Undersea Warfare (USW)
Electromagnetic Systems Department
Code 34 Industry Day

Electronic Warfare and Electromagnetic Special Programs Task Order





Distro A- Approved for Public Release

Agenda

- Introduction/Ground Rules
- Disclaimer Statement
- Background Information on Code 34
- Electronic Warfare and Electromagnetic Special Programs Solicitation
  - Overview of technical requirements
  - Other anticipated solicitation specifics
- Conclusion/Wrap-Up

Introduction and Ground Rules

- Introduction of Participants
  - NUWCDIVNPT Technical Code 34
  - NUWCDIVNPT Contracts Department, Code 02
- 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 emailed to Levi Andrews @ levi.s.andrews2.civ@us.navy.mil. Responses posted on SAM.GOV.

Introduction and Ground Rules

- No personal recording
- "Distribution Statement A" slides will be posted to 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 the NUWCDIVNPT Technical Department after today – all further dialogue will be accomplished via email @ levi.s.andrews2.civ@us.navy.mil, SAM.gov, and the PIEE Solicitation Module.
- 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 by Government officials involved in today's presentation should not be considered a guarantee of the Government's course of action in proceeding with the planned acquisition discussed
- This 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 Electromagnetic Systems Department

Mission/Purpose

Serve as the Navy's principal activity for developing, acquiring, installing, modernizing and maintaining the world's most capable USW Electromagnetic systems including Antennas, Periscopes, Electronic Warfare, Communications, Electro-Optics Systems, and Electromagnetic Compatibility

Vision

Dominance of Electromagnetic Spectrum

USW Electromagnetic Systems Department Description

The Undersea Warfare Electromagnetic Systems Department (Code 34) serves as the U.S. Navy's principal research, development, test and evaluation (RDT&E) agent and conducts and manages a full spectrum program for undersea warfare communications and electromagnetic systems. This includes antennas, periscopes, electronic/information warfare, electro-optics systems, and electromagnetic compatibility for submarines, unmanned vehicles, undersea warfare networks and distributed undersea warfare systems and sensors.

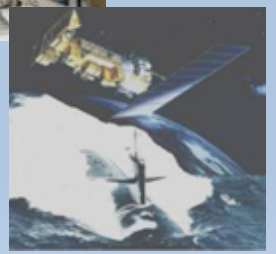
Product Areas & Roles

IMAGING (AEA, TDA, ISEA)

- Integrated Submarine Imaging Systems (ISIS)
- MTI Photonics Mast (PMP, PMV)
- Low Profile Photonics Mast (LPPM)
- Hull Penetrators/Dip Loops
- National Maintenance
- Imaging and Sensor Development

ELECTRONIC WARFARE (AEA, TDA, ISEA, ATD)

- AN/BLQ-10
- RADAR
- Surveillance Sensors
- Signature Reduction
- Periscope & Imaging Mast Automatic Direction Finders
- UxS Sensors
- Information Warfare
- Special Projects
- Advanced Development

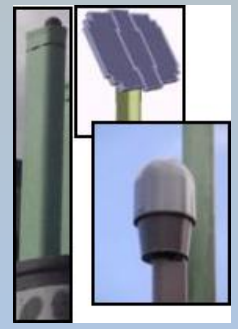


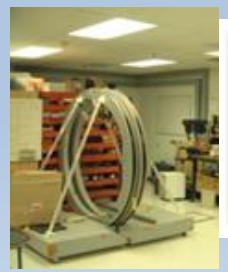
COMMUNICATIONS (LSI, AEA, TDA)

- Common Submarine Radio Room Integration & Test
- Communications at Depth
- Submarine SATCOM
- Submarine ADNS SE (IP WAN)
- UUV & Sensor Communications
- Interior Communications Systems
- Submarine Comms & Antenna TDA
- Special Projects & Assessments

COMMUNICATIONS ANTENNAS (AEA, ISEA, TDA)

- Multifunction Mast (OE-538)
- SubHDR (OE-562A)
- Periscope EHF Antenna (OE-499A)
- Submarine Antenna Technology
- Towed Buoys/ Buoyant Cable
- Off-Board Sensors
- Special Projects
- Expendable/Tethered Buoys





ELECTROMAGNETIC ENVIRONMENTAL EFFECTS (E3)

- Electromagnetic Compatibility
- EMI Assessments/Testing

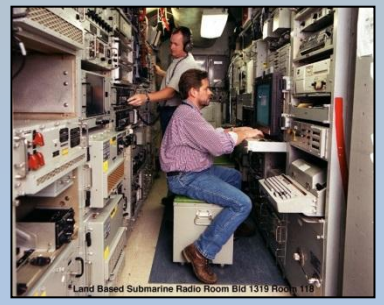
Major Facilities

Overwater Arch

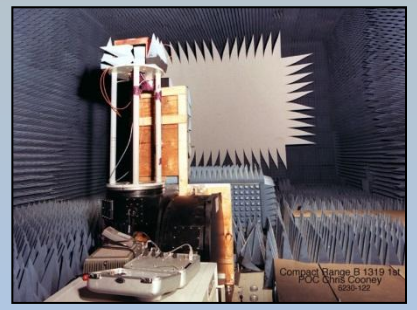
Electromagnetic Sensor Facility

Fishers Island, NY Overwater Sled

Submarine Radio Rooms



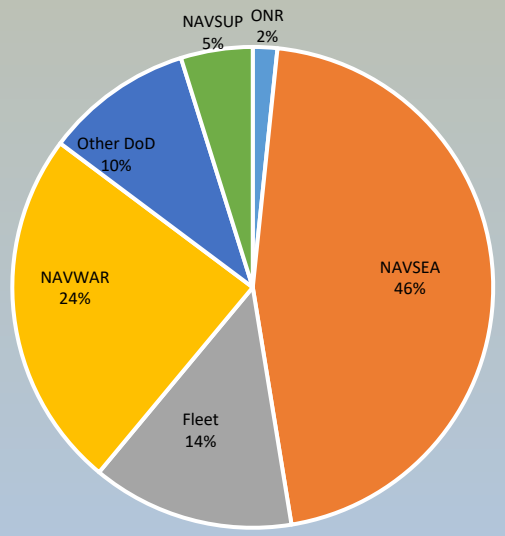
RF Test Chambers



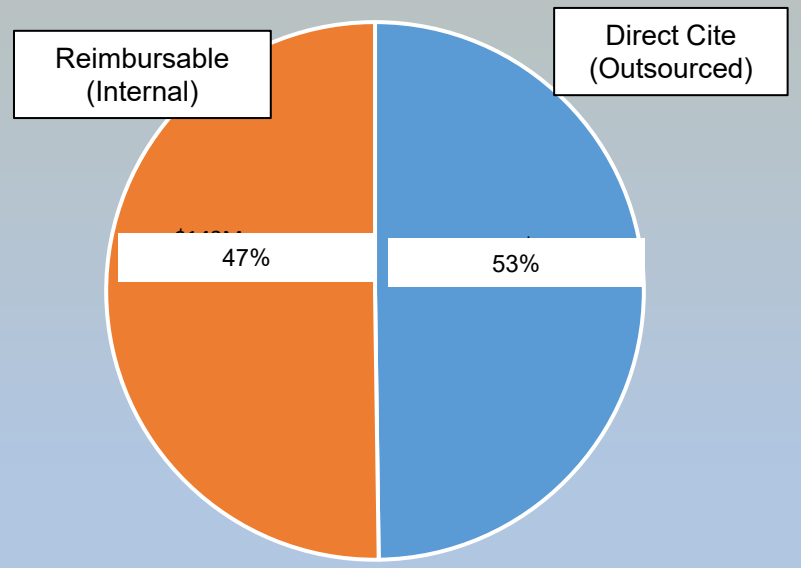
EW Test Facilities

USW Electromagnetic Systems Department Business Profile

Our FY25 Customers
$296.5M



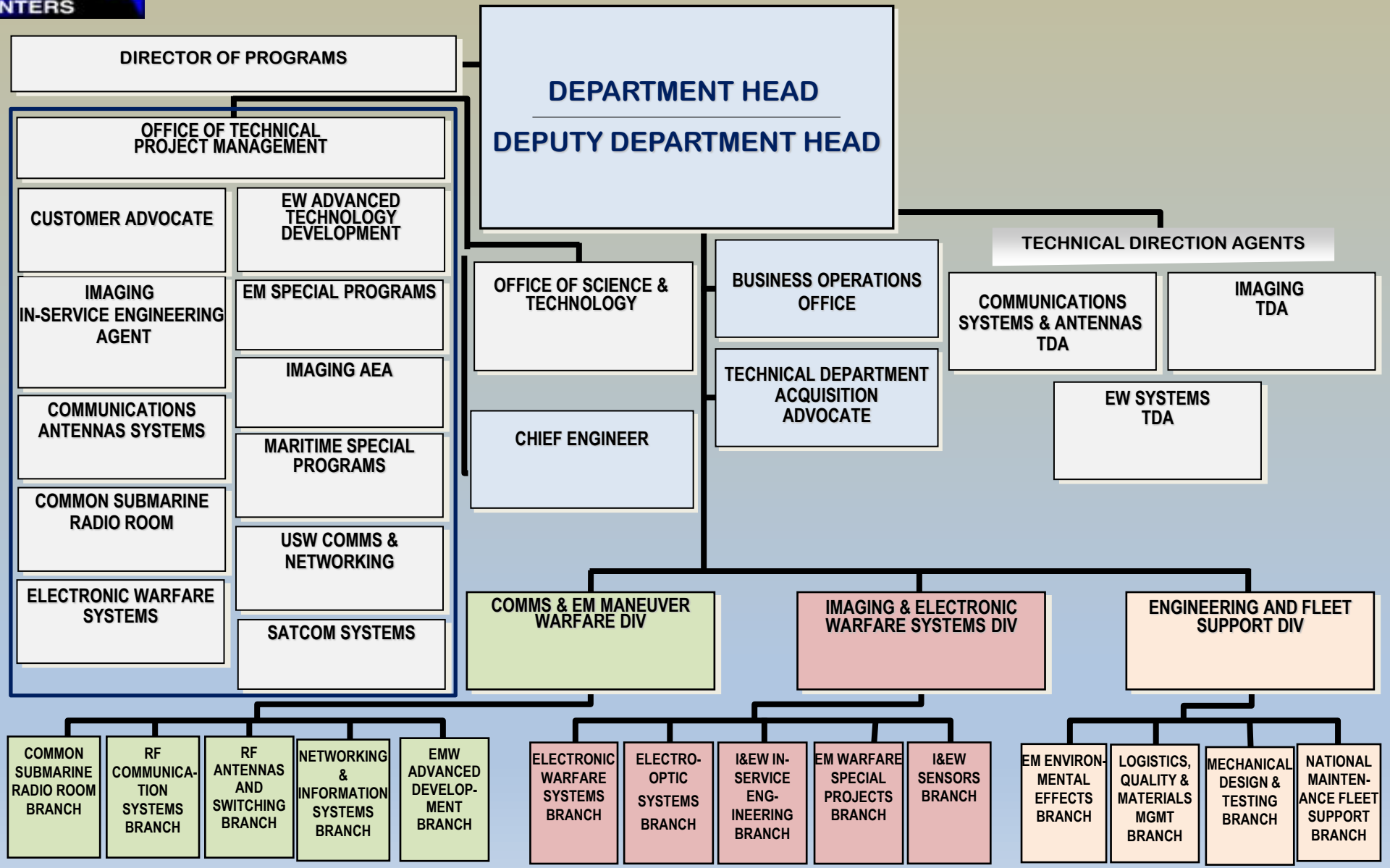
- **Total workforce of 388 personnel (FY25)**
  - **95% of the workforce are scientists, engineers and technicians with 112 advanced degrees**
- **~ 53% of total program funding is outsourced**
- **Demand signal is strong and is projected to continue to increase**



- Our demand signal continues to grow....
- We outsource ~50% of our work

Code 34 maintains a strong business partnership with industry to provide best value to our customers

USW Electromagnetic Systems Department



Code 34 EW and EM Special Programs

- Engineering services to develop and field special mission EW and special augmentation systems, subsystems, sensors, and associated networks onboard submarines and other platforms such as Unmanned Aerial and Undersea Vehicles (UAV/UUV).
- Solicitation is expected in Q3 2026
  - 5 year POP from 4/1/2027 – 3/31/2032
  - 332,640 total labor hour ceiling / approximately 12% Government Site, 88% Contractor Site
- CPFF / $50 - $100M
- Unique Characteristics
  - Multiple key personnel
  - FCL is TOP SECRET / Safeguarding is SECRET
  - Required Certifications include: Cyberspace/Cyber Workforce (CWF) qualifications, Category 3 Crane Certification
  - Approved alterations and Installation Team, and Approved Quality system
  - Software Development Plan
- Follow on to N00178-19-D-8623/N6660422F3011, (SEACORP.)
  - Awarded Contract Solicitation Number: N6660421R3001

Code 34 EW and EM Special Programs Technical Requirements

- 4.1.1 In-Service Maintenance and Operational Support
  - Maintain the operational readiness of special augmentation systems and return special augmentation systems to Ready for Issue (RFI) status.
  - Troubleshoot, repair, refurbish, upgrade, test and certify systems as RFI that are removed from platforms prior to the systems being cross-decked to another platform.

Code 34 EW and EM Special Programs Technical Requirements

- 4.1.1 In-Service Maintenance and Operational Support, cont.
  - For augmentation systems that include composite components, such as antenna radomes and radar absorbing structures, perform cosmetic and non-structural repairs and restoration.
  - Certify the composite components as RFI.
  - Report structural damage of composite components to NUWCDIVNPT Code 349.
  - NOTE: The contractor personnel performing this subtask are required to possess a Category 3 (CAT-3) crane certification.

Code 34 EW and EM Special Programs Technical Requirements

- 4.1.2 In-Service Maintenance and Operational Support, cont.
  - Conduct Pre-Installation Check-Out (PICO) to assess the condition of the effected ship's equipment prior to removal of the effected ship's equipment and installation of a special augmentation system.
  - Install special augmentation systems.
  - Perform engineering services to resolve technical issues encountered during the installation process and perform trouble shooting to identify functional issues with installed augmentation equipment, including radio frequency (RF) interfaces to the tactical periscope and imaging mast.

Code 34 EW and EM Special Programs Technical Requirements (cont.)

- 4.1.2 In-Service Maintenance and Operational Support, cont.
  - Define, document, and submit updates to the TEMPALT TDP via the Departure from Specification (DFS) process to reflect the as-installed configuration when deviations from the GFI are required.
  - Perform System Operational Verification Tests (SOVTs) on installed systems.

Code 34 EW and EM Special Programs Technical Requirements (cont.)

- 4.1.3 In-Service Maintenance and Operational Support, cont.
  - Perform cyber security certifications up to SCI level on special augmentation systems installed on submarines and other naval vessels.
  - NOTE: The contractor personnel performing this subtask are required, at a minimum to be cyber security workforce certified at Information Assurance Technical (IAT) level II

Code 34 EW and EM Special Programs Technical Requirements (cont.)

- 4.1.4 In-Service Maintenance and Operational Support, cont.
  - Train ship's personnel, Direct Support Element (DSE) teams and cryptologic maintenance personnel on the installation and operation of installed equipment.
  - Access to SCI spaces and systems is required for end-to-end certification and training.

Code 34 EW and EM Special Programs Technical Requirements (cont.)

- 4.1.5 In-Service Maintenance and Operational Support, cont.
  - Provide Distant Support to platforms having operational issues or have submitted a Casualty Report (CASREP) via Naval Message.
  - For issues not resolved via Distant Support, perform on-site repair and recertification of special augmentation systems installed on deployed platforms.
  - Access to SCI spaces and systems is required for this task.

Code 34 EW and EM Special Programs Technical Requirements (cont.)

- 4.2.1 Engineering Services
  - Develop RF, network and digital interfaces between augmentation equipment and submarine Non-Propulsion Electronic Systems (NPES), EW systems, and other carry-on equipment (COE).
  - Test the performance of developed interfaces and provide the results via the Performance Specification Document.

EW and EM Special Programs Technical Requirements (cont.)

- 4.2.2 Engineering Services, cont.
  - Develop Technical Data Packages for Temporary Alteration (TEMPALT) installation of special augmentation systems onboard US Submarines.
  - Attend technical reviews for requirements, design and comment resolution.
  - In performance of this subtask, the contractor will require access to Contractor Integrated Technical Information Service (CITIS) and Advanced Technical Information Support (ATIA) databases, which are hosted on Naval Nuclear Propulsion Information (NNPI) networks. NOTE: Actual NNPI data is not required in performance of this subtask.

EW and EM Special Programs Technical Requirements (cont.)

- 4.2.3 Engineering Services
  - Design prototype systems, assemblies and subassemblies in support of emergent Fleet requirements.
  - Design electrical, mechanical and RF interfaces to augmentation and ship systems.

EW and EM Special Programs Technical Requirements (cont.)

- 4.2.4 Engineering Services
  - Evaluate, test, and analyze advanced EW technologies to address emerging mission needs and provide recommendations via Technical Reports to the Government regarding special augmentation system improvements and technology insertions.

EW and EM Special Programs Technical Requirements (cont.)

- 4.2.5 Engineering Services
  - Develop security controls and Body of Evidence (BOE) documentation in accordance with Risk Management Framework processes in support of obtaining and maintaining Authority to Operate (ATO) of special augmentation systems.
  - NOTE: The contractor personnel performing this subtask are required, at a minimum, to be cyber security workforce certified at IAT level II.

EW and EM Special Programs Technical Requirements (cont.)

- 4.3.1 Software Development
  - Develop, maintain, adapt, and modify software code and executable modules for special augmentation systems and conduct system level integration, test and certification of software prior to delivering hardware to the fleet.
  - Develop, adapt, modify and maintain Software Requirement Specifications (SRS), Software Test Plans (STPs), Software Version Description (SVD) and Software Design Descriptions (SDD) for Government review and approval.

EW and EM Special Programs Technical Requirements (cont.)

- 4.3.1 Software Development, cont.
  - Generate software trouble reports for identified software defects and recommend fixes.
  - Implement corrective actions and software fixes
  - Maintain a database to document software defect resolution.

EW and EM Special Programs Technical Requirements (cont.)

- 4.3.2 Software Development, cont.
  - Utilize Red Hat Enterprise Linux (RHEL) OS (8.x, 9.x and 10.x releases), Ubuntu OS, Windows OS and VMWare, Qt Creator IDE, and Eclipse IDE to maintain existing and develop new code for the control and operation of the MCM, SRTD, MMM special antenna payloads, RVL and other special augmentation systems.

EW and EM Special Programs Technical Requirements (cont.)

- 4.3.3 Software Development, cont.
  - Develop, maintain, adapt, and modify code for manual and automatic azimuth and elevation control of the MCM, SRTD and MMM directional antennas systems. Automatic control shall provide the ability to track static or dynamic targets (e.g. UAV, UUV, etc.) when platform navigation data is available.

EW and EM Special Programs Technical Requirements (cont.)

- 4.3.4 Software Development, cont.
  - Develop, maintain, adapt, and modify code to interface augmentation equipment to Non- Propulsion Electronic Systems (NPES) and other systems installed as TEMPALTS onboard US Submarines.

EW and EM Special Programs Technical Requirements (cont.)

- 4.3.5 Software Development, cont.
  - Utilize NASA World Wind to maintain and develop new code to display platform, antenna bearing, UAS, Automatic Identification System (AIS), Automatic Dependent Surveillance-Broadcast (ADS-B), and other contacts on digital maps for operator situational awareness and tracking.

EW and EM Special Programs Technical Requirements (cont.)

- 4.4 Fabrication, Assembly and Integration
  - Fabricate, assemble, and test components, assemblies and sub-assemblies for existing and prototype augmentation equipment.
  - Fabricate and assemble equipment identified in the TEMPALT data package required for installation of special augmentation systems.
  - Deliver installation equipment at the time of system installation.
  - Fabricate special test fixtures, such as mast shrouds, to evaluate installed augmentation and tactical masts performance pier side.

EW and EM Special Programs Technical Requirements (cont.)

- 4.5.1 Test and Evaluation
  - Develop test plans and procedures that address the scope, methods, and steps for conducting testing of EW and special augmentation systems, subsystems and sensors for Government review and approval.
  - The test plans and procedures shall include software testing, hardware testing, system developmental testing, environmental qualification testing, interface testing, integration testing, and at-sea testing structured to verify that the performance of EW and special augmentation systems meets operational requirements.

EW and EM Special Programs Technical Requirements (cont.)

- 4.5.2 Test and Evaluation
  - Collect and record test data for testing of EW and intelligence systems and components utilizing Government approved Test Plans and Procedures.
  - Perform analysis to assess whether the results are within the acceptable parameters as defined in Government approved Test Plans and Procedures.
  - Develop test reports to document events of the test and the results.

EW and EM Special Programs Technical Requirements (cont.)

- 4.6 Integrated Logistics Support (ILS) and Configuration Management (CM)
  - Maintain installation and CM databases for tracking of special augmentation systems, hardware configuration and software and firmware version of special augmentation systems.
  - Develop and maintain system level documentation, test procedures and training materials for special augmentation systems.
  - Track special augmentation equipment and components in Navy Enterprise Resource Planning (NERP) system. This includes inducting material into NERP and executing Material Transfer Requests to move material into and out of the NERP system.

EW and EM Special Programs Technical Requirements (cont.)

- 4.7 Project Management
  - Maintain a library of up-to-date programmatic and financial data for Code 349, EM Special Programs, using program management tools such as ERP to download, extract, and report applicable data.
  - Prepare data and graphic presentation material, including system block diagrams, technical illustrations, line graphs, pie charts, functional organization charts, funding status charts, bar graphs, and text, in the form of slides and viewgraphs for program management reviews and reporting project status.
  - Attend product team and working group meetings.
  - Compile action items as part of meeting minutes, and document and distribute minutes.

EW and EM Special Programs Technical Requirements (cont.)

A minimum of five (5) Key Personnel (inclusive of the STR) are required to cover the below areas of expertise. Offerors shall propose the total key personnel required and shall propose each key person in the designated area of expertise and that meet all of the required qualifications listed.

EW and EM Special Programs Technical Requirements (cont.)

(1) PWS Task 4.1 (In-Service Maintenance and Operational Support) - 1 Key Person.

Required Qualifications:

- Demonstrated proficiency in TEMPALT installation and system certification of Electronic Warfare and Communications systems, subsystems, sensors and networks.
- Demonstrated proficiency in providing training to shipboard and Direct Support Element (DSE) personnel.
- Demonstrated proficiency using RF test equipment (Spectrum Analyzers, Noise Figure Test Set, Signal Generators, and Scalar/Vector Analyzers) and test methods.
- Demonstrated experience in utilizing Integrated Broadcast Service (IBS) and ASA analysis tools.
- Active TS-SCI Clearance.

EW and EM Special Programs Technical Requirements (cont.)

(2) PWS Tasks 4.1, 4.2, 4.3 (In-Service Maintenance and Operational Support, Engineering Services, Software Development) - 1 Key Person

Required Qualifications:

- Demonstrated proficiency in software development.
- Demonstrated proficiency in Submarine Warfare Federated Tactical System (SWFTS) and Non-Propulsion Electronic System (NPES) network architecture and SWFTS compliant displays.
- Demonstrated proficiency in systems level integration and testing.
- Demonstrated proficiency with the Risk Management framework (RMF) process and in obtaining and maintaining Authority to Operate (ATO) of special augmentation systems.
- Possesses a DoD IAT Level II certification.
- Active TS-SCI Clearance.

(3) PWS Task 4.2 (Engineering Services) – 1 Key Person

Required Qualifications:

- Demonstrated proficiency in TEMPALT Technical Data Package development and carry-on augmentation systems and programs.

EW and EM Special Programs Technical Requirements (cont.)

(4) PWS Task 4.2 (Engineering Services) – 1 Key Person

Required Qualifications:

- Demonstrated experience in systems engineering and hardware development.
- Demonstrated experience in engineering, design and development of Submarine Combat Systems and submarine special operation augmentation systems.
- Demonstrated experience with systems level integration and test.
- Demonstrated proficiency in RF engineering, test and analysis.

EW and EM Special Programs Technical Requirements (cont.)

(5) PWS Task 4.4 (Fabrication, Assembly and Integration) – 1 Key Person

Required Qualifications:

- Demonstrated proficiency in mechanical and electrical fabrication and assembly of prototypes.

Conclusion/Wrap-Up

- Thank you for your interest in the Code 34 Electronic Warfare and Electromagnetic Special Programs Industry Day.
- If you are considering submitting a proposal for this procurement, **please respond to the forthcoming solicitation specific to this requirement; the solicitation is anticipated to be posted by the end of June 2026 in the PIEE Solicitation Module.**
- This briefing will be posted to the Small Business Outreach page
- "Q&A" from today's Industry Day and any other subsequent Q&A will be posted to SAM.gov. Submit questions via email to levi.s.andrews2.civ@us.navy.mil.
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