



Code 45 USW Platforms & Payload Integration Department

Autonomous Maritime Systems Test Center (AMSTC) Engineering and Technical Support Services

Pre-Solicitation Conference

**NUWC Division Newport
Undersea Collaboration & Technology
Outreach Center (UCTOC)**

April 13, 2023



Agenda

- **Introduction/Ground Rules**
- **Disclaimer Statement**
- **Department Overview**
- **Anticipated Procurement Strategy**
- **AMSTC Contract Details**
- **Conclusion/Wrap-up**



Introduction/Ground rules

- **Introduction of Participants**
- **Intent of this Pre-Solicitation Conference**
- **Encourage competition by:**
 - **Providing technical information to provide potential offerors a better understanding of the technical requirements**
 - **For Prime and Subcontracting opportunities**
 - **Ensure all potential offerors receive, and have access to, the same information**
- **Technical “Q&A” is encouraged**
 - **Please save questions until end of presentation.**
 - **Q&A will be answered, either today or via SeaPort NxG Portal**
 - **Q&A/Feedback Forms**
 - **No questions about incumbent contractor**



Introduction/Ground rules (cont'd)

- Please silence cell phones and pagers. No personal recording
- Q&A will be recorded, typed, and posted to the SeaPort NxG Portal
- The Attendees list will be posted to the SeaPort NxG Portal
- This briefing will be posted to Seaport NxG and the Contracting & Small Business Outreach page:
<https://www.navsea.navy.mil/Home/Warfare-Centers/NUWC-Newport/Partnerships/Contracting-and-Small-Business/Outreach-Events/>



Introduction/Ground rules (cont'd)

- **DO NOT directly contact the NUWC technical code after today all further dialogue will be accomplished via the Q&A feature on the SeaPort NxG Portal**
- **Technical requirements contained in this briefing are presented as a draft summary**
 - **Full/updated technical requirements will be provided in the Request for Proposal (RFP)**



Disclaimer Statement

- Remarks today by Government officials involved in the Code 45 AMSTC Support Services requirement should not be considered a guarantee of the Government's course of action in proceeding with the acquisition
- The informational briefing shared today reflects current Government intentions and is subject to change based on a variety of circumstances

The formal solicitation, when issued, is the only document that should be relied upon in determining the Government's requirements



Department Overview

Our Mission:

Exercise full-spectrum programmatic and technical excellence in tactical missile, payload integration and USW platform solutions to deliver and sustain USW capability.

Our Vision:

Exploit the Ocean Interface for USW Platform & Payload Superiority.

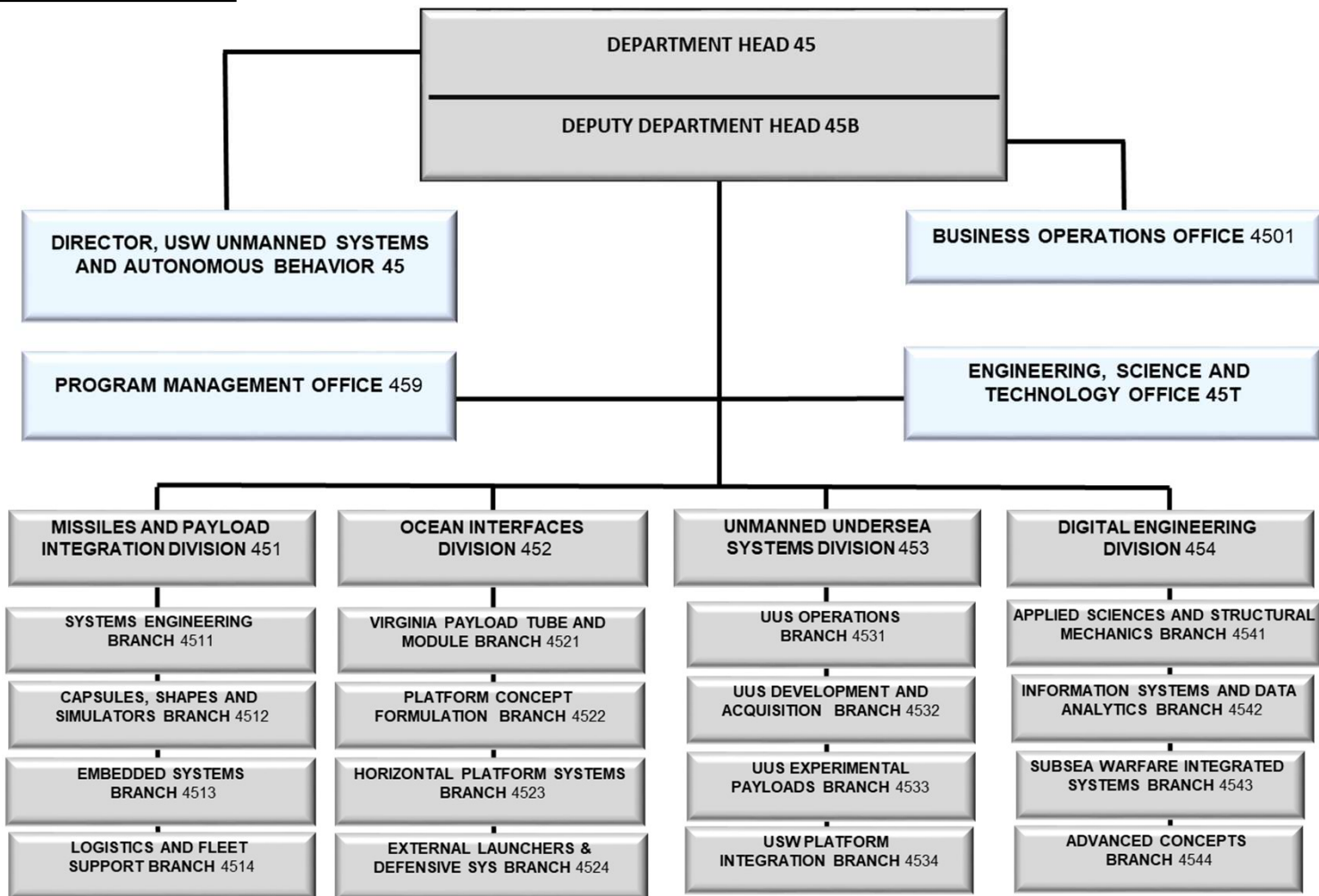
Department Overview (cont'd)





Department Overview (cont'd)

C45 Org Chart





Department Overview (cont'd)

C45 Technical Capabilities, Customers and Workforce

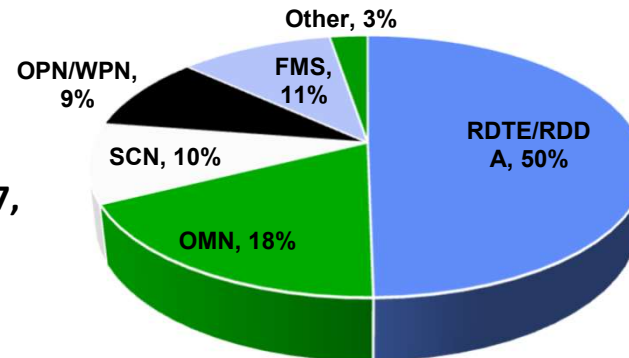
Warfare Center Technical Capabilities

- NP09 – USW Launcher Systems and Payload Integration
- NP10 – Submarine Tactical Missile Integration
- NP11 – USW Autonomous Vehicles
- NP20 – Subsea and Seabed Systems

Customers: COMSUBFOR, PEO SUB,
PEO USC, PEO U&W, PEO COLUMBIA,
PEO IWS, NAVSEA 05, NAVSEA 06, NAVSEA 07,
USSOCOM, RDSA, DARPA, SCO, ONR, SSP,
others...

Civilian Employees

- 84% Engineers and Scientists
- 36% Advanced Degrees
 - 6% PhDs
 - 30% Masters
- 18% Female, 82% Male
- Average Age – 40.2 yrs.





Department Overview (cont'd)

C45 Demand Increase Summary

NP09 - USW Launcher Systems and Payload Integration

- **Growth across the customer base in support of multiple new TEMPALT efforts and increases in SSN(X) tasking, Virginia Payload Module analytical requirements and continued integration efforts of Undersea Dominance Payloads**

NP10 – Submarine Tactical Missile Integration

- **Strategic System Programs All Up Round simulator efforts leveraging Tomahawk MK112**
- **Foreign Military Sales efforts remain stable with planned growth due to AUKUS**

NP11 - USW Autonomous Vehicles

- **Growth across the customer base for payload and sensor development and integration, Large Vehicle Integration, Full Spectrum Undersea Warfare Innovative Naval Prototype and Joint Undersea Surveillance and Targeting support, Autonomy integration and Digital Engineering Efforts, along with increasing requirements associated with C45's UUV Software Support Agent Role**

NP20 - Subsea and Seabed Systems

- **Growth across the customer base for payload, sensor and platform development and integration**



Department Overview (cont'd)

AMSTC Background

The Autonomous Maritime Systems Test Center (AMSTC) supports vehicles in a baseline configuration, installation/integration of customer desired changes, at sea test and evaluation (T&E), and return of vehicles to baseline configuration.

The AMSTC provides:

- Experimental/Testbed UUVs/AUVs of various sizes and capabilities**
- Support for vehicle upkeep/maintenance/reconfiguration**
- Laboratory space for unmanned vehicles and peripheral equipment**
- Secure, managed IT facility for the use of modeling and simulation equipment and secure communications**



Anticipated Procurement Strategy

- **This is a follow-on of NUWCDIVNPT requirement N0017804D4066/N6660418F3022**
 - **SERCO (Incumbent)**
- **SeaPort NxG Task Order**
 - **Prime**
 - **Sub**
- **Five (5) year Period of Performance**
 - **Base year plus 4 one year options**
 - **Unrestricted**
- **Contract LOE: 218,250 hrs. – CPFF/FFP**
- **Organizational Conflict of Interest (OCOI) Clause Applies**
 - **There is no OCOI with UUV FoS because AMSTC focus on existing/legacy UUVs whereas UUV FoS contract focuses on new development/future UUVs**
- **Clearance Level: Top Secret (Cyber Security Rqmt.)**
 - **Approx 5% of tasking**



Anticipated Procurement Strategy (con't)

- **Software Development Plan (SDP) and rationale required**
- **Capability Maturity Model Integration (CMMI) capability level 3 or equivalent required**
- **Other Direct Costs (ODC's) will be approx. 45% of total cost**
- **Work Locations**
 - **90% Government-site, 10% Contractor Site**
- **Facilities**
 - **Government will provide facilities for on-site personnel and TS tasking**
 - **Facility Security Clearance Required: Top Secret (not for storage)**
 - **Government Furnished Materials/Equipment/Information (GFM/E/I)**
 - **Provided in Solicitation and upon award of contract**



Anticipated Procurement Strategy (con't)

- **Identify and provide resume(s) for a minimum of one Key Personnel for each task covering the below areas of expertise**
 - **Computer Software Programming, Design, Development, and Maintenance**
 - **Engineering Design, Development, and Evaluation**
 - **Modeling and Simulation**
 - **At-Sea Test and Evaluation (T&E)**
 - **Integrated Logistics Support (ILS) and Fleet Support**
 - **Cyber Security (CS) and Anti-Tamper (AT)**
 - **AUV and UUV Operator Training and Qualification**
- **Estimated Schedule:**
 - **RFP Release: April 2023**
 - **Proposals Due: 30 days after RFP release**
 - **Award Date: November 2023**



AMSTC Contract Details

AMSTC Engineering and Technical Support Services

The AMSTC provides services in the following areas to improve legacy UUVs with advanced technologies and address obsolescence:

- **Experimental and Testbed AUVs;**
- **Modeling, Simulation, and Secure Communications laboratory facilities;**
- **UUV operating environment test facilities, ranges and courses;**
- **Mechanical, electrical, and software designs;**
- **AUV and UUV Storage;**
- **Laboratory and support area for ASW mobile targets, target vehicles, and peripheral equipment;**
- **UUV and AUV vehicle upkeep;**
- **Secure, managed Information Technology (IT) facility for the use of modeling and simulation equipment and secure communications; and**
- **Maintenance of specialized software that can be used for a variety of UUV and AUV tasks.**



AMSTC Contract Details (cont'd)

AMSTC Programs and Systems

- **MK18 Mod2 Inc1**
- **MK18 Mod2 Inc2**
- **Project 1319**
- **Razorback**
- **MUUV**
- **Snakehead**
- **Mid-Sized Autonomous Research Vehicle (MARV) Testbed**
- **REMUS Testbed Family of Vehicles**
- **RAZOR Testbed Family of Vehicles**
- **21UUV Testbed**
- **Autonomous Operations Research and Development**
- **UUS Autonomy Software and Core Technologies**
- **UUV Modeling, Simulation, and Visualization Research and Development**
- **TopsideC3**
- **MK30 MOD1**
- **MK30 MOD2**
- **Autonomous Gliders Family of Vehicles**
- **Iver Family of Vehicles**
- **Experimental Payload Group (EPG)**
- **UUS Experimental Payloads, Sensors and Communications**
- **SDV and associated manned submersibles**
- **Unmanned Surface Vehicles**
- **Hardware associated with Special Projects with Special Names**
- **Future developmental Air, Surface and Subsurface systems**



AMSTC Contract Details (cont'd)

AMSTC PWS Tasks

TASK 1: Computer Software Programming/Design/ Development and Maintenance (Approx 20% of tasking)

- **Software Applications and Languages Utilized**
 - Windows and Linux operating systems
 - Red Hat Linux Operating System
 - C and C++ programming languages
 - Microsoft Visual Studio .NET (C/C++)
 - Microsoft Office
 - MATLAB
 - Acrobat Writer
 - Juniper Networks
 - Java for mapping and planning tool development
 - ADA
 - Python
 - HTML

Note: Contractor Team must be CMMI Level III certified, or equivalent



AMSTC Contract Details (cont'd)

AMSTC PWS Tasks (cont'd)

TASK 2: Engineering Design/Development and Evaluation Services (Approx 20% of tasking)

- **Design/Assemble/Fabricate/Integrate and Test Engineering Design Modules (EDMS) and Prototype Systems and Sub-Systems of Legacy UUVs**
- **Level of Repair Analysis (LORA)**
- **Total Systems Hardware Design Packages**

TASK 3: Test and Evaluation (T&E) (Approx 15% of tasking)

- **Develop/Conduct/Document Operational Tests**
- **System Integration**
- **Test Plans and Procedures**
- **Existing and Future Technologies into Legacy Systems**
- **Support for at sea testing (With possible vessel support if Code 70 cannot provide vessels)**



AMSTC Contract Details (cont'd)

AMSTC PWS Tasks (cont'd)

TASK 4: Integrated Logistics Support (ILS)/In-Service Engineering (Approx 15% of tasking)

- **Track/Coordinate/Provide Logistical Support for Vehicles, Labs, Facilities, Depots and Ranges**
- **Inventory Lists**
- **Trouble Calls and Recommendations**

TASK 5: Cyber Security (CS) and Anti-Tamper (AT) (Approx 5% of tasking)

- **SECNAV M-5239.2 CS Workforce Manual (Top Secret Required)**
- **Certifications and Educational Requirements Up-To-Date**
- **Conduct Studies and Analyses**
- **Policies and Regulations Up-To-Date**



AMSTC Contract Details (cont'd)

AMSTC PWS Tasks (cont'd)

TASK 6: AUV Operator Training and Qualification (Approx 10% of tasking)

- **Educate and Familiarize Uses**
- **Instructional Materials**
- **Qualification Plans**
- **Maintain Records**

TASK 7: Financial Tracking (Approx 15% of tasking)

- **Supports SCC AMSTC management and administration**
- **Financial Tracking Services**
- **Administrative Management Services**
- **Strategic/Business Planning**
- **Engineering Management Information Systems (EMIS)**



Conclusion/Wrap-up

- **Thank you for your interest in the Code 45 USW Platforms & Payload Integration Department Autonomous Maritime Systems Test Center (AMSTC) Engineering and Technical Support Services requirement**
- **The attendees list will be posted to the SeaPort NxG Portal**
- **This briefing will be posted to Seaport NxG and the Contracting & Small Business Outreach page**
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