Code 85 Undersea Vehicles and Support Equipment Design, Production, Quality, and Logistics Support Services Pre-Solicitation Conference

NUWC Division Newport
Undersea Collaboration & Technology Outreach Center (UCTOC)
Jan. 11, 2017
Agenda

- Introduction/Ground Rules
- Disclaimer Statement
- Anticipated Procurement Strategy
- Technical Requirements
- Conclusion/Wrap-up
- Division Newport Competition and Small Business Overview
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
  – Q&A will be answered, either today or via SeaPort-e Portal
  – Q&A/Feedback Forms
  – No questions about incumbent contractor
Introduction/Ground rules (cont.)

• All attendees recommended to sign-in (this is voluntary)
• Please silence cell phones and pagers. No personal recording
• Q&A will be recorded, typed, and posted to the SeaPort-e Portal
• The attendees list will be posted to the SeaPort-e Portal
• This briefing will be posted to the SeaPort-e Portal and the NUWC Division Newport Electronic Reading Room: http://www.navsea.navy.mil/Home/Warfare-Centers/NUWC-Newport/Partnerships/Business-Partnerships/Electronic-Reading-Room
Introduction/Ground rules (cont.)

• DO NOT directly contact the NUWC technical code after today - all further dialogue will be accomplished via the Q&A feature on the SeaPort-e Portal

• Technical requirements contained in this briefing are presented as a summary
  • Full/updated technical requirements will be provided in the Request for Proposal (RFP)
Disclaimers Statement

- Remarks today by government officials involved in the Code 85 Undersea Vehicles and Support Equipment Design, Production, Quality, and Logistics 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.
Anticipated Procurement Strategy

• This is a follow-on of NUWC Division Newport requirement N00178-04-D-4083, N453
  – one offer received
  – MRC (Incumbent)
• SeaPort-e Task Order, Zone 1, Northeast
  – Prime
  – Sub
• Five-year period of performance
  – Base year plus four one-year options
  – 100% set-aside for small business
• Contract LOE: 733,900 hours – CPFF
• Organizational Conflict of Interest (OCOI) Clause Applies
• Clearance Level: Secret
Anticipated Procurement Strategy (con’t)

• Software Development Plan (SDP) and rationale required
• Capability Maturity Model Integration (CMMI) capability level 3 or equivalent required
• Lean-certified personnel
• Other Direct Costs (ODCs) will be approximately 5% of total cost

• Estimated Schedule:
  – RFP Release: May 2017
  – Proposals Due: 30 days after RFP release
  – Award Date: October 2017
Anticipated Procurement Strategy (con’t)

• Work locations
  – 80% government site, 20% contractor Site

• Facilities
  – Government will provide facilities for on-site personnel
  – Facility security clearance required: Secret
  – Government-furnished Materials/Equipment/Information (GFM/E/I)
    • Provided in solicitation and upon award of contract
Technical Requirements & Overview
USW Weapons, Vehicles, and Defensive Systems Dept. ~ Code 85

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Undersea Warfare (USW) Weapons, Vehicles, and Defensive Systems Department Overview

• Mission is to provide integrated full spectrum undersea Weapon, Autonomous, and Defensive System solutions to the warfighter through technical expertise, cooperative innovation, engineering and life cycle stewardship

• Major sponsors
  – Remote Minehunting System Program Office (PMS403)
  – US Undersea Weapons & Targets Program Office (PMS 404)
  – Unmanned Maritime Systems Program Office (PMS406)
  – Office of Naval Research (ONR)
  – Defense Advanced Research Projects Agency (DARPA)
  – Defense Logistics Agency (DLA)
  – Royal Australian Navy (RAN – Armaments Cooperative Agreement)
Anticipated Product Lines Supported

- MK 48 Heavyweight Torpedoes (HWT)
- MK 48 Advanced Technology (AT) Foreign Military Sales Torpedoes
- MK 54 Lightweight Torpedoes (LWT)
- All HWT and LWT Torpedo test and support equipment
- High Altitude Anti-Submarine Warfare Weapon Capability
- Contender HWT
- UUV Family of Systems (FoS)
• Hardware tech insertions – “modernization”
  – Major hardware upgrade enables increase in Torpedo effectiveness
  – G&C is major focus of planned upgrades
  – Insertions accomplished at the Maintenance Due Date – goal is upgrade HWT inventory within six years
  – Science and technology programs provide major source of innovative upgrades

• Algorithm tech insertions - Advanced Processor Builds (APBs)
  – Software product that contains new or enhanced capabilities
  – Spiral development cycle fields latest software with Torpedo Downloader System
  – APB/hardware compatibility is maintained within a tech insertion baseline

• Obsolescence upgrades
  – Address production obsolescence
  – Reduce Total Ownership Cost

• Foreign Military Sales
  – Provide LWT & HWT Torpedo support to meet FMS customer requirements
Code 8553 Test Equipment Engineering
Responsibilities & Functions

• Support and Test Equipment (S&TE) Technical Direction Agent (TDA) for the Torpedo Enterprise; Design Agent (DA) for majority of Torpedo S&TE

• Code 8553 is responsible for nearly all aspects of Torpedo S&TE
  – Derivation of test requirements from weapon specs
  – S&TE hardware and software design, development, and acquisition
  – Torpedo Fault Detection/Fault Location (FDFL) S/W maintenance
  – Development of operational and maintenance publications
  – Interfacing with logistics organizations to initiate system support
  – Installation
  – Training
  – Certification of OEM/Vendor test systems and processes
  – Fleet support

• Operate and maintain the Code 85 Life Cycle Support Facility (LCSF)
  – Technical Library
  – WAF-LCSF Collaboration Center
  – Full suite of torpedo S&TE used for validation of torpedo and S&TE upgrades and support
Life Cycle Support Facility (LCSF)

- LCSF consists of laboratories that support the research, development, integration, testing, and maintenance of torpedoes and test equipment.

- Unique capabilities that allow development, integration, testing, evaluation, and maintenance functions to take place concurrently on multiple torpedo systems.

- LCSF personnel conduct operations within industrial high bay areas that have Otto Fuel resistant flooring, cranes, and an ordnance grounding system to accommodate the handling of heavyweight and lightweight torpedoes.
Code 8554 Production Quality & Logistics
Responsibilities & Functions

• Production
  – Acquisition and production engineering lead
  – Contractor deliverables oversight and review (CDRLs, FAR, hardware, ECP, RFV)
  – PMS404 and torpedo department’s production system engineering experts
  – Production management for torpedo production contracts
  – Obsolescence engineering
  – On-site support at PMS 404 and contractor facilities

• HW/SW configuration management
  – Hardware/Software CM lead
  – Classified/Unclassified OQE repositories
  – CMPRO management
  – Controlled distribution of torpedo and test equipment products

• HW/SW Quality Assurance
  – Quality Assurance (QA) lead
  – Software verification & validation lead
  – Supplier/Vendor Audit and Inspection Lead
  – Torpedo Hardware Tracking (HATT)
  – Functional/Physical Configuration Audits
Code 8554 Production Quality & Logistics Responsibilities & Functions

- **Logistics**
  - Logistics support analysis lead
  - Integrated Logistics Support (ILS) analysis, planning and supply support
  - Component life cycle support (“cradle to grave”)
  - ORDALT/RID development & management
  - Department OM&S and PDREP Lead

- **Demilitarization**
  - Demilitarization Life Cycle Planning Center
  - Demilitarization DOD lead

- **Information Assurance**
  - Department Information Technology Assurance Lead

- **Lean**
  - Code 85 LEAN initiatives and rapid improvement events
• Primary tasks

  – Task A: Configuration Management
  – Task B: Engineering Support
  – Task C: Reliability / Quality Assurance
  – Task D: Acquisition Logistics Analysis and Planning
  – Task E: Demilitarization Analysis and Training
  – Task F: Presentation Material
  – Task G: Lean Processes
  – Task H: Program Technical and Administrative Support

  ❖ A list of Government Specifications and Standards as well as Government Furnished Information (GFI) is provided in the SOW
USW Weapons, Vehicles, and Defensive Systems Support Services Requirements

• Task A: Configuration Management
  – Manage hardware and software products
    – Impound product deliverables as Objective Quality Evidence (OQE)
    – Produce and validate software release media
    – Generate transmittals for product deliverables
    – Update & distribute product authorization documents for each release
  – Manage System Specifications
    – Incorporate changes into baselines
    – Impound release versions of specifications to complete data package records
    – Administer and maintain Dynamic Object Oriented Requirements System (DOORS) project requirements specifications
USW Weapons, Vehicles, and Defensive Systems Support Services Requirements

• Task A: Configuration Management (con’t)

  – Coordinate milestone meetings for product releases in support of the Systems Engineering Process (SEP)
  – Maintain Technical Data Packages (TDPs)
  – Maintain master configuration management documentation library/repository
  – Receive, inventory, and categorize weapons test equipment program data/update test equipment plans
  – Execute baseline management process and implement updates
  – Process Engineering Change Proposals/Requests for Variance (ECP/RFV)
  – Prepare & distribute Contract Data Requirements Lists (CDRLs) and documentation.
  – Create & maintain system product tree indentured lists/baselines utilizing Configuration Management Tool (CMPro)
USW Weapons, Vehicles, and Defensive Systems Support Services Requirements

• Task B: Engineering Support
  - Perform hardware and software requirement reviews
    • Recommend corrections to deficiencies
  - Prepare performance specifications and critical item product fabrication specifications using:
    • Draft specification information
    • Technical Data Package Option Selection Worksheet
  - Prepare TDPs for government approval
    • Fabricate models and redline drawings to reflect as-built configuration.
    • Install, set-up, and test using government prepared test plans and report results
  - Prepare ECPs, Notice of Revisions (NORs) using draft information
USW Weapons, Vehicles, and Defensive Systems Support Services Requirements

• Task B: Engineering Support (con’t)

  – Perform performance analysis of run data and report findings
    • In-water runs at ranges
    • Simulated runs in Weapons Analysis Facility (WAF)
  – Maintain the Configuration Review Board (CRB) process/data file
  – Design, develop and test software and hardware for new design and modernization efforts
  – Evaluate new hardware and software designs against
    • Performance specifications
    • Requirements documents
  – Prepare proposed Ordnance Alterations/Retrofit Installation Documents (ORDALTs/RIDs) for weapon system components using government provided ECPs
  – Resolve obsolescence issues
• Task C: Reliability/Quality Assurance
  – Conduct hardware and software documentation review and development
    • Instructions
    • Procedures
    • Implementation plans and manuals
  – Maintain hardware/production Quality Assurance (QA)
    • Physical/functional configuration audits
      – Report discrepancies
      – Recommend corrective actions
      – Redline TDP and refurbish hardware
    • Logistics QA Support
    • Propulsion Test Facility (PTF) QA support
Task C: Reliability/Quality Assurance (con’t)

- Conduct failure analysis
  - Weapon impact evaluation
    - Identify and report the failing component
    - Recommend specific components for further investigation
- Develop failure analysis reports/conduct manufacturing screen processing
- Conduct Independent Verification and Validation (IV&V)
  - Evaluate Computer Software Configuration Item (CSCI) and System Level Software Test Results in accordance with test plans and procedures provided by the government
  - Report IV&V results in support of Code 85 Test Control Group (TCG) processes
Task D: Acquisition Logistics Analysis and Planning

- Review/evaluate/correct/update/provide recommendations on the following documentation:
  - Technical data
  - Maintenance support plans
  - Training curriculum
  - Courseware documentation
  - Department concept of operations
    - Personnel/Resources/Skill Sets/Facilities/Budget
  - Project & program plans
  - Policy documents

- Attend various internal/external meetings
  - Present technical and financial information
  - Acquire program level data and support documentation
  - Record minutes
USW Weapons, Vehicles, and Defensive Systems Support Services Requirements

• Task D: Acquisition Logistics Analysis and Planning (con’t)
  – Update/maintain operational and engineering databases
    • Component configuration and inventory data bases
    • Enter logistics data into CMPro based on Logistics Support Analysis (LSA) summaries
    • Enter serial numbers into the Heavyweight Torpedo Serial Number Database
  – Develop Nomenclature Assignment Requests (NAR)
  – Conduct Supportability Analysis
    • Review proposed new drawing and revisions for technical/logistics impacts
    • Prepare revised ECPs/NORs/RFVs
    • Support solutions to Request For Engineering Support
  – Investigate/prepare technical data for proposed parts procurements
    • Source availability
    • Delivery lead time
    • Costs
USW Weapons, Vehicles, and Defensive Systems Support Services Requirements

• Task D: Acquisition Logistics Analysis and Planning (con’t)
  – Develop/collect/analyze logistics implementation data for IMA activation
    • Identify areas for improvement
    • Provide recommendations for improvements
    • Develop corrective actions
    • Present findings
  – Retrofit Screens/Ordnance Alterations (RS/ORDALT) Torpedo and Test Equipment Hardware
    • RS/ORDALT/RID development, distribution, and tracking
    • Receipt/storage/issuance of all HWT ORDALT/RID Material
    • Procurement support to purchase ORDALT/RID materials
Task E: Demilitarization Analysis and Training

- Review and analyze proposed and final regulations and DOD issuances that impact DEMIL processes of DODM 4160.28 and related areas including trade security controls (TSC) and disposition
- Review the DEMIL/Trade Security Control (TSC) website and identify revisions to maintain currency and improve usability
- Review demilitarization and disposal plans developed by DOD Components and provide comments and provide proposed revisions
- Prepare and maintain training materials for the Defense Demilitarization Program Course (DDPC) and the annual refresher
- Travel to and Conduct sessions of the DDPC
- Evaluate new courses and job aids to improve training delivery and effectiveness
USW Weapons, Vehicles, and Defensive Systems Support Services Requirements

• Task F: Presentation Material
  – Develop, presentation material for various venues; design reviews, program reviews, etc.
  – Attend meetings at vendor and other government facilities to record, report, and present presentation material

• Task G: Lean Processes
  – Conduct lean events for department processes
  – Conduct value stream analysis/rapid improvement events
  – Prepare presentation material
    • Work-related charts
    • Agendas
    • Viewgraphs
  – Attend meetings and conferences/present material
Task H: Program Technical and Administrative Support

- Generate and distribute records of meetings
- Prepare draft correspondence and reports
- Prepare draft briefings and presentation material
- Conduct technical reviews and prepare the following documents
  - Analysis Reports
  - Trade Off Studies
  - Risk Assessments
  - Business Case Analysis
  - Fleet Support Analysis
  - Planning Recommendations
  - System Historical Analysis/Comparison Studies
Conclusion/Wrap-up

• Thank you for your interest in the Code 85 Undersea Vehicles and Support Equipment Design, Production, Quality, and Logistics Support Services requirement

• The attendees list will be posted to the SeaPort-e Portal

• This briefing will be posted to the SeaPort-e Portal and the NUWC Division Newport Electronic Reading Room

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