aviation weapon systems and Marine Corps ground and amphibious weapon systems. Performance advancements are focused, for both aviation vehicles (AV) and ground vehicles (GV), on increasing corrosion performance; optimizing coating deposition and adhesion; increasing exterior color stability, gloss retention, flexibility and erosion resistance; reducing flammability/volatile organic compounds (VOCs); and chemical agent resistance (GV only).

The Advanced Topcoat Systems (ATS) effort will address isocyanate-free topcoat systems for two products:

    (1) Advanced Topcoat Systems for Air Vehicles (AV); and  
(2) Advanced Topcoat Systems for Ground Vehicles (GV).

The Navy and Marine Corps are seeking topcoat systems that are isocyanate-free and that meet and or exceed the key metrics as described in Tables (1) through (4), below, of current legacy coating systems. Substrates of interest are aluminum for AV and GV, and steel for GV. The developed coating system should also provide long term color and gloss stability, along with adequate adhesion to 2xxx aluminum (AV), 7xxx aluminum (AV), 5xxx aluminum (GV), steel substrates (GV) and Polymer Matrix Composites (AV).
**Technical Description:**

The focus of this effort is to develop a Primer/Topcoat System that reduces toxicity to the environment while improving shipboard maintenance of aviation and amphibious platforms through enhanced corrosion performance. The effort will ensure that the Navy and Marine Corps are able to reduce the impact of frequent maintenance and improve sustainment of the equipment over extended maintenance intervals.

The development of the ATS products is necessary to respond to higher performance corrosion requirements and to achieve durable coating systems with reduced ESOH impact. Therefore, in addition to substantially reducing the impact of corrosion, the ATS products will reduce VOCs, hazardous air pollutants (HAPs), and flammability.

Areas of interest include the optimization of new topcoat resin chemistry to address restricted maintenance operation associated with toxic isocyanate materials and development of novel metal-rich primers versus current legacy pigments for improved protection of dissimilar material interfaces, better edge retention properties and weight reduction.

**Key Technologies Include:**

- Non-isocyanate topcoats with lower VOCs, no Volatile HAPs, and reduced flammability (AV and GV) and a Chemical Agent Resistant Coatings (CARC) option for the GV; and
- Novel metal-rich primers, with capability for use on aluminum and steel; lower VOCs, no Volatile HAPs, and reduced flammability; larger range of applied thickness (AV and GV).

**ATS Metrics:**

The overall ATS metrics for this effort are outlined below and in the following tables:

- Improved corrosion protection for galvanic interfaces compared to legacy primers in extreme environmental and mechanical conditions (AV and GV);
- Provide single-component (1K) coating technologies for field level applications, and two-component (2K) technologies for depot level applications (AV and GV);
- Reduction in flammability by increasing flash point to 140F (AV and GV); VOCs to 100 g/l (AV);
- Direct replacement of currently deployed polyurethane/polyurea coating systems (AV and GV);
- Increase in exterior color stability, gloss retention, flexibility and erosion resistance (AV and GV);
- Increase in retention of chemical warfare agent resistance, and mar/impact resistance (GV);
- Reduction in health and environmental issues by elimination of toxic isocyanates (AV and GV);
- Air Vehicles: Tables (1) and (2) outline the requirements for the AV Primer and Topcoat respectively; and
- Ground Vehicles: Tables (3) and (4) outline the requirements for the GV Primer and Topcoat respectively.
<table>
<thead>
<tr>
<th>Current requirement / Mil-Spec</th>
<th>Threshold Requirement</th>
<th>Objective Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corrosion</strong></td>
<td><strong>Filiform corrosion</strong>&lt;sup&gt;1&lt;/sup&gt; MIL-PRF-23377/85582</td>
<td>No filiform beyond 1/8” from scribe and majority less than 1/16” long</td>
</tr>
<tr>
<td></td>
<td><strong>Galvanic corrosion</strong>&lt;sup&gt;1&lt;/sup&gt; (1) Equal to MIL-PRF-23377/85582 Class C control</td>
<td>Better than Class C control by 10% (&lt;sup&gt;3&lt;/sup&gt;)</td>
</tr>
<tr>
<td></td>
<td><strong>Scribed panel corrosion</strong>&lt;sup&gt;2&lt;/sup&gt; (2) Equal to MIL-PRF-23377/85582 Class C control</td>
<td>Better than Class C control by 10%</td>
</tr>
<tr>
<td></td>
<td><strong>VOC (340 g/L)</strong></td>
<td>250 g/L</td>
</tr>
<tr>
<td></td>
<td><strong>Flammability/Flash Point</strong></td>
<td>100 F</td>
</tr>
<tr>
<td></td>
<td><strong>Chemical Strip ability</strong>&lt;sup&gt;2&lt;/sup&gt; MIL-PRF-23377/85582, 90% stripped by either Method A or B</td>
<td>50% stripped with TT-R-2918 or equivalent to Methylene chloride based paint stripper</td>
</tr>
<tr>
<td></td>
<td><strong>Drying time</strong>&lt;sup&gt;3&lt;/sup&gt; MIL-PRF-23377 (5 hr./8hr)</td>
<td>3 hr./8 hr.</td>
</tr>
<tr>
<td></td>
<td><strong>IR reflectance</strong>&lt;sup&gt;3&lt;/sup&gt; MIL-PRF-23377/85582</td>
<td>TBD</td>
</tr>
<tr>
<td></td>
<td><strong>Fluid resistance</strong>&lt;sup&gt;2&lt;/sup&gt; MIL-PRF-23377/85582</td>
<td>Minimal adhesion loss with Skydrol exposure</td>
</tr>
<tr>
<td></td>
<td><strong>Application</strong>&lt;sup&gt;2&lt;/sup&gt; MIL-PRF-23377/85582 @ 1.5 mils</td>
<td>Current resistance + Skydrol</td>
</tr>
<tr>
<td></td>
<td><strong>Solvent Resistance</strong>&lt;sup&gt;2&lt;/sup&gt; MIL-PRF-23377/85582</td>
<td>100 double rubs</td>
</tr>
<tr>
<td></td>
<td><strong>Thickness Tolerance</strong></td>
<td>2x thickness (2-3 mils)</td>
</tr>
<tr>
<td></td>
<td><strong>Application Method</strong> Bulk spray (HVLP)</td>
<td>Brush</td>
</tr>
<tr>
<td></td>
<td><strong>Packaging</strong></td>
<td>1K or 2K</td>
</tr>
</tbody>
</table>

<sup>1</sup> MIL-PRF-23377/MIL-PRF-85582 baseline

<sup>2</sup> MIL-PRF-23377/MIL-PRF-85582 baseline

<sup>3</sup> MIL-PRF-23377/MIL-PRF-85582 baseline

<sup>4</sup> MIL-PRF-23377/MIL-PRF-85582 baseline
Table (2)
Advanced Topcoat System - Minimum Requirements and Goals for AV Topcoat (MIL-PRF-81352/MIL-PRF-85285 baseline)

<table>
<thead>
<tr>
<th>Current requirement/ Mil-Spec</th>
<th>Threshold Requirement</th>
<th>Objective Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Isocyanate MIL-PRF-81352</td>
<td>MIL-PRF-85285, Ty I</td>
<td>MIL-PRF-85285, Ty IV</td>
</tr>
<tr>
<td>VOC MIL-PRF-85285/81352</td>
<td>250 g/L</td>
<td>100 g/L</td>
</tr>
<tr>
<td>Flammability/ Flash Point</td>
<td>100 F</td>
<td>140 F</td>
</tr>
<tr>
<td>Stripability MIL-PRF-85285</td>
<td>50% stripped with TT-R-2918</td>
<td>90% Stripped with TT-R-2918 or equivalent to Methylene chloride based paint stripper</td>
</tr>
<tr>
<td>Cleanability MIL-PRF-85285, L-value</td>
<td>MIL-PRF-85285, ΔE&lt;1.0</td>
<td>MIL-PRF-85285, ΔE&lt;1.0</td>
</tr>
<tr>
<td>Fluid resistance MIL-PRF-85285</td>
<td>No adhesion loss w/Skydrol exposure &amp; measured ΔE</td>
<td>No adhesion loss w/ Skydrol, pencil hardness (no more than Δ1 pencil change) &amp; ΔE&lt;1.0</td>
</tr>
<tr>
<td>Color Matching: #17925 &amp; #36375 MIL-PRF-85285</td>
<td>TBD – dependent on SAE</td>
<td>TBD – dependent on SAE</td>
</tr>
<tr>
<td>Color Matching: addition of USN Orange #TBD Document ΔE from manufacturers</td>
<td>ΔE&lt;3.0</td>
<td>ΔE&lt;1.0</td>
</tr>
<tr>
<td>Solvent Resistance MIL-PRF-23377/85582</td>
<td>100 double rubs</td>
<td>200 double rubs</td>
</tr>
<tr>
<td>Thickness Tolerance</td>
<td>2x thickness (4-5.5 mils)</td>
<td>3x thickness (5-7 mils)</td>
</tr>
<tr>
<td>Application Method</td>
<td>Brush</td>
<td>Aerosol spray</td>
</tr>
<tr>
<td>Bulk spray (HVLP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packaging</td>
<td>1K or 2K</td>
<td>1K &amp; 2K</td>
</tr>
</tbody>
</table>
Ground Vehicle Primer:

The GV primer shall at a minimum meet or exceed all performance requirements of a MIL-DTL-53022, Type IV coating, while also having all components isocyanate free. The GV primer shall also be compatible with MIL-DTL-53030, MIL-DTL-53022, MIL-DTL-53039, and MIL-DTL-64159. Additionally, several criteria have been selected with performance improvement goals that should exceed the minimum requirement stated. These are provided in Table (3) below.

Table (3)
Advanced Topcoat System - Minimum Requirements and Goals for GV Primer

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Threshold Requirement</th>
<th>Objective Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrosion</td>
<td>Salt spray exposure time of 1000 hours (MIL-DTL-53030, Section 4.5.17.1) and cyclic corrosion testing for 120 cycles (MIL-DTL-53030, Section 4.5.17.2) while still meeting requirements of 3.7.5.1 and 3.7.5.2</td>
<td>Increase salt spray exposure time to 1500 hours (MIL-DTL-53030, Section 4.5.17.1) and increase cyclic corrosion testing to 180 cycles (MIL-DTL-53030, Section 4.5.17.2) while still meeting requirements of 3.7.5.1 and 3.7.5.2</td>
</tr>
<tr>
<td>Recoatability</td>
<td>Allow primer to dry to 2 hours, 24 hours, and 240 hours in MIL-DTL-53030, Section 4.5.19 while still meeting requirements of 3.7.7</td>
<td>Allow primer to dry to 2 hours, 24 hours, and 240 hours in MIL-DTL-53030, Section 4.5.19 while still meeting requirements of 3.7.7</td>
</tr>
<tr>
<td>Dry and Cure Times</td>
<td>As specified in requirements of MIL-DTL-53022 and MIL-DTL-53030. Dry times can be between requirements of MIL-DTL-53030 and MIL-DTL-53022, but no longer than MIL-DTL-53030</td>
<td>50% reduction in full cure time of MIL-DTL-53030 and dry times in MIL-DTL-53022</td>
</tr>
<tr>
<td>Number of Components</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
**Ground Vehicle Topcoat:**

The GV topcoat shall at a minimum meet or exceed all performance requirements of a MIL-DTL-64159, Type II coating, while also having all components isocyanate free. The proposed ATS-GV Topcoat shall be of the color 383 Green, FED-STD-595 color number 34094, or TAN 686A, FED-STD-595 color number 33446, as defined in Section 3.3 of MIL-DTL-64159. The GV topcoat shall also be compatible with MIL-DTL-53030, MIL-DTL-53022, MIL-DTL-53039, and MIL-DTL-64159. Additionally, several criteria have been selected with performance improvement goals that exceed the minimum requirement. These criteria are provided in Table (4) below.

It should be noted that the developed GV coatings will, in addition to all other testing, be evaluated with the state-of-the-art test method for the chemical agent resistant coating (CARC) system by the Navy during Phase I.

**Table (4)**  
Advanced Topcoat System - Minimum Requirements and Goals for GV Topcoat

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Threshold Requirement</th>
<th>Objective Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Isocyanate</td>
<td>All components of coating system must be isocyanate free</td>
<td>All components of coating system must be isocyanate free</td>
</tr>
<tr>
<td>Chemical Agent Resistance*</td>
<td>Meet the requirement of desorption of agent GD and HD when tested in accordance with MIL-DTL-64159 Section 4.4.25</td>
<td>Meet the requirement of desorption of agent GD and HD when tested in accordance with MIL-DTL-64159 Section 4.4.25</td>
</tr>
<tr>
<td>Gloss Requirement</td>
<td>5% reduction in gloss values specified in MIL-DTL-64159</td>
<td>10% reduction in gloss values specified in MIL-DTL-64159</td>
</tr>
<tr>
<td>Weathering</td>
<td>Color shall not exceed 2 NBS unit when tested in accordance with MIL-DTL-64159 Section 3.6.15</td>
<td>Color shall not exceed 1 NBS unit when tested in accordance with MIL-DTL-64159 Section 3.6.15</td>
</tr>
<tr>
<td>Impact/Mar Resistance</td>
<td>50% increase in impact/mar resistance as compared to MIL-DTL-64159 system for ASTM D2794 and ASTM D5178</td>
<td>100% increase in impact/mar resistance as compared to MIL-DTL-64159 system for ASTM D2794 and ASTM D5178</td>
</tr>
<tr>
<td>Requirement</td>
<td>Threshold Requirement</td>
<td>Objective Requirement</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Low Solar Absorption</td>
<td>10% reduction in solar absorption from current CARC topcoats when tested in accordance with ASTM C1549. Dry film thickness of 2±0.2 mils shall be used for testing.</td>
<td>15% reduction in solar absorption from current CARC topcoats when tested in accordance with ASTM C1549. Dry film thickness of 2±0.2 mils shall be used for testing.</td>
</tr>
<tr>
<td>Dry and Cure Times</td>
<td>As specified in requirements of MIL-DTL-64159 and MIL-DTL-53039. Dry times can be between requirements of MIL-DTL-64159 and MIL-DTL-53039, but no longer than MIL-DTL-64159</td>
<td>50% reduction in dry times in MIL-DTL-53039</td>
</tr>
<tr>
<td>Recoatability</td>
<td>Apply second coat of paint after 2 hours and 48 hours in MIL-DTL-64159, Section 4.4.18 while still complying with 3.6.7</td>
<td>Apply second coat of paint after 2 hours and 48 hours in MIL-DTL-64159, Section 4.4.18 while still complying with 3.6.7</td>
</tr>
<tr>
<td>Number of Components</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Cleanability</td>
<td>After testing in accordance with ASTM D4828 the coating shall result in a rating of ‘10 – All soil and stain removed’ and also have color change less than 2.5 NBS units when compared to an unexposed sample for the same batch using tristimulus color coordinates</td>
<td>After testing in accordance with ASTM D4828 the coating shall result in a rating of ‘10 – All soil and stain removed’ and also have color change less than 2.5 NBS units when compared to an unexposed sample for the same batch using tristimulus color coordinates</td>
</tr>
<tr>
<td>Hydrophobicity</td>
<td>Contacting angle greater than 90 degrees when measured in accordance with ASTM D7334 and using distilled water as test liquid</td>
<td>Contacting angle greater than 90 degrees when measured in accordance with ASTM D7334 and using distilled water as test liquid</td>
</tr>
</tbody>
</table>

**Notional Technical Development Strategy:**

Full proposals should address the following notional technical development strategy. The program will consist of two (2) Phases: Base (Phase I) and Option I (Phase II). Both Phases are covered by this BAA and full proposals must address the Base and Option periods.
**Base (Phase I):**

During the Base Period (Phase I), each Offeror will optimize non-isocyanate topcoat and enhanced corrosion protection primer systems to characterize topcoat and primer systems using standard laboratory methodologies (e.g., accelerated corrosion resistance, accelerated weathering, adhesion).

The Navy may request small batch samples from each Offeror for independent testing and evaluation of the ATS products. Testing may include evaluations such as galvanic corrosion performance using a Naval Air Systems Command (NAVAIR) test assembly and rating scheme, and/or CARC testing and will impact the Navy’s decision for continuation into Phase II.

During the performance period of the Base Period (Phase I), each Offeror will be required to provide the following deliverables.

- Monthly Progress Reports (Technical and Financial)
- Quarterly and Annual Program Reviews
- Small batch samples of primer and topcoat
- Special Test Reports
- Final Report

**Option I (Phase II):**

Phase II will consist of the following three (3) tasks as identified below.

**Task 1** - If selected for continuation, Offerors shall have six (6) months from the effective date of the option to modify and re-evaluate their Base (Phase I) results to achieve required performance characteristics and to produce and provide to the Navy the initial primer and topcoat quantities as identified in Table (5) below.

<table>
<thead>
<tr>
<th>Application</th>
<th>Primer (gal)</th>
<th>Topcoat (gal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Vehicle Only</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>Ground Vehicle Only</td>
<td>100</td>
<td>120</td>
</tr>
<tr>
<td>Air Vehicle &amp; Ground Vehicle*</td>
<td>140</td>
<td>170</td>
</tr>
</tbody>
</table>

* Minimum quantity required by the Navy if an Offeror proposes a single Primer or Topcoat product that addresses both Air and Ground Vehicle applications.
Task 2 – Upon completion of Task 1, Offerors shall have twelve (12) months to continue to modify the topcoat and primer to achieve required performance characteristics and to produce and provide to the Navy the additional primer and top coat quantities as identified in Table (6) below.

Table (6) Advanced Topcoat System - Additional Quantities Required for Phase II

<table>
<thead>
<tr>
<th>Application</th>
<th>Primer (gal)</th>
<th>Topcoat (gal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Vehicle Only</td>
<td>130</td>
<td>140</td>
</tr>
<tr>
<td>Ground Vehicle Only</td>
<td>200</td>
<td>220</td>
</tr>
<tr>
<td>Air Vehicle &amp; Ground Vehicle*</td>
<td>330</td>
<td>360</td>
</tr>
</tbody>
</table>

* Minimum quantity required by the Navy if an Offeror proposes a single Primer or Topcoat product that addresses both Air and Ground Vehicle applications.

Task 3 - Offerors shall use the final six (6) months to provide information showing the ability for full scale production of coatings to include Government-approved raw material and Military Specification Listing for coating supplier(s), support the development of draft primer and topcoat standards, and to develop a final report.

During the performance period of Option I (Phase II), each Offeror will be required to provide the following deliverables.

- Monthly Progress Reports (Technical and Financial)
- Quarterly and Annual Program Reviews
- Final Report
- Required primer and topcoat quantities as identified in Table (5) and Table (6) above.

G. Point(s) of Contact –

Questions of a technical nature should be submitted to:

AV Technical Point of Contact:

Mr. William Nickerson
Address: 875 North Randolph Street – Suite 1132
Code: 35
Arlington VA 22203-1995
Phone: (703) 696-8485
Email: william.nickerson@navy.mil
GV Technical POC:

Dr. Airan Perez  
Address: 875 North Randolph Street – Suite 652  
Code: 333  
Arlington, VA 22203-1995  
Phone: (703)696-0845  
Email: airan.perez@navy.mil

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

Primary Business Point of Contact/Contract Specialist:

Anthony L. Dennis  
Address: 875 North Randolph Street – Suite 1278C  
Code: 251  
Arlington, VA 22203-1995  
Phone: (703) 696-6818  
Email: anthony.l.dennis@navy.mil

Secondary Business Point of Contact/Contracting Officer:

Vera M. Carroll  
Address: 875 North Randolph Street – Suite 1279  
Code: 251  
Arlington, VA 22203-1995  
Phone: (703) 696-2610  
Email: vera.carroll@navy.mil

Any questions regarding this solicitation must be provided to the Technical Points of Contact and Business Points of Contact listed in this solicitation. All questions shall be submitted in writing by electronic mail.

Comments or questions submitted should be concise and to the point, eliminating any unnecessary verbiage. In addition, the relevant part and paragraph of the Broad Agency Announcement (BAA) should be referenced.

Questions submitted within two (2) weeks prior to a deadline may not be answered, and the due date for submission of the white paper and/or full proposal will not be extended.

Amendments will be posted to one or more of the following webpages:

Questions of a security nature should be submitted to:

Torri Powell  
Industrial Security Specialist  
Office of Naval Research  
Security Department, Code 43  
One Liberty Center  
875 N. Randolph Street  
Arlington, VA 22203-1995  
Email Address: torri.powell@navy.mil

Note: All UNCLASSIFIED communications shall be submitted via e-mail to the Technical Point of Contract (POC) with a copy to the designated Business POC.

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 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.

H. Instrument Type(s) - Contracts

Awards will be issued as Contracts. ONR reserves the right to award a different instrument type if deemed to be in the best interest of the Government.

Any contract awards resulting from this BAA will incorporate the most current FAR, DFARs, NMCARS, and ONR clauses.

Examples of model contracts can be found on the ONR website at the following link: http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/contract-model-awards.aspx. Please note that these are examples and any contracts issued under this BAA will include the most current FAR, DFARs, NMCARS, and ONR clauses at the time of award.

ONR Contract specific representations and certifications can be accessed on the following page of the ONR website: http://www.onr.navy.mil/Contracts-Grants/Funding-Opportunities/Requests-for-Information.aspx.
I. Catalog of Federal Domestic Assistance (CFDA) Numbers – Not applicable.

J. Catalog of Federal Domestic Assistance (CFDA) Titles – Not applicable.

K. Other Information -

Work funded under a BAA 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 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 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 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 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.

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.

As regards to the present BAA, the Research and Development efforts to be funded will consist of applied research and advanced technology development. The funds available to support awards are Budget Activity 2 and 3.

**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** - Estimated Total Amount of Funding Available ($K):

<table>
<thead>
<tr>
<th></th>
<th>FY2017</th>
<th>FY2018</th>
<th>FY2019</th>
<th>FY2020</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Vehicles</td>
<td>$795</td>
<td>$1,000</td>
<td>$795</td>
<td>$720</td>
<td>$3,410</td>
</tr>
<tr>
<td>(GV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Vehicles (AV)</td>
<td>$505</td>
<td>$400</td>
<td>$205</td>
<td>$180</td>
<td>$1,290</td>
</tr>
<tr>
<td>Total Funding</td>
<td>$1,300</td>
<td>$1,500</td>
<td>$1,000</td>
<td>$900</td>
<td>$4,700</td>
</tr>
</tbody>
</table>

Anticipated Number of Awards: ONR anticipates that multiple awards for both air and ground vehicle top coat and primer systems will result from this BAA. For white papers that propose efforts that are considered of particular value to the Navy, but either exceed available budgets or contain certain tasks or applications that are not desired by the Navy, ONR may suggest a full proposal with reduced effort to fit within expected available budgets or an effort that refocuses the tasks and application of the technology to maximize the benefit of the Navy.

Anticipated Range of Individual Award Amounts: The typical award will likely be in the range of $200K to $600K per year, but awards outside this range are also possible.

Anticipated Period of Performance: The period of performance will vary depending on the proposed objectives and key performance parameters, but may not exceed forty-two (42) months. The program will consist of two Phases: Base Period (Phase I) with a period of performance of eighteen (18) months and Option I (Phase II) with a period of performance of twenty-four (24) months. Both Phases are covered by this BAA and Full Proposals must address the Base and Option Period.

**NOTE:** The amount and period of performance of each selected proposal will vary depending on the research area and the technical approach to be pursued by the selected offeror.
III. ELIGIBILITY INFORMATION

A. All responsible sources from academia and industry may submit proposals under this BAA. Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MI) 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, due to the impracticality of reserving discrete or severable items of this research for exclusive competition among such entities.

B. 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 Offerors are allowed so long as such arrangements are permitted under the sponsoring agreement between the Government and the specific FFRDC.

C. 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 either white papers or full proposals in response to this BAA. 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 BAA.

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

E. 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.

F. Offerors should be aware of recent changes in export control laws. Offerors are responsible for ensuring compliance with all International Traffic in Arms Regulation (ITAR)(22 CFR §120 et. seq.) requirements, as applicable. In some cases, developmental items funded by the Department of Defense 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 for ONR. 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.

G. 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 - White Paper and Full Proposals

*White Papers:* The Navy will consider white papers that address a specific platform (AV or GV) and/or a specific technology (primer or topcoat) or both. White papers are required prior to submitting a Full Proposal.

The due date for white papers is no later than 2:00 PM (Eastern Standard Time) on *Tuesday, 19 January 2016*. White papers must be e-mailed to Mr. William Nickerson at william.nickerson@navy.mil. The subject line should read “White Paper Submission in Response to N00014-16-R-BA02”. Each white paper will be evaluated by the Government to determine whether the technology advancement proposed appears to be of particular value to the Department of the Navy. Initial Government evaluations and feedback will be issued via e-mail notification from the Technical Point of Contact on or about *Monday, 15 February 2016*. The initial white paper appraisal is intended to give entities a sense of whether their concepts are likely to be funded.

*Full Proposals:* The due date for receipt of Full Proposals is 2:00 PM (Eastern Standard Time) on *Wednesday, 30 March 2016*. Proposals exceeding the page limit may not be evaluated. Full proposals must be uploaded to the AMRDEC SAFE Site at https://safe.amrdec.army.mil/safe/. As soon as the final proposal evaluation process is completed, the Offeror will be notified via e-mail of its selection or non-selection for an award. It is anticipated that final selections will be made on or about *Wednesday, 11 May 2016*.

Detailed Full Proposals will be subsequently encouraged from those whose proposed technologies have been identified through the above referenced e-mail as being of "particular value" to the Government. However, any such encouragement does not assure a subsequent award. Full Proposals may also be submitted by any entity whose white paper was not identified as being of particular value to the Government or any entity who did not submit a white paper.

For white papers that propose efforts that are considered of particular value to the Navy but either exceed available budgets or contain certain tasks or applications that are not desired by the Navy, ONR may suggest a full proposal with reduced effort to fit within expected available budgets or an effort that refocuses the tasks or application of the technology to maximize the benefit to the Navy.

B. Content and Format of White Papers/Full Proposals -

White Papers and Full Proposals submitted under this BAA are expected to be unclassified; however, classified proposals are permitted. If a classified proposal is submitted and
selected for award, the resultant contract will be unclassified. An ‘unclassified’ Statement of Work (SOW) must accompany any classified proposal.

For both classified and unclassified proposals, a non-proprietary version of the Statement of Work must also 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.”

1. **Unclassified Proposal Instructions:**
   Unclassified proposals shall be submitted in accordance with this Section.

2. **Special Instructions for Classified White Papers and Proposal:**
   Classified proposals shall be submitted directly to the attention of ONR’s Document Control Unit at the following address and marked in the following manner:

   **OUTSIDE ENVELOPE**
   **(no classification marking):**

   “Office of Naval Research
   Attn: Document Control Unit
   ONR Code 43
   875 North Randolph Street
   Arlington, VA 22203-1995”

   The inner wrapper of the classified White Paper and/or Full Proposal should be addressed to the attention of the cognizant TPOC, ONR Code XX and marked in the following manner:
INNER ENVELOPE
(stamped with the overall classification of the material)
“Program Name:
Office of Naval Research
ATTN: ONR Program Officer Name
ONR Code: ONR Program Officer Code
875 North Randolph Street
Arlington, VA 22203-1995”

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

STATEMENT OF WORK (SOW)
An ‘unclassified’ SOW must accompany any classified proposal. For both classified and unclassified proposals, a non-proprietary version of the SOW must also be submitted.

a. WHITE PAPERS

White Paper Format
- Paper Size - 8.5 x 11 inch paper
- Margins - 1 inch
- Spacing - single spaced
- Font - Times New Roman, 12 point
- Maximum Number of Pages permitted: five (5) pages (excluding cover page, resumes, bibliographies, and table of contents)
  - Resume of the Principal Investigator(PI) should not exceed two (2) pages
- Electronic Copy - One (1) electronic copy in Adobe PDF or Microsoft Word (2007 or later) delivered via email. Electronic (email) submissions should be sent to the attention of the TPOC at william.nickerson@navy.mil. The subject line of the email shall read "ONR BAA N00014-16-R-BA02 White Paper Submission." The white paper must be a Microsoft Word 2007 compatible, or PDF format attachment to the email. There is an email size limit of 5MB per email.

NOTE:
1. Do not send hardcopies of White Papers (including Facsimiles) as only electronic submissions will be accepted and reviewed;
2. Do not send .ZIP files; and
3. Do not send password protected files.

In order to provide traceability and evidence of submission, Offerors may wish to use the "Delivery Receipt" option available from Microsoft Outlook and other email programs that will automatically generate a response when the subject
email is delivered to the recipient's email system. Consult the User's Manual for your email software for further details on this feature.

**White Paper Content**

- **Cover Page:** The Cover Page shall be labeled "WHITE PAPER", and shall include BAA number N00014-16-R-BA02, proposed title, Offeror's administrative and technical points of contact, with telephone numbers, facsimile numbers, and e-mail address, and shall be signed by an authorized officer.

- **Technical Content:** A description of the technology innovation and technical risk areas.

  Provide your proposed approach to develop the ATS product(s) (Air Vehicle and/or Ground Vehicle Primer and/or Topcoat) that meet and/or exceed the key metrics as described in Tables (1) through (4) above.

  White papers should describe the optimization of new topcoat resin chemistry to address restricted maintenance operation associated with toxic isocyanate materials and the development of novel metal-rich primers versus current legacy pigments for improved protection of dissimilar material interfaces, better edge retention properties and weight reduction as described in detail in Section 1.F. above.

- **Operational Utility Assessment Plan:** 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.

- **Rough Order of Magnitude (ROM):** Provide a ROM cost estimate by year segregated by task and a total cost for the proposed effort.

**b. FULL PROPOSALS**

**i. INSTRUCTIONS FOR CONTRACTS**

**Proposal Package:**

The following four documents with attachments comprise a complete proposal package:

1. Proposal Checklist (pdf)
2. Technical Proposal Template (Word)
3. Cost Proposal Spreadsheet (Excel)
4. Adequacy Checklist for Pre Award Audit (SF 1408) (as applicable)
5. Stand-alone Non-Proprietary Statement of Work (SOW) (Word)
6. ONR Representation and Certifications
Items 1-6 above are located at [http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/cost-proposal.aspx](http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/cost-proposal.aspx). All have instructions imbedded into them that will assist in completing the documents. Also, both the Technical Proposal Template and the Cost Proposal Spreadsheet require completion of cost-related information. Please note that attachments can be incorporated into the Proposal Checklist.

Offerors responding to this BAA must submit a separate list of all technical data or computer software that will be furnished to the Government with other than unlimited rights. The Government will assume unlimited rights if offerors fail to identify any intellectual property restrictions in their proposals. Include in this section all proprietary claims to results, prototypes, and/or deliverables. If no restrictions are intended, then the offeror should state “NONE.”

For proposals below the simplified acquisition threshold (less than or equal to $150K), the Technical Proposal Template and Proposal Checklist documents, and the Cost Proposal Spreadsheet are required. In addition, if a purchase order will be awarded, the effort will be fixed price. Purchase orders can also contain options, as long as the total amount of the base and all options does not exceed $150K.

The format requirements for any attachments 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
- Page Limitation for Technical Proposal Template – ten (10) pages

For proposed subcontracts or interorganizational transfers over $150,000, Offerors 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 Offeror and that the attached proposal is a subcontract, and should include a description of the effort to be performed by the subcontractor.

Offerors should submit an appropriate number of hard copies as discussed with the cognizant Program Officer of their proposal package. The electronic copy should be submitted in a secure, pdf-compatible format, except for the electronic file of the Cost Proposal Spreadsheet which must be submitted in a Microsoft Excel 2007 compatible format and the Statement of Work Template which must be submitted in Microsoft Word 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. Should an Offeror amend its proposal, the amended proposal should be
submitted following the same hard and electronic copy guidance applicable to the original
proposal.

Any proposed options that are identified in the Technical Proposal Template or Proposal
Checklist documents, but are not fully priced out in the Cost Proposal Spreadsheet, will not
be included in any resulting contract, cooperative agreement, or other transaction. If
proposing options, they must be separately priced and separate spreadsheets should be
provided for the base period and each option. In addition to providing summary by period
of performance (base and any options), the Contractor is also responsible for providing a
breakdown of cost for each task identified in the Statement of Work. The sum of all costs by
task worksheets MUST equal the total cost summary.

The electronic submission of the Excel spreadsheet should be in a “useable condition” to aid
the Government with its evaluation. The term “useable condition” indicates 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.

Fixed Fees on ONR Contracts

The Government Objective is set in accordance with the DFARS 215.404-71. See the below table
for range and normal values:

<table>
<thead>
<tr>
<th>Contract Risk Factor</th>
<th>Contract Type</th>
<th>Assigned Value (Normal range)</th>
<th>Normal Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical (1)</td>
<td></td>
<td>3% - 7% (2)</td>
<td>5%</td>
</tr>
<tr>
<td>Management/Cost Control (1)</td>
<td></td>
<td>3% - 7% (2)</td>
<td>5%</td>
</tr>
<tr>
<td>Contract Type Risk</td>
<td>Firm Fixed Price</td>
<td>2% - 6% (3)</td>
<td>3% - 5% (4)</td>
</tr>
<tr>
<td>Contract Type Risk</td>
<td>Cost Plus Fixed Fee</td>
<td>0% - 1% (2)</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

1. Assign a weight (percentage) to each element according to its input to the total
   performance risk. The total of the two weights equal 100%.
2. Assign a weighting score relative to the Risk Factor.
3. Depends on the specific Contract Type (With/without financing, performance-based
   payments, and/or progress payments).
4. Depends on the specific Contract Type.

Technology Incentive (TI) is rarely utilized at ONR, because the contracts issued by ONR
typically are not eligible for TI (See DFARS 215.404-71-2(c) (2)). Any consideration of TI
requires strong and convincing justification in the proposal, which are then subject to
negotiation and determination of a fair and reasonable fee, within the context of the specific
award.
Typically the range of fee is 5% to 7.5% on an ONR awarded contract.

C. Significant Dates and Times –

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>White Paper Due Date</td>
<td>01/19/2016</td>
<td>2:00 PM Eastern Daylight Time</td>
</tr>
<tr>
<td>Notification of White Paper Evaluation*</td>
<td>02/22/2016</td>
<td></td>
</tr>
<tr>
<td>Full Proposal Due Date</td>
<td>03/30/2016</td>
<td>2:00 PM Eastern Standard Time</td>
</tr>
<tr>
<td>Notification of Selection: Full Proposals*</td>
<td>05/11/2016</td>
<td></td>
</tr>
<tr>
<td>Awards*</td>
<td>10/10/2016</td>
<td></td>
</tr>
<tr>
<td>Kickoff Meeting</td>
<td>10/20/2016</td>
<td></td>
</tr>
</tbody>
</table>

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

D. Submission of Late Proposals (Applicable to White Papers and Full 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 offeror if its proposal, modifications, or revision was received late and must inform the offeror whether its proposal will be considered.

E. Submission of White Papers and Full Proposals for Contracts

White Papers must be emailed to Mr. William Nickerson at william.nickerson@navy.mil. Full Proposals, including all supporting documentation for Contracts, shall be sent to the Office of Naval Research and uploaded via the AMRDEC SAFE Site at https://safe.amrdec.army.mil/safe/. The point of contact (POC) information for this BAA is as follows:

<table>
<thead>
<tr>
<th>Primary Point of Contact</th>
<th>Secondary Point of Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office of Naval Research</td>
<td>Office of Naval Research</td>
</tr>
<tr>
<td>Attn: Mr. William Nickerson</td>
<td>Attn: Dr. Airan Perez</td>
</tr>
<tr>
<td>ONR Department Code: 35</td>
<td>ONR Department Code: 33</td>
</tr>
<tr>
<td>875 North Randolph Street- Suite 1132</td>
<td>875 North Randolph Street- Suite 652</td>
</tr>
</tbody>
</table>

*Hand carried and e-mail submissions are not an acceptable form of delivery for white papers and proposal packages.

V. EVALUATION INFORMATION

A. Evaluation Criteria -

Awards under this BAA 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 once it makes the award instrument determination. 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.

In accordance with FAR 35.016(e), the primary basis for selecting proposals for acceptance shall be technical, importance to agency programs, and fund availability. Cost realism and reasonableness shall also be considered to the extent appropriate. Therefore, the following criteria will be used for evaluation:

1) Overall scientific and technical merits of the proposal.
2) Potential Naval 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.

N00014-16-R-BA02
4) The qualifications, capabilities, and experience of the proposed Principal Investigator (PI), team leader, and key personnel who are critical in achieving the proposal objects, and
5) The realism of the proposed costs and availability of funds.

Criteria 1 through 4 are significantly more important than Criterion 5, and Criteria 1 through 4 are of equal value.

The ultimate recommendation for award of proposals is made by ONR’s scientific/technical community. 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-Academia Partnering – ONR highly encourages partnering among industry and academia with a view toward speeding the incorporation of new science and technology into fielded systems.

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

B. Commitment to Small Business - (For Contract Awards Only)

The Office of Naval Research is strongly committed to providing meaningful subcontracting opportunities for small businesses, small disadvantaged businesses (SDBs), woman-owned small businesses (WOSBs), historically underutilized business zone (HUBZone) small businesses, veteran-owned small business (VOSBs), service disabled veteran-owned small businesses (SDVOSBs), historically black colleges and universities, and minority institutions, and other concerns subject to socioeconomic considerations through its awards.

Businesses unfamiliar with doing business with the government and that require assistance may contact the state-specific Department of Defense (DoD) Procurement Technical Assistance Center (PTAC). DoD PTACs serve as a resource for businesses pursing and performing under contracts with DoD, other federal agencies, state and local governments and with government prime contractors. Assistance provided by the PTACs is usually free of charge. PTAC support includes registration in systems such as SAM, identification of contract opportunities, understanding requirements and preparing and submitting proposals. The PTACs have a presence in each state, Puerto Rico and Guam. To locate a local PTAC visit:

1) Subcontracting Plan - For proposed contract awards exceeding $700,000, large businesses and non-profits (including educational institutions) shall provide a Subcontracting Plan (hereafter known as ‘the Plan’) that contains all elements required by FAR Subpart 19.704, FAR 52.219-9 and as supplemented by DFARS 252.219-7003.

**NOTE: Small businesses are exempt from this requirement.**

The Plan must be submitted as an attachment to the “Proposal Checklist” and will not be included in the page count. If a company has a Master Subcontracting Plan, as described in FAR 19.701 or a Comprehensive Subcontracting Plan, as described in DFARS 219.702, a copy of the Plan shall also be submitted as an attachment to the “Proposal Checklist”.

Plans will be reviewed for adequacy, ensuring that the required information, goals, and assurances are included. FAR 19.702 requires the apparent successful offeror to submit an acceptable Plan. If the apparent successful offeror fails to negotiate a Plan acceptable to the contracting officer within the time limit prescribed by the contracting officer, the offeror will be ineligible for award.

Offerors shall propose a plan that ensures small businesses (inclusive of SDBs, WOSBs, HUBZone, VOSBs and SDVOSBs) will have the maximum practicable opportunity to participate in contract performance consistent with efficient performance.

As a baseline, Offerors shall, to the best extent possible, propose realistic goals to ensure small business participation in accordance with the current or most recent fiscal year subcontracting goals found on the DoD Office of Small Business Program website at: [http://www.acq.osd.mil/osbp/](http://www.acq.osd.mil/osbp/). If proposed goals are below the statutory requirements, then the offeror shall include in the Plan a viable written explanation as to why small businesses are unable to be utilized and what attempts were taken to ensure that small business were given the opportunity to participate in the effort to the maximum extent practicable.

2) Small Business Participation Statement –

If subcontracting opportunities exist, all prime Offerors shall submit a Small Business Participation Statement regardless of size in accordance with DFARS 215.304 when receiving a contract for more than the simplified acquisition threshold (i.e., $150,000). All offerors shall provide a statement of the extent of the offeror’s commitment in providing meaningful subcontracting opportunities for small businesses and other concerns subject to socioeconomic considerations through its awards and must agree that small businesses, VOSBs, SDVOSBs, HUBZones, SDBs, and WOSBs concerns will have the maximum practicable opportunity to participate in contract performance consistent with efficient performance.

This assertion will be reviewed to ensure that it supports this policy by providing meaningful subcontracting opportunities. The statement should be submitted as an attachment to the “Proposal Checklist” and will not be included in the page count.
3) Subcontracting Resources -

Subcontracting to a prime contractor can be a good way to participate in the contracting process. The following is a list of potential resources that may assist in locating potential subcontracting partners/opportunities:

*Companies Participating in DoD Subcontracting Program Report
*DAU Small Business Community of Practice (SB COP)
*DefenseLink ≥ $7.0 M Award Notices
*DoD OSBP Prime Contractors and Subcontractors with Subcontracting Plans
*Dynamic Small Business Search
*Electronic Subcontracting Reporting System (eSRS)
*Federal Business Opportunities (FEDBIZOPPS)
*Navy SBIR/STTR Search – Website or Brochure
*DoD Procurement Technical Assistance Centers (PTAC)
*Small Business Administration (SBA) Subcontracting Opportunities Directory
*SBA Subnet

For a description and associated websites visit the ONR Office of Small Business webpage at::


In accordance with FAR Subpart 5.206, the following entities may transmit a notice to a Government Point of Entry (GPE) to seek competition for subcontracts, to increase participation by qualified small businesses, VOSBs, SDVOSBs, HUBZones, SDBs, and WOSBs, and to meet established subcontracting plan goal as follows:

(a) A contractor awarded a contract exceeding $150,000 that is likely to result in the award of any subcontracts; and
(b) A subcontractor or supplier, at any tier, under a contract exceeding $150,000, that has a subcontracting opportunity exceeding $15,000.

The notices must describe—

(a) The business opportunity;
(b) Any prequalification requirements; and
(c) Where to obtain technical data needed to respond to the requirement.

An example of a GPE is the SBA SUB-Net which is a place in which prime contractors may post solicitations or sources sought notices for small business. The SUB-Net database provides a listing of subcontracting solicitations and opportunities posted by large prime contractors and other non-federal agencies.

C. 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 the period of performance.

D. 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. 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

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

B. 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.

The System for Award Management (SAM) is a FREE WEBSITE that consolidates the capabilities you used to find in CCR/FedReg, ORCA, and EPLS. Future phases of SAM will add the capabilities of other systems used in Federal procurement and awards processes.

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

NOTE TO FORMER CCR REGISTRANTS: If you had an active record in CCR, you have an active record in SAM. You do not need to do anything in SAM at this time, unless a change in your business circumstances requires a change in SAM in order for you to be paid or to receive an award. SAM will send notifications to the registered user via email 60, 30, and 15 days prior to expiration of the record. You can search for registered entities in SAM by typing the DUNS number or business name into the search box.

C. Access to your Contract Award
Office of Naval Research (ONR) award/modification documents are only available via the Department of Defense (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 Contract Number (or, if applicable, 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.

VII. OTHER INFORMATION

A. Applies to Contracts only:

   i. 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. Offerors should indicate in the Proposal Checklist, Section II, Blocks 8 and 9, which of these facilities are critical for the project’s success.
ii. Use of Arms, Ammunition and Explosives – RESERVED

iii. System for Award Management (SAM)

FAR 52.204-7 System for Award Management and FAR 52.204-13 System for Award Management Maintenance are incorporated into this BAA, and FAR 52.204-13 will be incorporated in all awards.

iv. Employment Eligibility Verification (E-verify)

As per FAR 22.1802, recipients of FAR-based procurement contracts must enroll as Federal Contractors in E-verify and use E-verify to verify employment eligibility of all employees assigned to the award. All resultant contracts from this solicitation will include FAR 52.222-54, “Employment Eligibility Verification.”

v. Conflict of Interest

(1) Organizational Conflicts of Interest. All Offerors and proposed subcontractors must affirm whether they are, or are not, providing scientific, engineering, and technical assistance (SETA) or similar support to any ONR technical office(s) through an active contract or subcontract. (For the purposes of this BAA, SETA is defined as work that provides analysis and engineering services in a consulting capacity as opposed to performing research and development.) All affirmations must state which office(s) the offeror supports and identify the prime contract numbers. Affirmations shall be furnished at the time of proposal submission. Offerors and proposed subcontractors must disclose all facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5). The disclosure shall include a description of the action the offeror has taken or proposes to take to avoid, neutralize, or mitigate such conflict. Unless a waiver is granted under FAR 9.503, a contractor cannot simultaneously be a SETA and a research and development performer. Proposals that fail to fully disclose potential conflicts of interests will be rejected without technical evaluation and withdrawn from further consideration for award. Additional ONR OCI guidance can be found at http://www.onr.navy.mil/About-ONR/compliance-protections/Organizational-Conflicts-Interest.aspx.

(2) Personal Conflicts of Interest. All Offerors and proposed subcontractors must report whether any covered employees are performing acquisition functions closely associated with inherently governmental functions for ONR, as defined in FAR 3.11. Offerors must include which ONR office(s) those covered employees support and identify the prime contract numbers. This information must be furnished at the time of proposal submission. Offerors and proposed subcontractors must disclose all facts relevant to the existence or potential existence of any personal conflicts of interest involving covered employees and describe any actions taken to avoid, neutralize, or mitigate any such conflicts. Proposals that fail to fully disclose potential personal
conflicts of interests will be rejected and withdrawn from further consideration for award.

(3) If a prospective offeror believes that any conflict of interest exists or may exist (whether organizational or otherwise), the offeror 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 Contracting Officer after full consideration of the circumstances, any conflict situation cannot be effectively avoided, the proposal may be rejected without technical evaluation and withdrawn from further consideration for award under this BAA.

vi. FAR / DFARS Clauses:

The following are examples of clauses that may be incorporated into an ONR contract:

<table>
<thead>
<tr>
<th>#</th>
<th>Clause</th>
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<tbody>
<tr>
<td>52.204-7</td>
<td>System for Award Management</td>
</tr>
<tr>
<td>52.215-16</td>
<td>Facilities Capital Cost of Money</td>
</tr>
<tr>
<td>52.215-22</td>
<td>Limitations on Pass Through Charges - Identification of Subcontract Effort</td>
</tr>
<tr>
<td>52.216-1</td>
<td>Type of Contract</td>
</tr>
<tr>
<td>52.216-27</td>
<td>Single or Multiple Awards</td>
</tr>
<tr>
<td>52.217-4</td>
<td>Evaluation of Options Exercised at time of Contract Award</td>
</tr>
<tr>
<td>52.217-5</td>
<td>Evaluation of Options</td>
</tr>
<tr>
<td>52.222-24</td>
<td>Preaward On-Site Equal Opportunity Compliance Evaluation (Applies if exceeds $10M)</td>
</tr>
<tr>
<td>25.226-2</td>
<td>Historically Black College or University and Minority Institution Representation</td>
</tr>
<tr>
<td>52.230-7</td>
<td>Proposal Disclosure - Cost Accounting Practice Changes</td>
</tr>
<tr>
<td>52.232-15</td>
<td>Progress Payments not included</td>
</tr>
<tr>
<td>52.233-2</td>
<td>Service of Protest</td>
</tr>
<tr>
<td>52.252-1</td>
<td>Solicitation Provisions Incorporated by Reference</td>
</tr>
<tr>
<td>52.252-3</td>
<td>Alterations in Solicitation</td>
</tr>
<tr>
<td>52.252-5</td>
<td>Authorized Deviations in Provisions</td>
</tr>
<tr>
<td>252.203-7005</td>
<td>Representation Relating to Compensation of Former DoD Officials</td>
</tr>
<tr>
<td>252.204-7004</td>
<td>Alternate A, System for Award Management</td>
</tr>
</tbody>
</table>
vii. Combating Trafficking in Persons

Appropriate language from FAR Clause 52.222-50 will be incorporated in all awards.

viii. Certification Regarding Trafficking in Persons Compliance Plan:

Prior to award of a contract, for the portion of the contract that is for supplies, other than commercially available off-the-shelf items, to be acquired outside the United States, or services to be performed outside the United States, and which has an estimated value that exceeds $500,000, the contractor shall submit the certificate as specified in paragraph (c) of 52.222-56, Certification Regarding Trafficking in Persons Compliance Plan.

ix. Updates of Information regarding Responsibility Matters

FAR clause 52.209-9, Updates of Publicly Available Information Regarding Responsibility Matter, will be included in all contracts valued at $500,000 where the contractor has current active Federal contracts and grants with total value greater than $10,000,000.

B. Applies to all Contracts

i. 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 Offeror must clearly identify such need in Section II, Block 11 of the Proposal Checklist.

If it is determined that access to classified information will be required during the performance of an award, a Department of Defense (DD) Form 254 will be attached to the contract, and FAR 52.204-2 - Security Requirements will be incorporated into the contract.
ii. Use of Animals and Human Subjects in Research
RESERVED

iii. Recombinant DNA
RESERVED

iv. Institutional Dual Use Research of Concern
RESERVED

v. Department of Defense High Performance Computing Program
RESERVED

vi. 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. (This statement does not apply to international offerors submitting proposals to ONRG. International offerors should contact the cognizant ONRG Administrative Director (AD) for guidance prior to submitting a proposal.) Interim meetings are likely, but these will be accomplished via video telephone conferences, telephone conferences, or via web-based collaboration tools.

vii. Reporting Executive Compensation and First-Tier Subcontract Awards

The FAR clause 52.204-10, "Reporting Executive Compensation and First-Tier Subcontract Awards," will be used in all procurement contracts valued at $25,000 or more.

C. Other Guidance, Instructions, and Information

None.