Code 25 Industry Day Brief

13 June 2024

USW Combat Systems

Agenda

- Introduction/Ground Rules
- Disclaimer Statement
- Background Information
- Anticipated Procurement Strategy
- Technical Requirements
- Conclusion/Wrap-Up

Introduction and Ground Rules

- Introduction of participants
  - NUWCDIVNPT Technical Code 25
  - NUWCDIVNPT Contracts Department
- Intent of Industry Day
  - Encourage competition by:
    - Ensuring all potential offerors receive and have access to the same information
- Technical "Q&A" is encouraged
  - Q&A (all questions submitted in writing) will be answered via the SeaPort-NxG Portal
  - Please reach out to the Competition Advocate with feedback on the solicitation

Introduction and Ground Rules

- Forms and receptacle are located at the Registration Table
- Please silence cell phones and pagers
- No personal recording
- The attendees list, Q&A and “Distribution Statement A” slides will be posted to the SeaPort-NxG portal and the Contracting & Office of Small Business Outreach page
  - Link: https://www.navsea.navy.mil/Home/Warfare-Centers/NUWC-Newport/Partnerships/Contracting-and-Small-Business/Outreach-Events/

Introduction and Ground Rules

- DO NOT directly contact NUWC technical code after today – all further dialogue will be accomplished via the Q&A feature on the SeaPort-NxG portal
- Requirements contained in this briefing are presented as a summary

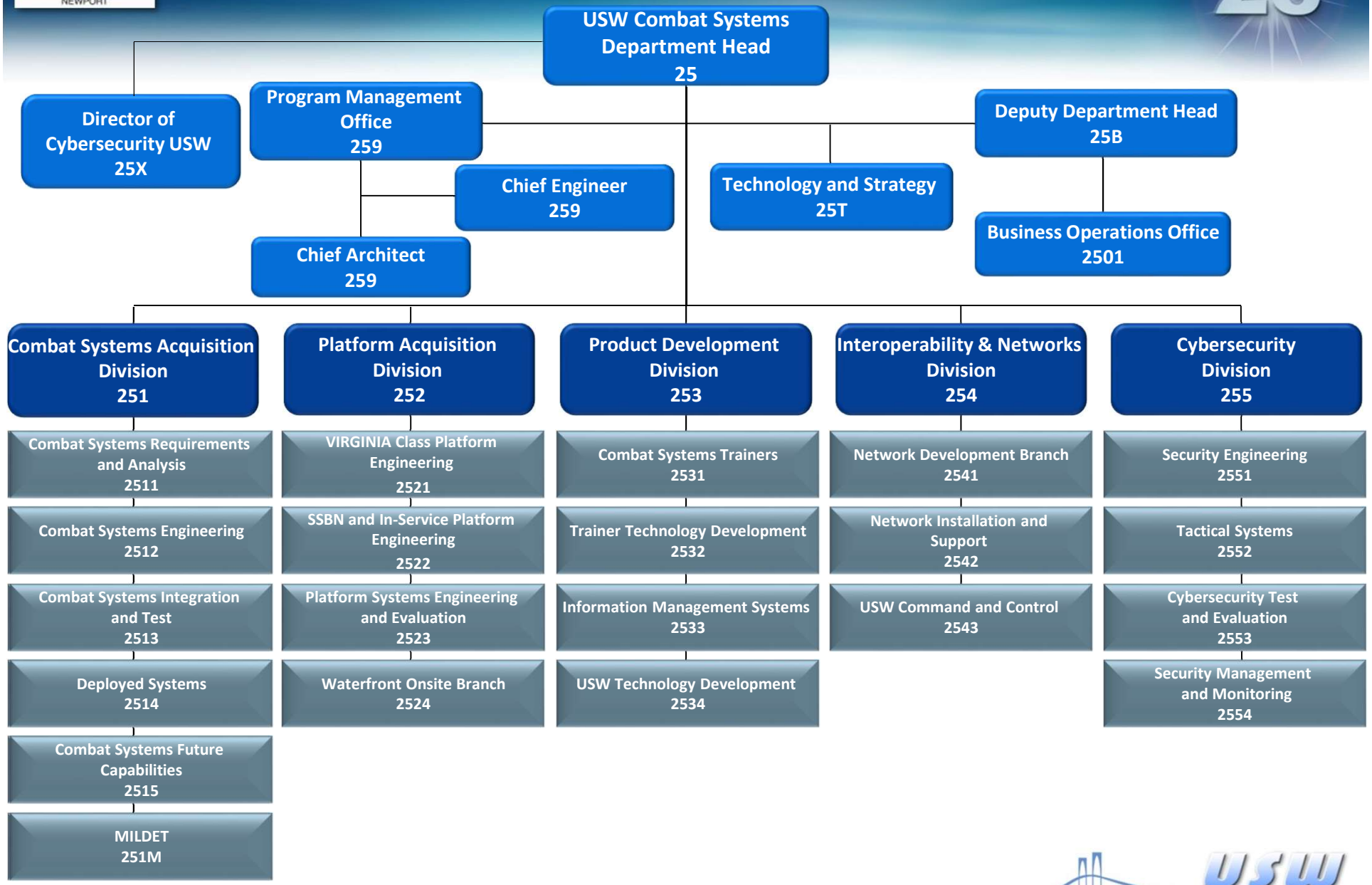
Full/updated requirements will be provided in the Requests for Proposal (RFP)

Disclaimer Statement

- Remarks today by Government officials involved in today's presentations should not be considered a guarantee of the Government's course of action in proceeding with any of the planned acquisitions discussed
- 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

USW Combat Systems Department



System of Systems (SoS) Engineering Expertise


SSN 688i


SSN 774 (Virginia)


SSN 688i (Los Angeles)


SSN 784-801 (Virginia Block III/IV)

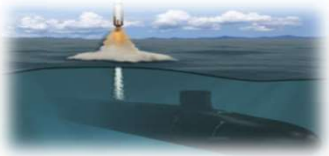

SSBN 730 (Ohio)


SSN 802 (Virginia Block V)


SSGN 726 (Ohio)


SSN(X)


SSN-AUKUS


COLUMBIA


SSN 21 (Seawolf)

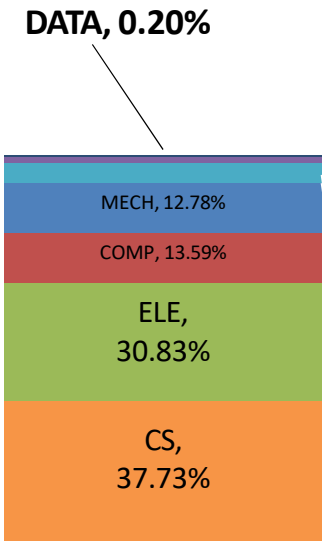

Collins

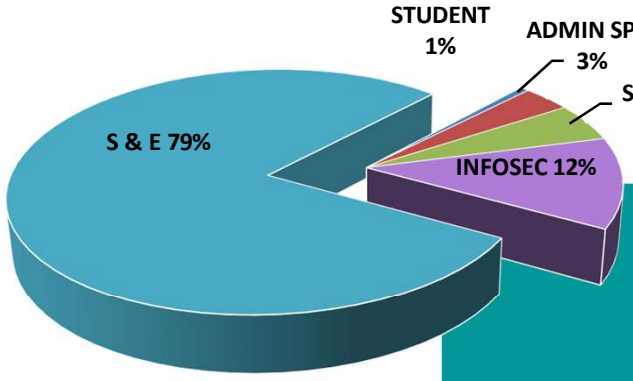
- PEO SUB
- PEO IWS
- PEO C4I
- ONI
- PEO SUB (PMS 450)
- NAVAIR
- PEO LCS

Executing Technical Authority Across Programs, Platforms, and System of Systems

Our People – Skilled Workforce

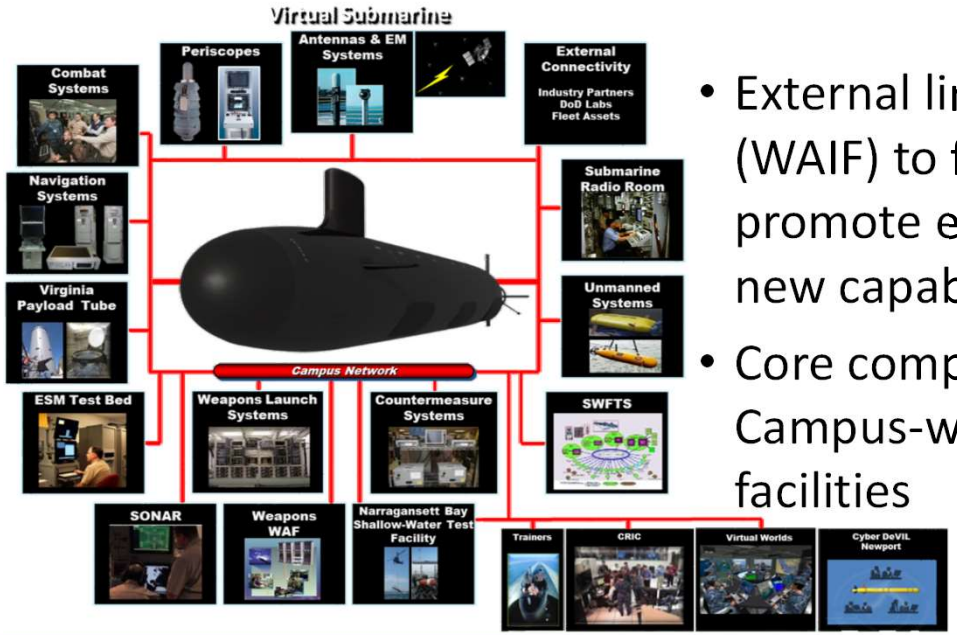
Development Opportunities
- Academic Degree Program: 20
- Naval Postgraduate School: 5
- Fellowship: 1 (FY23)
- New Professional 219 Projects: 9





World-Class Laboratories

- Powerful technical resource enabling prototyping, experimentation, development, integration and test, training, assessment, & certification
- Complement to workforce expertise
- Product lifecycle support for over 20 projects



- External linkages via Wide Area Integration Facility (WAIF) to facilitate industry partnerships and promote efficient development and integration of new capabilities
- Core component of Virtual Submarine – Campus-wide connectivity of Division Newport facilities

USW Combat Systems Programs

Our Value

Bridge to the Fleet

Diverse Set of Customers Across SYSCOMs, ONR and the Fleet

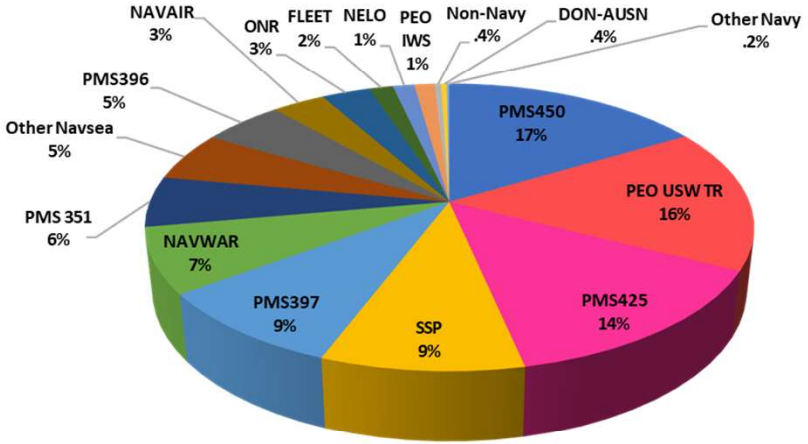
- SSN(X) Concept Definition/Exploration
- Naval Tactical Cloud
- UxS Common Control System
- ONR Decision Superiority
- ONR Integrated Naval Prototypes
- Human Factors Engineering
- Cyber Security (Zero Trust and Multi Level Security)
- Combat Systems Hardware/Software/Network Architectures
- Combat System Arrangements
- Virginia Block VI/VII, SSN(X) and SSN AUKUS
- Combat Systems Virtualization
- SWFTS Re-architecture
- Live/Virtual/Constructive (LVC)
- Third Party Targeting and Cueing (3PT/C)
- Unmanned Aerial Systems Family of Vehicles (Small/Medium)
- Undersea Dominance Payload Prototyping
- AN/BYG-1 CI/CID Pipeline
- Cyber Security Systems Engineering
- VA MOD SSW (Mission Electronic Systems)
- Undersea Constellation
- AN/BYG-1
- TTWCS
- Conventional Prompt Strike (CPS)
- Virginia
- Columbia/Ohio
- Trainers (SMMTT, SBT)
- SWFTS
- Submarine CANES
- USW Strike
- International Programs
- Cybersecurity
- USW DSS
- Project Overmatch
- SSN AUKUS
- Submarine Combat Systems ISEA
- Ohio/Seawolf ISEA
- Tomahawk Logistics and Fleet Support
- SSGN Attack Weapon Control System
- Operational Documentation
- Trainer On Site Agents
- GCCS-M
- NTMPS
- SEAWARE-LMS/SOBT
- Wartime Readiness
- Cyber Accreditation

Combat System Funding

Funding Profile by Customer

New Customers

- ***SSN AUKUS***



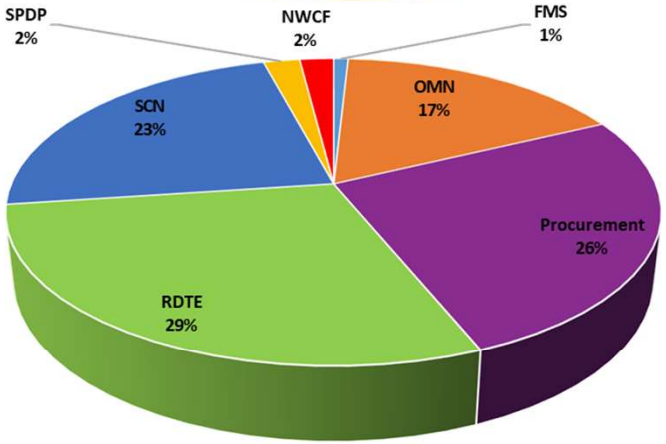
Funding Profile by Appropriation

Continue to Increase RDTE

- ***3% from last FY***

*$**368**M* Plan FY24*

**FY23 TCHA data*



Steady demand for our products and services…10% increase over 2023

Code 25 Undersea Warfare (USW) VA/CLB/SSN(X)/SWFTS Platform Engineering Services

RFP N66604-24-R-3018

Code 25 USW Platform Engineering Services
Anticipated Procurement Strategy

- Summary of Contract Scope:
  - Engineering and technical services to NUWCDIVNPT Code 25 for concept formulation (CONFORM) full-spectrum platform, systems, and acquisition engineering for the development, implementation and sustainment of the Non-Propulsion Electronics System (NPES) on VIRGINIA (VA) Class, Columbia (CLB) Class, SSN(X) Class, and future new construction submarine platforms. The demand for platform and systems engineering includes trade studies, prototyping, risk reduction, requirements analysis, reliability and supportability analysis, system documentation, and technical concept of operations development.
- RFP: N66604-24-R-3018
- Contracting Method: SeaPort NxG
- Anticipated Period of Performance: 05/01/2025 – 04/30/2030
- Acquisition Strategy: Unrestricted
- Level of Effort: Estimated 661,970 hours & $2,198,777 ODCs
- Anticipated Work Location: 60% Government Site, 40% Contractor Site
- Contract Type: CPFF

Code 25 USW Platform Engineering Services Anticipated Procurement Strategy (continued)

- Unique Characteristics:
  - Key Personnel requirements: Key Personnel (inclusive of Senior Technical Representative (STR)) to Cover Designated Areas of Expertise
  - Facility Security Clearance: Top Secret
  - Company must be on the RMCCO list of approved AITs (Alteration Installation Teams)
  - Level of Safeguarding Required at Contractor Facility: Secret
  - Required Certifications/Designations: Cybersecurity Workforce (CWF) tasking, NAVSEA 04XQ approved quality system, ISO 9001-2015 certification, CMMI Capability Level 3 or equivalent

Code 25 USW Platform Engineering Services Anticipated Procurement Strategy (continued)

- Unique Characteristics (continued):
  - If large Other Direct Costs (ODCs) provide any details: ODCs for travel and incidental materials
  - Follow on? Yes, follow-on to N00178-19-D-8623/N66604-21-F-3001, SEACORP, Acquisition Strategy was Unrestricted
  - Does OCOI clause apply? Yes
  - Expected RFP release: FY24 QTR 3

Code 25 USW Platform Engineering Services Technical Requirements

- Background:
  - The Naval Undersea Warfare Center Division, Newport, RI (NUWCDIVNPT) Undersea Warfare (USW) Combat Systems Department (Code 25) is the U.S. Navy's agent for concept formulation (CONFORM) full-spectrum platform, systems, and acquisition engineering for the development, implementation and sustainment of the Non-Propulsion Electronics System (NPES) on VIRGINIA (VA) Class, Columbia (CLB) Class, SSN(X) Class, and future new construction submarine platforms.
  - The goal of this effort is to rapidly develop and assess current and future platform baselines through structured, focused Systems Engineering (SE). Utilizing the data from platform assessments in concert with new capabilities slated for incorporation into platform baselines, this effort will include the following activities: introduce design changes, conduct evaluation of trade space options, and investigate the feasibility of acceleration and refinement to current software and hardware upgrades. This effort will also be performed across all Submarine Warfare Federated Tactical Systems (SWFTS) with a primary objective of improving interoperability and commonality across the NPES. This platform level directed assessment includes both new construction and modernization, encompassing all phases of Systems Engineering over the system's life cycle.

Code 25 USW Platform Engineering Services Technical Requirements

- Scope:
  - Provide CONFORM platform engineering, advanced system engineering (including security engineering, human system integration, and interface design), technical, and test and evaluation (T&E) services for the development, evaluation, modernization, and sustainment of the U.S. Navy's and Royal Australian Navy's submarine platforms, as well as for future platforms (e.g.; SSN(X)). The contractor shall provide concept development and ship system requirements data management, design and analysis support, reliability and supportability analysis, platform-level inter-subsystem interface definition recommendations for Government review and approval, integration, test and evaluation, obsolescence investigation and recommendations, and fleet technical support.

Code 25 USW Platform Engineering Services Technical Requirements

- High Level SOW Tasking:
  - 4.1 Systems Engineering Services
    - Upon receipt of Government Furnished Information (Baseline roadmaps, functional and operational requirements, CONOPS, new technologies, Objective Quality Evidence, test reports, etc.) –
      - Review engineering change requests and assess impacts, conduct feasibility studies, review compliance of infrastructure specifications, assess deficiencies in text execution processes, update test plans and procedures, assess risk
  - 4.2 Integration, Test, and Evaluation Services
    - Troubleshoot and provide technical recommendations, recommend tests, set up and prepare integration facilities, install, groom, and validate hardware systems under test, conduct testing, generate test reports, summarize issues found and provide status.

Code 25 USW Platform Engineering Services Technical Requirements

- 4.3 Functional Support Services
  - Distribute meeting announcements, agendas, read-ahead material, attend programmatic and technical form discussions, develop presentation material, record and deliver meeting minutes.

- 4.4 Administrative Support Services
  - Collect, collate, and summarize information. Attend meetings to present collated data and gather additional information. Update databases, track comments, draft change reports.

- 4.5 Cyberspace/Cyber Workforce (CWF)
  - Personnel performing cyber functions maintain proper training and qualifications, and provide a monthly CWF report on compliance.

Code 25 USW Platform Engineering Services
Key Personnel Requirements

Required Key Personnel inclusive of the STR, covering the below areas of expertise. (No minimum number of Personnel required; offerors shall provide proposed list of Key Personnel that covers all of the required areas of expertise). A person may be designated as key in more than one area below.

(1) System Engineering and Design Development (SOW task 4.1)

Required Experience: 3 Years

Desired Experience: 6+ Years

(A) Experience generating and analyzing system requirement, system design, concept of operation and system specification documentation and system development processes

(B) Experience executing review processes of the following: specifications; design and test document peer reviews; system requirement traceability studies; and trade studies.

(C) Experience performing requirement management and analysis, including the use of tools for requirement management and experience generating System Requirements Verification Matrixes (SRVM).

(D) Experience in developing digital models

(E) Experience in Model-Based Systems Engineering Architecture, languages, methods and tools

Code 25 USW Platform Engineering Services
Key Personnel Requirements

Required Key Personnel inclusive of the STR, covering the below areas of expertise. (No minimum number of Personnel required; offerors shall provide proposed list of Key Personnel that covers all of the required areas of expertise). A person may be designated as key in more than one area below.

(2) Submarine Combat Control, Weapon Launch System and SWFTS Engineering (SOW task 4.1)

Required Experience: 5 Years

Desired Experience: 10+ Years

(A) Experience executing and analyzing Technical Insertion (TI)/Advanced Processor Build (APB) and SWFTS system engineering processes and concepts

(B) Experience updating Submarine Program defense acquisition documentation, including Capability Development Documents (CDDs), Functional Requirements Documents (FRDs) and Systems Engineering Plans (SEPs)

(C) Experience analyzing Submarine based vertical payload tube and payload module performance specifications and design concepts

(D) Experience defining, generating, and analyzing the following Submarine based Combat Control System aspects: software; network and hardware architecture; interface, functional, and performance related specifications; and integration, test, and evaluation plans, procedure and reports

(E) Experience defining, generating, and analyzing the following aspects for VIRGINIA Class Weapon Launch Console (WLC), Payload Support Electronic System (PSES), Tube Control Panel (TCP) and Common Weapon Launcher (CWL): software; network and hardware architecture; interface, functional, and performance related specifications; and integration, test, evaluation plans, procedures, and reports

(F) Experience analyzing Submarine based Weapon Launch System (WLS) safety critical interlocks, requirements and design concepts

(G) Experience analyzing Payload functional and interface specifications, characteristics and capabilities

(H) Experience analyzing MK48 Advanced Capability (ADCAP) functional and interface specifications, control drawings, characteristics and capabilities

Code 25 USW Platform Engineering Services
Key Personnel Requirements

Required Key Personnel inclusive of the STR, covering the below areas of expertise. (No minimum number of Personnel required; offerors shall provide proposed list of Key Personnel that covers all of the required areas of expertise). A person may be designated as key in more than one area below.

(3) Submarine Combat Control, Weapon System and SWFTS Integration, Test & Evaluation and Installation (SOW task 4.2)

Required Experience: 3 Years

Desired Experience: 6+ Years

(A) Experience executing integration, test & evaluation and troubleshooting efforts for Submarine based Weapon Launch Systems both in laboratory and shipboard environments

(B) Experience integrating VIRGINIA Class Combat Control, WLC, PSES TCP, CWL, SWFTS, NPES, and Hull Mechanical and Electrical (HME) software, hardware and network architecture configurations

(C) Experience utilizing MK112 and load bank, ADCAP MiniPV, Tactical Tomahawk Guidance Test Set (TTGTS) and Virginia Tube SIM/STIM (VTSS) laboratory and weapon test support simulators

(D) Demonstrated operational understanding of the limitations of MK112 and load bank, ADCAP MiniPV, TTGTS and VTSS laboratory and weapon test support simulators.

(E) Experience developing TEMPALTS

(F) Experience installation of Submarine based SHIPALTS, TEMPALTS, engineering change instructions/packages (ECI/ECP) and software updates

(G) Experience executing VIRGINA Class electronic, electromechanical and power systems maintenance and installation processes

(H) Experience working as part of Submarine base Alteration Installation Team (AIT)

Code 25 USW Platform Engineering Services
Key Personnel Requirements

Required Key Personnel inclusive of the STR, covering the below areas of expertise. (No minimum number of Personnel required; offerors shall provide proposed list of Key Personnel that covers all of the required areas of expertise). A person may be designated as key in more than one area below.

(4) Submarine Combat Control and Weapon System Electronic and Power Engineering

Required Experience: 5 Years

Desired Experience: 10+ Years

(A) Experience analyzing Submarine based WLS electronic, electromechanical and power systems military standards, interfaces, requirements, hardware schematics, and Printed Circuit Board (PCB) design diagrams

(B) Experience employing SolidWorks, AutoSketch, AutoCad (or equivalent), Orcad Tools/PCB Designer (Cadence) in requirement and design analysis efforts

(C) Experience employing Very High Speed Integrated Circuit (VHSIC) Hardware Description Language (VHDL) development tools in requirement and design analysis efforts

(D) Experience employing Simulation Program with Integrated Circuit Emphasis (SPICE) tool in requirement and design analysis efforts

(E) Experience analyzing Field Programmable Gate Arrays (FPGAs) concepts and applications

(F) Experience testing, diagnosing, isolating, and correcting faults in complex Submarine based WLS digital, electronic, electromechanical and power systems utilizing military standards including MIL-STD-1399-300, hardware schematics, Printed Circuit Board (PCB) design diagrams and test equipment

(G) Experience developing laboratory test tools, hardware simulators/emulators, break out boxes, and controllers for the evaluation of complex Submarine WLS digital, electronic, electromechanical and power systems

(H) Experience in performing or participating in subsystem Environmental Qualification Testing (EQT)

Code 25 USW Platform Engineering Services
Key Personnel Requirements

Required Key Personnel inclusive of the STR, covering the below areas of expertise. (No minimum number of Personnel required; offerors shall provide proposed list of Key Personnel that covers all of the required areas of expertise). A person may be designated as key in more than one area below.

(5) Submarine Reliability, Operational Availability and Maintainability Engineering

Required Experience: 3 Years

Desired Experience: 6+ Years

(A) Experience with reliability system modeling and the use of government and commercial tools such as the Navy Readiness Suite, ReliaSoft®, and MATLAB® to conduct analyses of mission reliability and operational availability and implement growth planning curves

(B) Experience applying advanced statistical inference methodologies on complex datasets

(C) Experience with collection of component reliability data from government and commercial sources to populate the analysis models; including screening component failure data obtained from government and contractor sources

(D) Experience with reliability growth planning to establish reliability growth goals and project execution requirements and related data collection, analysis and reporting

(E) Experience developing Reliability, Availability, and Maintainability (RAM) and Reliability Growth Analysis (RGA) plans and methodology for new/critical mechanical or electrical systems

(F) Experience with shipboard provisioning and the evaluation of onboard repair part requirements to achieve prescribed readiness levels

Code 25 USW Platform Engineering Services
Key Personnel Requirements

Required Key Personnel inclusive of the STR, covering the below areas of expertise. (No minimum number of Personnel required; offerors shall provide proposed list of Key Personnel that covers all of the required areas of expertise). A person may be designated as key in more than one area below.

(6) Submarine Operations and Tactical Employment

Required Experience: 3 Years

Desired Experience: 6+ Years

(A) Experience analyzing Submarine operational and tactical mission capabilities

(B) Operational experience with analyzing and executing Submarine Firing Craft Procedure employment procedures

(C) Experience defining and executing Payload Operation concepts, process and employment procedures

(D) Operational experience with executing Submarine Conventional Weapons Handling and Employment procedures

Conclusion/Wrap-Up

- Thank you for your interest in the Code 25 Industry Day for the Code 25 Undersea Warfare (USW) VA/CLB/SSN(X)/SWFTS Platform Engineering Services Contract
- The attendees list will be posted to the SeaPort NxG Portal
- This briefing will be posted to the SeaPort NxG Portal
- “Q&A” (today’s and subsequent) will be posted to the SeaPort NxG Portal
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