

Market Research and Request for Information (RFI) for a Remotely Operated Vehicle (ROV) for Submarine Rescue

DESCRIPTION: The Naval Sea Systems Command Program Manager for Advanced Undersea Systems (PMS394), on behalf of the US Navy, is examining the technical capability and cost impact for implementing a stand-alone Remotely Operated Vehicle (ROV) system as a submarine rescue intervention asset. The Navy is interested in obtaining ROV and its associated system operations and maintenance. The ROV's purpose is to provide an underwater intervention capability to support submarine rescue.

The intent of this RFI is to gauge the range of industry interest and cost effectiveness of an ROV to provide the required capability. This RFI is for planning purposes only and shall not be construed as an invitation for bid, request for quotation, request for proposal, or as an obligation on the part of the Government to acquire any products or services. There are no other solicitations, specification, or drawings available. Any proprietary information received in response to this request will be properly protected from any unauthorized disclosures; however it is incumbent upon the respondent to appropriately mark all submissions. No entitlement to payment of direct or indirect costs or charges by the Government will arise as a result of responses to this announcement.

REQUIREMENTS: The Respondent shall take into account the ability to furnish all necessary personnel, material, technical services, and logistics support to provide, deliver, operate and maintain the Intervention Asset. Respondent shall provide costs regarding procurement and delivery of the Intervention Asset along with drawings, operating and maintenance manuals necessary to meet defined performance requirements. The response shall provide for a ROV system that will be delivered with necessary documentation to enable operation and maintenance by third party contractor organizations. Respondent shall supply cost to support the Intervention Asset at the Deep Submergence Unit (DSU) in San Diego, CA and identify minimum personnel staffing requirements to operate and maintain the Intervention Asset. Additionally, the Respondent shall provide surge capacity personnel for mobilization and at-sea deployment of the system. Core personnel will be integrated into the DSU staff and work under the authority of the DSU Commanding Officer. Basic security clearances for key personnel will be required. Respondent shall discuss system footprint and ease in transportability. Respondent shall also discuss cost/benefits for the contractor leasing the ROV versus owning the ROV and supporting equipment.

To provide an understanding of intended usage, the normal annual operational schedule for DSU is as follows:

- Four at-sea training periods to include approximately 1 day to mobilize, 7 days at sea and 1 day to demobilize from DSU to the Government furnished ship.
- One exercise out of the continental United States (Europe/Asia) to include 1 day to mobilize, 10 days at sea and 1 day to demobilize.

Additionally, the Respondent shall explain how it would provide the necessary post mission maintenance to maintain system following the training/exercise operations.

The Respondent shall demonstrate in its response that it would be able to carry out all actions related to the mobilization, operation, and demobilization of the intervention asset along with providing qualified operations and maintenance staff necessary to meet requirements. The Respondent shall provide documentation or examples of ROV Air Mobile capability from past experience.

The mandatory system requirements follow.

Operational Requirement	Threshold
Operational Depth	610 msw (2000 fsw)
Submarine Hatch Depth	Damaged or Debris Covered, lifting up to 50 pounds; Install Downhaul Cable (7/16 wire cable 1300 ft length at .35 pounds per foot) Ability to cut steel cable up to 1.5 inches in diameter
Road Transportability (truck and trailer) Max Individual Gross Weight: Max Individual Width: Max Individual Height: Interface (see note 1):	36290 kg (80000 lbs) 2.4m (8ft) 4.1m (13 ft 6 in) ISO Container
Air Transportability	C-130, C-17 & C-5 within 3 hours. Capability to transport on commercially available aircraft preferred.
Sea States (see note 2)	Subsea Operations: 4 Launch: 4 Recovery: 5 Survivability: 6
Water Temperature 0-91 m (0-300ft) 91-610 m (300-2000 ft)	Max: 35.0°C (95.0°F) Min: -1.7°C (29.0°F) Max: 25.6°C (78.0°F) Min: -2.2°C (28.0°F)
Air Temperature (see note 3) Operating Non-operating	Max: 43.3°C (110.0°F) Min: -17.8°C (0.0°F) Max: 65.6°C (150.0°F) Min: -17.8°C (0.0°F)
Max Underwater Current (see note 4) 0-260 msw (0-853 fsw): 240-460 msw (853-1509 fsw): 461-610 msw (1509-2000 fsw):	1.0 m/s (2.0 kts) 0.6 m/s (1.2 kts) 0.5 m/s (1.0 kts)
Time to Load Aircraft	≤ 3 hours
VOO Mobilization (see note 5)	≤ 6 hours Deck area ≤1,900 square feet
Underwater Visibility	0 m (0 ft)
Video Surveys (see note 6)	Able to conduct video surveys at maximum operating depth with fiber optic high definition color and black and white digital images. Focus-zoom and pan and tilt capability.
Submarine Salvage Air Valves	Capability to manipulate standard submarine salvage air valves.
Mission Readiness	Capable to maintain a mission readiness availability of 93%, a mean time between operational mission failure (MTBOMF) of 223 hours and a mean corrective maintenance time for operational mission failures (MCMTOMF) of 4 hours.
Tracking	Capability to attach a transponder for in-water tracking from the VOO similar to Broadband Acoustic Tracking System model 4370A beacon.

Table 1

Notes for Table 1

Note 1: ISO Containers Standard ISO 1161, Series 1 Freight Containers – Corner Fittings – Specification

Note 2: Survivability Definition and Sea States Descriptions

Survivability Definition: Survivability as set forth in DoD-STD-1399, Section 301A, refers to the survival of a system in sea conditions which are more severe than those in which various subsystems are operational. Such survival requires that after the sea condition subsides, mission essential subsystems are without serious damage and are capable of continuing the mission without returning to port for repairs. Sea states are defined in table 2.

Sea State	Significant Wave Height
3	0.5 – 1.25 m (1.6 – 4.1 ft)
4	1.25 – 2.5 m (4.1 – 8.2 ft)
5	2.5 – 4.0 m (8.2 – 13.1 ft)
6	4.0 – 6.0 m (13.1 – 19.7 ft)
7	6.0 – 9.0 m (19.7 – 29.5 ft)

Table 2

Note 3: Air Temperature: These values enable the system to operate in a wide range of latitudes in all oceans year round. The 10 degrees F requirement allows operations as far north as 60 degrees latitude or more in February (mid-winter) and as far south as 60 degrees latitude or more in August (mid-winter). The 100 degree F requirement allows operation in equatorial waters year round including operations in the 91 degree F average surface temperatures found in the Persian Gulf in August.

Note 4: Water Current: The intervention asset shall operate in the following sea currents:

0-853 fsw	2.0 kts
853-1509 fsw	1.2 kts
1509-2000 fsw	1.0 kts

Note 5: Vessel of Opportunity (VOO) Mobilizations on commercial/military flat deck ships: VOO mobilization is defined as the time between beginning installation on board the ship and beginning transit to DISSUB site. Flight and transportation times to VOO mobilization port and VOO transit to DISSUB are situationally defined. The ROV must be able to be deployed from the port/starboard/stern of the VOO. A VOO is a surface support ship brought under contract to the U. S. Government in support of submarine rescue exercises, training and operations (Actual Rescue) with the necessary

capabilities/characteristics needed to support submarine rescue and located at a port near the distressed submarine.

Note 6: Ability to transfer recorded video surveys to a removable media for remote playback and analysis using a computer with standard software and hardware in digital formats (e.g. MPEG, *.MOV).

SCHEDULE:

Responses are due 30 days after publication of this RFI.

RESPONSES: The Government requests that the following accompany any submission: Company name; Address; Point of Contact; Phone Number; and E-mail address.

Submissions shall not exceed 25 pages, front only (8 ½ x 11”). Font shall be 12-pitch with one-inch borders. Submissions shall address:

- 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 time estimate for the unit, i.e. time to delivery after order.
- Cost estimates for the ROV system, core operational and maintenance personnel and surge (at-sea operations) personnel to fulfill DSU’s operational schedule.
- 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.
- Capability to perform in-house or local water demonstration of intervention asset to support possible RFP proposal evaluation.
- Quantity of units sold (i.e. number of ROVs by Model type)/units currently in operation by model type.

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 three (3) hard copies and electronic copy, 30 calendar days after date of this RFI to: Advanced Undersea System Program Office, PMS394, 1339 Patterson Ave., SE Stop 7026, Washington Navy Yard, DC 20376-7026, Attn: Dave Leeson, PMS394RE4. No telephone inquiries will be accepted. The Government does not commit to providing a response to any comment or questions. The Government will use the information

provided in response to this notice to support urgent, on-going initiatives within the Navy. These initiatives may ultimately result in the Government developing and issuing a RFP. NAVSEA provides the above for information only. This is not a RFP or announcement of a solicitation. This notice does not constitute a commitment by the Government to issue an RFP, contract, or order.

The Government will not pay for any effort expended or any material provided in response to this announcement, nor will the Government return any data provided. No basis for claim against the Government shall arise as a result of this announcement or for Government use of any information provided.