

## General Information

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## Description

THIS IS A SOURCES SOUGHT NOTICE ONLY. THIS IS NOT A REQUEST FOR PROPOSALS. THERE WILL NOT BE A SOLICITATION, SPECIFICATIONS, OR DRAWINGS AVAILABLE. THIS SOURCES SOUGHT NOTICE IS PUBLISHED FOR MARKET RESEARCH PURPOSES ONLY. The Naval Sea Systems Command (NAVSEA) seeks to obtain a list of interested candidates to provide concepts and proposed plans of action to address the Submarine Fleet's requirement for a highly reliable Fat Line Towed Array, if a Request for Proposal (RFP) is issued for a TB-34 FAT LINE ARRAY. The effort, if solicited via a RFP, would be a performance based contract that is competitively awarded for production of TB-34 Towed Array Assemblies and Light Weight Tow Cables, that are compatible with the existing inboard signal path and AN/BQQ-10(V) sonar system.

The following system requirements are applicable:

### CONFIGURATION:

**Length:** less than 258 feet

**Diameter:** 3.35 ± 0.25 inches

**Number of Acoustic Channels:** 288 Channels (LF 96 channels, MF 192 channels center-nested)

### **Modules:**

- A) Vibration Isolation Module (VIM)
- B) Forward Interface Module (FIM) [Fwd NAS Suite & Hub Group]
- C) Acoustic Module (AM) [1 Low Frequency aperture and 1 Mid Frequency aperture center-nested]
- D) Aft Sensor Module (ASM) [Aft NAS Suite, Aft Hub Group and Wide band Hub]
- E) 4 channel Wide Band Module (1 omni-directional hydrophone and 1 Triplet group)

**SCHEDULE:** If solicited, NAVSEA would be interested in completing First Article build and testing within 18 months of contract award. To support production requirements, the Navy requires a 12 month or less lead time for the first production array. To evaluate this attribute, the Navy will consider the vendor's approach to production planning including material lead time, personnel, facilities, and the use of matured subsystems, work processes and components.

**PERFORMANCE:** If solicited, the TB-34 array will be required to perform in the operational conditions associated with all Submarine classes. Specific key requirements are as follows:

- A) **Operating Conditions – Pressure:** The TB-34 will be required to operate over the same operational depths of the submarine.
- B) **Operating Conditions – Vibration:** In addition to the MIL-STD-167-1A shipboard and transportation vibration requirements, the TB-34 will be required to operate and survive vibrations associated with towing conditions during SSN high speed maneuvers.
- C) **Operating Conditions – Temperature:** The TB-34 will be required to survive in extreme weather conditions and rapid changes in temperature. Stowage, or non-operational, temperatures range from -40° C to as high as +60° C. All performance requirements shall be met at temperatures during operating conditions ranging from -2°C to 40°C. The array must also operate pier-side and pass calibration tones at temperatures up to 50°C. In addition, the TB-34 must survive rapid change in temperature such as changes associated with submergence in extremely cold and warm environments.
- D) **Interface – Handling System:** The TB-34 will interface physically, mechanically, electrically and optically with the OK-276 Fat Line Towed Array Handling System. The TB-34 shall be capable of being reliably deployed and retrieved using the OK-276 standard Operational Instruction (OI).
- E) **Interface – Host Sonar System:** The TB-34 is required to have an output signal in a data format compatible with the existing AN/BQQ-10(V) sonar system. The Interface Requirement Specification TB-34 Towed Array, Document # 2311C0040, Issue H, dated 27 August 2008 is the reference document to be used as guidance for the TB-34 interface to the AN/BQQ-10(V). Note that the NAVY anticipates no changes to the host sonar system software and hardware.
- F) **Performance – Reliability:** Reliability performance is required to be improved over TB-16 performance. For the concepts phase, a side- by-side comparison with the TB-16 array will be performed to evaluate the potential reliability improvement. The proposed TB-34 design will be evaluated for (1) how well the known failure modes of the TB-34 are mitigated and (2) the introduction of any new failure modes. A summary of the failure modes associated with legacy Fat Line Towed Arrays can be found in the brief “Towed Array and Handling Systems Reliability Performance Metrics” dated 30 January 2011. In addition, First Article testing will be performed to support an initial assessment of reliability performance. This will include Mechanical Endurance Testing and environmental testing where the TB-34 hardware including any new or modified outboard signal path components will be subjected to forces associated with the full submarine operating environment. This will include the following:
- Tension cycles simulating flank SSN speed towing
  - Pressure cycles associated with the submarine operational depth envelope
  - Temperature cycles associated with submarine operational and stowage environment per paragraph C above
  - Vibrations associated with transportation, straight-line towing, and ship maneuvers per paragraph B above
- G) **Reliability – Telemetry:** The telemetry shall meet all performance requirements after being subjected to additional pressure, temperature, and vibration cycles at the component level to satisfy Design Certification Testing criteria.
- H) **Performance – Acoustic Self-Noise:** The acoustic performance of the TB-34 shall be equivalent to the TB-34 performance requirement. Lower level requirements such as channel-to-channel gain and phase, crosstalk, electronic noise floor, etc are expected to support the array’s compliant acoustic self-noise performance. Acoustic performance will be evaluated prior to initial ship installation of array.

- I) **Performance – Non-acoustic sensors:** The non-acoustic sensors employed by the TB-34 are required to enable the bearing accuracy equivalent to the TB-34-AN/BQQ-10(V) system and support. At a minimum, the non-acoustic sensor suite should include: heading, pitch, roll, voltage, current, temperature, and depth forward and aft of the acoustic aperture.

Interested sources are requested to provide proposed plans and concepts not to exceed 5 pages (“8½ x 11”) and 12pt. font with one-inch borders. **RESPONSES SHOULD INCLUDE THE FOLLOWING INFORMATION:** Company Name, Address, Point of Contact, Phone Number, and E-mail address. Submission shall address the following:

- A description/matrix of how the respondent’s system meets the requirements listed above. Each requirement above will be listed in order, with a written response detailing how the proposed unit performs against the stated requirements using the format provided. Supporting rationale/data to be provided as an annex.
- Detailed descriptions of candidate system to include drawings, pictures, brochures, etc., that will convey the operating principles, as well as general and specific system capabilities behind the submissions.
- Production capacity estimate for the units. Provide an estimate of maximum available monthly production capacity to meet government requirements. This capacity should be above and beyond any current production orders or current sales and should be able to be met without the introduction of new facilities. If new facilities are planned or required, state so.
- Estimated cost estimates for the units, including information as to quantity price breaks.
- Descriptions of any past or current contracts whose deliverables satisfy items covered in this announcement, either whole or in part. Please include the name and number of the on-going contract, contract scope, contract type, period of performance, contract deliverables, dollar thresholds and limitations, the issuing Government agency, and the name and telephone number of the Contracting Officer.

A respondent's capability package should clearly indicate whether they are a large business, small business, or a small disadvantaged business.

Interested respondents should submit the information annotated above, in hard and electronic copy, on or before 9NOV2012 by close of business. Information submitted should be sent to Sherry Bradley and Mercedes Burrell at the aforementioned mailing or email address. Electronic responses should be sent unclassified. The Government does not commit to providing a response to any comment or questions submitted in response to this sources sought notice or information provided as a result of this sources sought notice. Any information submitted by respondents as a result of this sources sought notice is strictly voluntary. All documentation shall become the property of the Government. This sources sought notice is for information planning purposes and the Government will not pay or otherwise reimburse respondents for information submitted. The Government is not soliciting, nor will it accept proposals as a result of this sources sought notice. This sources sought notice is a market research tool being used to determine the existence of qualified and experienced sources. All firms responding to this sources sought notice are advised that their response to this notice is not a request to be considered for a contract award. If a solicitation is issued, it will be announced later via Navy Electronic Commerce Online and Federal Business Opportunities and all interested parties must respond to that solicitation announcement separately from the response to this sources sought notice. Response to this notice is not a request to be added to a bidders list or to receive a copy of a solicitation. **THE GOVERNMENT DOES NOT INTEND TO AWARD A CONTRACT SOLELY ON THE BASIS OF THIS SOURCES SOUGHT NOTICE.**

#### **Point of Contact**

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