

Purpose

The Naval Undersea Warfare Center (NUWC) – Division Keyport (NUWCDIVKPT) (<https://www.navsea.navy.mil/Home/Warfare-Centers/NUWC-Keyport/>) is issuing this Request for Information (RFI) as part of its market research efforts to improve understanding of market capabilities, identify qualified contractors, and refine the acquisition strategy for recapitalizing the underwater test and evaluation ranges contained within the U.S. Navy's Pacific Northwest (PACNW) Range Complex. The intended use for the information is to assess the current state-of-the-art in underwater test and tracking systems, develop potential alternatives for installing hardware and/or software associated with the underwater tracking ranges, and obtain information on completed related projects. The information provided will assist NUWC Keyport in understanding what capabilities might be commercially available, or easily developed.

The PACNW Range Complex needs to repair and upgrade its current underwater sensor capabilities to meet current customer requirements with an open architecture for future needs.

In particular, NUWC Keyport is seeking a vendor(s) to provide any products, ideas, concepts that might be helpful for consideration. Examples include but are not limited to:

- Underwater Sensors
- Internet of Things (IoT)
- Communications (underwater, sea-air interface, etc.)
- Data Management

Background

Since the 1950s NUWC Keyport has conducted live Testing and Evaluation (T&E) of maritime systems in the underwater environments of the U.S. Navy PACNW Range complex (Figure 1). The complex primarily consists of fixed ranges at Dabob Bay and Nanoose, which is the joint range with Canada. The current configuration and technologies of the underwater ranges have generally been sufficient until now. Changes in undersea system technology and mission, the resulting advances in undersea T&E methods and aging infrastructure are all leading to requirements for new capabilities. To address those changes, an upgrade/refresh of the Range Complex is necessary to better support rapid delivery of advanced capability to the Navy. It is postulated future undersea T&E will require reconfigurable, composable instruments in a networked and individually addressable open architecture. This will allow the ranges to have the flexibility and capability to support advanced underwater communications and sensor development in addition to underwater vehicle testing for the next generations of system development. Future ranges may also require variants that can also support a portable capability in order to augment fixed range infrastructure and to enable anywhere, anytime T&E events.

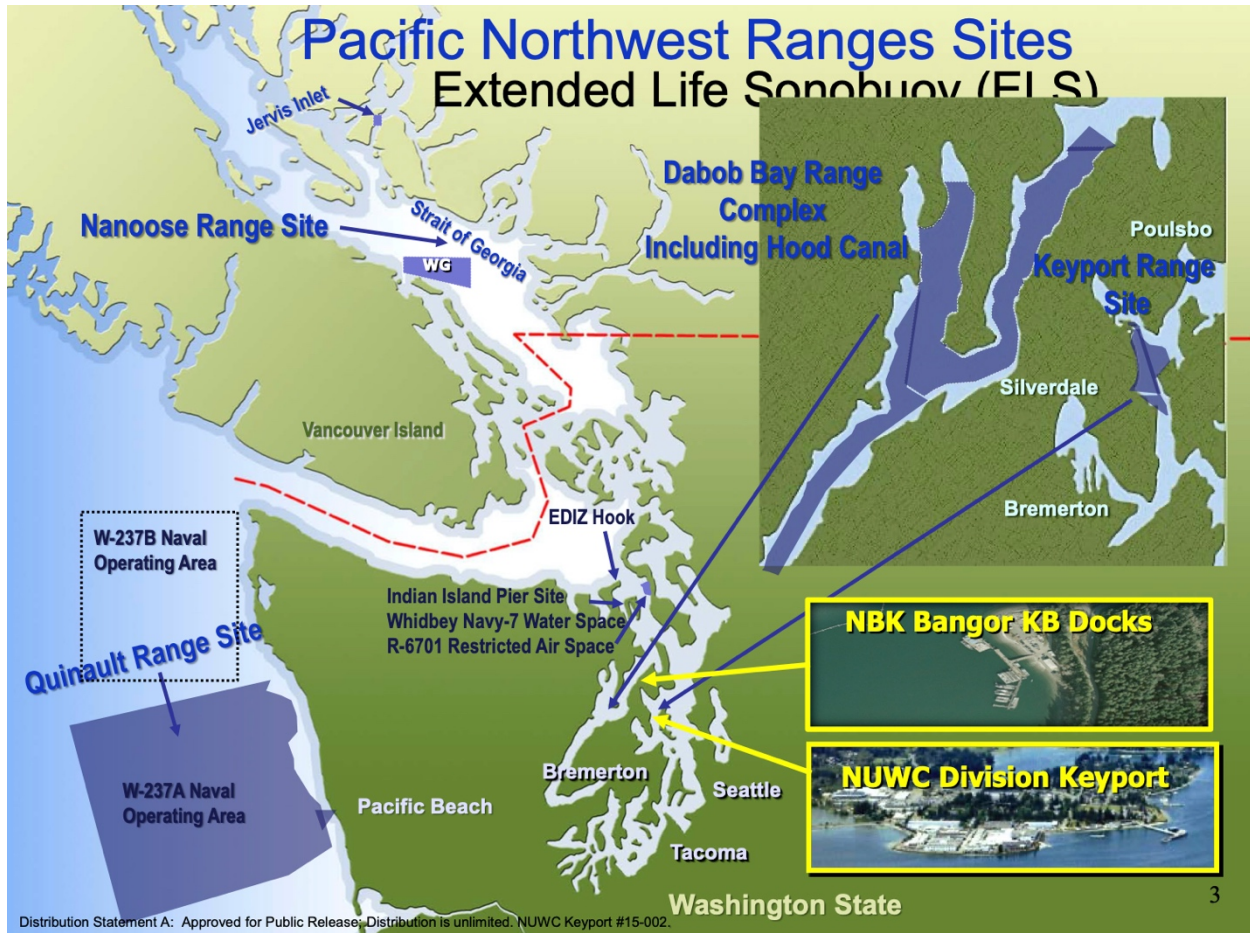


Figure 1. Pacific Northwest Ranges including the Dabob Bay Range Complex and the NanOOSE Range Site

Key Features

Table 1 below lists the key features the NUWC Keyport is requesting information/topics on to help shape the strategy of this effort. Additional information, as appropriate, in the response to this RFI is extremely encouraged. Further detail may be requested in follow-on information requests or solicitations, which may be individual or collective. Respondents are free to suggest additional features that the Government should consider in any future requests.

NUWC Keyport is looking for any proposed solutions that can address one or more of these key features. It is understood that there may be feasibility tradeoffs between the listed features. The intent is for Keyport to weigh these tradeoffs with the input from industry respondents. Keyport wants to know, "How would vendors trade off these features?"

| <u>Architectural Features</u> | <u>Functional Features</u> |
|---|--|
| <ol style="list-style-type: none"> 1. Open Architecture to accommodate <ol style="list-style-type: none"> a. Future technology / Sensors b. Augmenting fixed range with portable range capability 2. High Reliability of connectivity and Operational Availability (Ao) 3. Designing for Maintainability <ol style="list-style-type: none"> a. in particular, reduction of overall maintenance costs | <ol style="list-style-type: none"> 1. Underwater Transmit and Receive Capabilities 2. Obtaining Time, Space, Position Information for systems under test, through <ol style="list-style-type: none"> a. Known active acoustic transmissions b. Passive receipt of acoustic transmissions intrinsic to the system under test c. Passive receipt of acoustic signals in general d. Other methods for underwater tracking with non-traditional future sensors 3. Measurement and Monitoring of Environmental conditions underwater <ol style="list-style-type: none"> a. Measurement of Oceanographic data such as Temperature throughout the water column b. Measurement of ambient conditions |

Table 1. Range Features

Instructions for RFI

Responses to this RFI should include supporting materials that provide a demonstration of your company or institutions capabilities and experience. The following information is requested.

1. Technical description of proposed architecture and approaches.
2. Description of potential components and sub-systems.
3. Any previously accomplished projects that may be related to this effort.
4. Any specific Government projects related to this RFI.
5. **Any products, ideas, concepts that you think might be helpful for our consideration.**

NUWC Keyport requests your responses by 10 am (PST), 9 March 2020. Submissions will be accepted after this date, but feedback may not be as timely or contribute to Keyport's strategic planning. Information should be e-mailed to Mr. Eric York, Naval Undersea Warfare Center (Code 23), 610 Dowell St, Keyport, WA 98345-7610. Questions can be submitted electronically to eric.york@navy.mil.

Information provided will be treated as "Business Sensitive" and will not be shared outside of Government activities and agencies without the permission of the provider. All information shall be provided free of charge to the Government.

THIS NOTICE IS NOT A REQUEST FOR PROPOSAL. This notice is for information and planning purposes only. This RFI does not constitute a solicitation for bids or proposals and it is

not to be construed as a commitment by the Government. The information herein is subject to change and in no way binds the Government to solicit for or award a competitive contract. The Government is not obligated to and will not reimburse any costs associated with preparing or submitting a response to this notice and submittals will not be returned to the sender.

Project Timeline

1. 2/26 -- Industry Day in Seattle
2. 3/9 – RFI Responses Due
3. 3/9-3/13 – Conduct Design Sprints
4. 3/16-3/25 – Analysis of Alternatives (AoA)
5. 3/16-3/25 – Develop System Specification Key Performance Parameters (KPPs)
6. 4/6-7/10 – Write SOW for NUWC Newport Undersea Technology Innovation Consortium (UTIC) Other Transaction Authority (OTA)
7. 4/29 – Present at UTIC/OTA Spring Industry Day
8. 5/29 – UTIC/OTA proposals due, Note that 30 days is standard
9. 5/29-6/12 – Down-select UTIC Proposal
10. 7/1 – OTA Contract Award