# 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

NAVSEA
WARFARE CENTERS
NEWPORT

- **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**

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# 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)**

# Disclaimer 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**

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# 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**
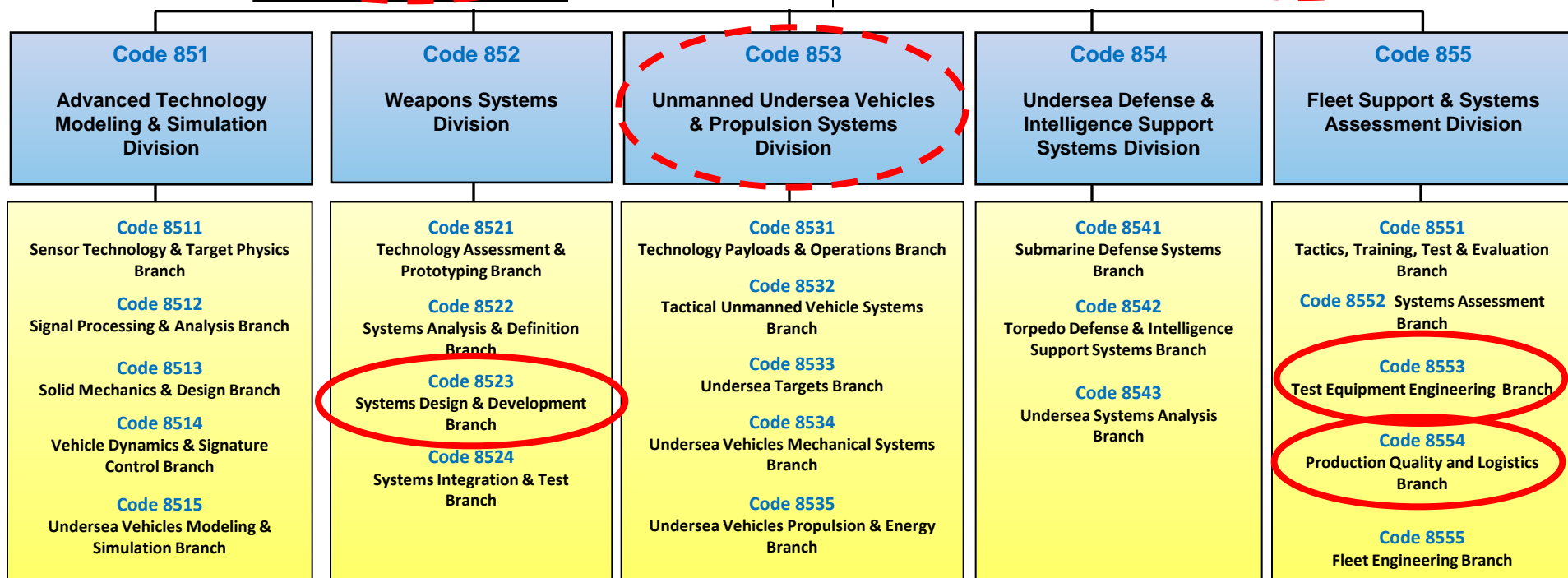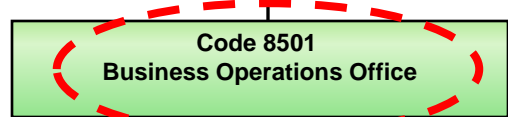  - **Award Date:  October 2017**

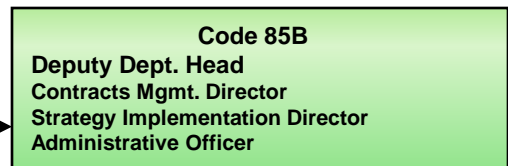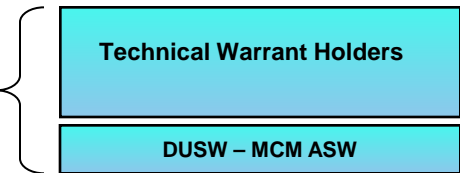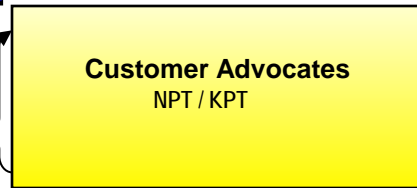# Anticipated Procurement Strategy (con't)

- **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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**Customer Advocates**
NPT / KPT

**Australian Cooperative Office**

**Department Head**
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**Office of Chief Engineers**
**Administrative Staff**

**Technical Warrant Holders**

**DUSW – MCM ASW**

**Code 85T**
**Science &Technology Office**

**Code 85B**
**Deputy Dept. Head**
**Contracts Mgmt. Director**
**Strategy Implementation Director**
**Administrative Officer**

*International Programs*

**Code 859**
**Program Management Office**

**Code 8501**
**Business Operations Office**

| **Code 851** | **Code 852** | **Code 853** | **Code 854** | **Code 855** |
|---|---|---|---|---|
| **Advanced Technology Modeling & Simulation Division** | **Weapons Systems Division** | **Unmanned Undersea Vehicles & Propulsion Systems Division** | **Undersea Defense & Intelligence Support Systems Division** | **Fleet Support & Systems Assessment Division** |
| **Code 8511** Sensor Technology & Target Physics Branch | **Code 8521** Technology Assessment & Prototyping Branch | **Code 8531** Technology Payloads & Operations Branch | **Code 8541** Submarine Defense Systems Branch | **Code 8551** Tactics, Training, Test & Evaluation Branch |
| **Code 8512** Signal Processing & Analysis Branch | **Code 8522** Systems Analysis & Definition Branch | **Code 8532** Tactical Unmanned Vehicle Systems Branch | **Code 8542** Torpedo Defense & Intelligence Support Systems Branch | **Code 8552** Systems Assessment Branch |
| **Code 8513** Solid Mechanics & Design Branch | **Code 8523** Systems Design & Development Branch | **Code 8533** Undersea Targets Branch | **Code 8543** Undersea Systems Analysis Branch | **Code 8553** Test Equipment Engineering Branch |
| **Code 8514** Vehicle Dynamics & Signature Control Branch | **Code 8524** Systems Integration & Test Branch | **Code 8534** Undersea Vehicles Mechanical Systems Branch | | **Code 8554** Production Quality and Logistics Branch |
| **Code 8515** Undersea Vehicles Modeling & Simulation Branch | | **Code 8535** Undersea Vehicles Propulsion & Energy Branch | | **Code 8555** Fleet Engineering Branch |

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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)**

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- **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

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# 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 allows 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**



**Undersea Weapons Collaboration Center**

**ATE**

**Nose Array Test Set**

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- **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**

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# 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**

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- **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*

- **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**

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# 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)

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- **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**

- **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**

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- ## 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**

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- **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**

- **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/ORDALTS) 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**

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- ## 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

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- ## 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**

- **"Q&A" (today's and any subsequent) will be posted to the SeaPort-e Portal**

- **DO NOT contact today's presenters**
  - **All further dialogue will be accomplished via the Q&A feature on the SeaPort-e Portal**