

**System for Non-Acoustic Control of Signatures (SNACS)
Request for Information
N00014-17-RFI-0004**

I. DISCLAIMER:

This announcement constitutes a Request for Information (RFI) for the purpose of conducting market research for the System for Non-Acoustic Control of Signatures (SNACS) Future Naval Capability (FNC) concept. The Office of Naval Research (ONR) is soliciting feedback from industry to assess the current state of technology for structural and non-structural radar absorbing materials (RAM) and structures capable of withstanding persistent exposure to continuous hydrostatic pressure of 1050 psi. Following initial feedback, in an effort to further its market research, the ONR intends to conduct an Industry Day to allow for exchange of information. It is the responsibility of any potential contractor to monitor Federal Business Opportunities (FedBizOpps) for additional information pertaining to the potential Industry Day.

This RFI does not constitute a Request for Proposals (RFP), a Request for Quote (RFQ) or an indication that the Government will contract for any of requirements discussed in this notice. Information on the specific topics of interest is provided in the following sections of this announcement. Neither the ONR, nor any other part of the federal government will be responsible for any cost incurred by responders in furnishing this information.

II. BACKGROUND

The ONR established the SNACS FNC program to develop high performance radar absorbing structure (RAS) technology. This FNC seeks to develop RAS that employs manufacturing techniques that are affordable, scalable, durable and customizable to the desired platform (undersea, surface, air and ground). Moreover, the SNACS RAS must be capable of withstanding continuous exposure to external sea pressure up to 1050 psi without mechanical or electrical degradation of the RAS.

The target applications for the SNACS FNC are two imaging mast Navy programs of record (POR) for the Virginia Class submarines: (1) the Low Profile Photonics Mast (LPPM) and (2) the Tactically Oriented Technology Insertion Mast (TOTIM) each managed by the Naval Sea Systems Command (NAVSEA) Submarine Sensor Systems Program Office (PMS-435). The LPPM is a modular non hull-penetrating imaging sensor sited in a telescoping universal modular mast bay that provides submarines with improvements in stealth and survivability. TOTIM is a non-rotating modular and reconfigurable imaging mast to be used with the Integrated Submarine Imaging System (ISIS) on VIRGINIA (VA) and planned for OHIO Replacement (OR) class submarines.

III. OBJECTIVE

The SNACS FNC Program is seeking comments up to collateral secret regarding contractor's current state of technology for high pressure compatible RAS. SNACS RAS comments should provide information describing the technology, including but not limited to: technology readiness level, computational design approach, fabrication approaches, hydrophobic coating compatibility, thickness, weight, durability, and RAS electromagnetic characterization (i.e. reflectance, bandwidth, and polarization). The Government anticipates potential face-to-face meetings and intends to conduct a follow-on Industry Day, which will provide detailed information.

IV. SPECIFIC INFORMATION OF INTEREST

The Government requests information such as that described below:

- 1) Current or pending designs or design approaches with the potential to address the objectives stated above. The following information is of particular interest:
 - a) Description of the overall RAS system:
 - i) Listing of key enabling technologies that are used, and to the extent practicable, the estimated Technology Readiness Level (TRL) of each component / technology. The Technology Readiness Assessment (TRA) Guidance document, dated April 2011 found at the following website: (<http://www.acq.osd.mil/chieftechologist/publications/docs/TRA2011.pdf>), includes TRL definitions. Use those definitions for identifying the TRL level.
 - b) Electromagnetic (EM) characterization estimates of the systems;
 - i) Reflectance as a function of incidence angle;
 - ii) Bandwidth in GHz frequency;
 - iii) Material footprint/dimensions; and
 - iv) Polarization performance (i.e. transverse Magnetic (TM) and transverse electric (TE))
- 2) Non-binding Rough Order of Magnitude (ROM) cost estimate for proposed RAS system to be developed, assuming 56 ft² to be constructed as five cylindrical sleeves (approximately 11 ft²/sleeve), creating an 8.5" diameter by 60" tall RAS cylinder;
- 3) Hydrostatic pressure performance;
- 4) RAS system fabrication technology, specifically the suitability for application on cylindrical shapes;
- 5) Scalability for production (i.e. manufacturability); and
- 6) Hydrophobic coating compatibility.

V. SUBMISSION INSTRUCTIONS and FORMATTING REQUIREMENTS

- 1) Request brief submissions, generally not more than fifteen (15) pages. Please include the RFI number and name, address, company, technical point of contact, with printed name, title, email address and date.
- 2) Non-binding ROM cost estimate not more than 1 page. (Not included in the page count).
- 3) The Government intends to review all comments received and reserves the right to use the responses in developing a Broad Agency Announcement (BAA). If proprietary information is submitted, it must be portion marked at the paragraph level to indicate those specific paragraphs that contain proprietary information.
- 4) Comments will not be shared outside the Government and Government support contractors. [NOTE: However, they may be if they are incorporated in the BAA].
- 5) All information received in response to this RFI that is proprietary will be protected against unauthorized disclosure in accordance with FAR Subpart 15.207, applicable law, and DoD/DoN regulations.
- 6) All responses should be unclassified. If desired, a classified supplement may be submitted separately. See paragraph number 8 below for mailing instructions for classified supplements.
- 7) Responses are requested thirty (30) days after release of this RFI. Any response received after this date may be considered but may not be included in subsequent refinement of the SNACS requirement and development of a solicitation.

All unclassified comments shall be in PDF format and emailed to the following:

Dr. Paul Ransom at paul.ransom@navy.mil
Lynn Christian at lynn.christian@navy.mil
Dr. Steve Russell at steven.j.russell@navy.mil
Jonathan Krufft at jonathan.krufft@navy.mil

8) Classified Supplement Mailing Instructions:

Classified supplements shall be submitted directly to the attention of ONR's Document Control Unit at the following address:

OUTSIDE ENVELOPE (no classification marking):

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

The inner wrapper of the classified supplement should be addressed to the attention of Dr. Steven Russell Code 33 and marked in the following manner:

INNER ENVELOPE (stamped with the overall classification of the material):

“SNACS Comments”
Office of Naval Research
Attn: Dr. Steven Russell
ONR Code: 33
875 North Randolph Street
Arlington, VA 22203-1995

9) Comments to this RFI will not be returned.

VI. QUESTIONS:

Questions of a technical nature should be submitted to:

Dr. Paul Ransom
Office of Naval Research
Attn: Dr. Paul Ransom
ONR Code: 33
875 North Randolph Street
Arlington, VA 22203-1995
Email: paul.ransom@navy.mil

Questions of a business nature should be submitted to:

Lynn Christian

ONR Code BD 0251

Office of Naval Research

875 North Randolph Street, Suite W1275

Arlington, VA 22203-1995

Email: <mailto:lynn.christian@navy.mil>

All questions shall be submitted in writing by electronic mail.

Questions submitted within 2 weeks prior to the closing date of this RFI may not be answered.