Code 85 Presentation Overview

• **Department Overview**
  ✓ Mission / Products
  ✓ Major Customers / Projects
  ✓ Organization / Department Overview
  ✓ Division Descriptions
  ✓ Unique Facilities / Capabilities
  ✓ FY19 Funding Projections

• **Contracting**
  ✓ Current Major Contractors ~ Summary
  ✓ UUV Family of Systems ~ Summary
  ✓ Projected Contracts FY19 – FY20
  ✓ Summary
Department Mission / Vision

**Mission**

“Provide integrated full spectrum undersea Weapon, Autonomous, and Defensive System solutions to the warfighter through technical expertise, cooperative innovation, engineering and life cycle stewardship.”

**Vision**

“Undersea Dominance through superior Autonomous and Defensive Systems”

**Philosophy**

“Operate with Excellence; Commit to Success”

**USW Weapons**

**UxVs**

**Platform Defense**
• **Science and Technology for:**
  - Torpedoes / Targets
  - Autonomous Undersea Vehicles (AUVs)
  - Countermeasures/Counterweapons

• **System Development, Integration & Test**
  - AUVs
  - Mobile ASW Targets and Torpedoes
  - Undersea Defensive Systems
  - T&E, assessments, and M&S

• **Acquisition, Fleet Support, & In-Service Engineering**
  - HW and LW Torpedoes
  - AUVs
  - Mobile ASW Targets
  - Undersea Defensive Systems

**Department Products**

- Torpedoes
- AUVs & Mobile Targets
- Undersea Defensive Systems

**S & T**

- Shock Analysis & Testing

**Electric Torpedoes**

DISTRIBUTION STATEMENT A: Approved for Public Release; distribution is Unlimited
Major Code 85 Responsibilities

- Biometrics
- Advanced Energy
- Non-Acoustic Technology
- Super cavitation Technology
- Advanced Sensor Technology
- Next Generation CM/CCM
- G&C Technology
- Multi-band Sonar
- Propulsion, Silencing & Hydrodynamics
- New Fuzing
- Broad band
- Fiber Optics
- Modeling and Simulation

- Snakehead
- Mk 54 Mod 2 (ALWT)
- Mk48 TI-1
- AN/SLQ-25E
- Razorback Torpedo Tube Launch
- MEDUSA
- Torpedo Modular Upgrade Prg.
- System Requirements
- Performance M&S
- System Integration / Safety / T&E
- OP SW Development
- Next Generation CM
- UUV Technology
- Multi-band Sonar
- Advanced Navigation
- Autonomy
- MK18 payloads
- Bluewolf
- Smart Mining
- Foreign Comparative Tests

TOTAL: 16%

- Razorback
- Mk 48 Mod 7
- Mk 54 Mod 1
- Mk 18
- Knifefish
- ADC MK5
- MK 39 EMATT
- HAAWC support
- Signal Analysis System
- Risk Reduction
- HWT Sonar Tech Insertion
- Multi-band Sonar
- Production Eng’ing Support
- Fleet Introduction Planning
- Acceptance Testing Support
- Contractor Performance Ass’m’t

TOTAL: 29%

- AN/SLQ-25A
- Countermeasures ADC 2/3/4
- Signal Analysis System
- MK30 Mod 1/2
- MK 39 EMATT
- Mk 48 Mod 7
- Mk 54 Mod 0
- Performance Assessment
- Fleet T&E support
- Fleet Failure Analysis
- Reliability Management
- SCC training
- SW Downloads
- Fleet Procedures
- IMA Certifications
- ORDALT Development

TOTAL: 28%

- MK18 payloads
- Bluewolf
- Smart Mining
- Foreign Comparative Tests

TOTAL: 27%

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“Provide full-spectrum Science and Technology (S&T) and M&S solutions for diverse Undersea Weapons, Vehicles, and Defensive Systems ….”
“Provide the Navy with well integrated undersea weapons systems solutions that address today’s challenges and tomorrow’s vision... Also provides systems support to undersea vehicles and defensive systems”
Provided technical expertise and core competencies for UUV's, targets, undersea propulsion/energy, and technology payloads/operations as well as provide for associated technology development, evaluation & integration, acquisition, and life cycle management .......
Develop and deliver innovative undersea warfare defense systems, including sensors, detection subsystems, soft and hard-kill devices, signal processing, and related deployment systems which provide effective torpedo self-defense for surface ships and submarines. Provide computer modeling, engineering evaluation, in water testing and submarine installations in support of intelligence programs.
“Assure maximum Fleet readiness through superior engineering and technical support across undersea weapons, vehicles, and defensive systems’ life cycles; including development, acquisition, in-service operation, operations assessment, performance analysis, tactics development, training, and communication.”
Significant Code 85 Investment in Unique Facilities/Capabilities

**Undersea Warfare Development Complex**
- Service Cost Center
  - Weapon Analysis Facility
    - Super Computers
  - Weapon Analysis Facility - User Area
  - Torpedo Analysis Facility
  - Simulation Based Design Laboratory

**Specialized Laboratories**
- Materials Laboratory
- Chemistry Laboratory
- Motor Laboratory
- Small Tow Tank
- Research Water Tunnel
- Battery Laboratory
- Anechoic Chamber
- Acoustic Wind Tunnel

**Undersea Tactical Vehicles Complex**
- Life Cycle Support Facility
- Shapes Laboratory
- Acoustic Test Facilities
- Torpedo Electronics Lab

**Torpedo Industrial Complex**
- Torpedo Component Test Facility
- High Energy Chamber

**Land Based Propulsion Test Facility Complex ~ Service Cost Center**
- Electric Propulsion Test Facility
- Deep Depth Test Facility
- Propulsion Noise Test Facility
- Torpedo Component Test Facility
- High Energy Chamber

**NUWC NPT AUV Capabilities**
- Multiple UUV Lines
- System Integration
- Fleet Interaction & Support
- System Templats
- At Sea Operations
- Unique Ocean Interface

**Code 85 AUV Laboratory Facility**

**DISTRIBUTION STATEMENT A**: Approved for Public Release; distribution is Unlimited
USW Weapons, Vehicles, and Defensive Systems Department

FY 19 LRE Projections are $283M

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Code 85 FY 19
Projected Outsource

Services Outsourced
WY’s By Skill - Total Est. ~ 250

- Business/Finance: 8%
- Clerical: 6%
- Admin/Mgt. Support: 14%
- Logistician: 4%
- Technicians: 28%
- Scientists & Engineers: 40%

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• **Contracting**
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  ✓ Summary
Current Code 85
Major Contractors

• **Alion Science and Technology**
  ✓ AMSTC Lab services

• **Boeing**
  ✓ Data Co-Processor

• **DDL Omni**
  ✓ Intelligence Programs

• **Draper Labs**
  ✓ Engineering Support

• **General Dynamics Information Technology (GDIT)**
  ✓ SAS / CM Support; Eng. and Tech. Support to Surface Ship Torpedo Defense (SSTD)

• **Indus Technologies**
  ✓ WAF SimOps Support

• **Lockheed Martin**
  ✓ MK 39 Expendable Mobile ASW Training Target (EMATT)
  ✓ Torpedo Engineering Support

• **McLaughlin Research Corp. (MRC)**
  ✓ Torpedo Engineering, Logistics, and Analysis Support; UUV Engineering

• **Ocean Acoustical Services and Instrumentation Systems (OASIS)**
  ✓ Computational & Experimental Mechanics Lab (CEML) Facility

**DISTRIBUTION STATEMENT A:** Approved for Public Release; distribution is Unlimited
Current Code 85
Major Contractors

- **Progeny**
  - Torpedo Engineering Support
- **Purvis**
  - Torpedo Engineering Support
- **Raytheon**
  - Engineering Support (torpedoes)
- **Science Applications International Corporation (SAIC)**
  - Financial, Service Cost Ctr.; Prop. Test Facility; FMS Support; Engineering and Technical Support, SSTD support.
- **SeaCorp**
  - WAF Engineering Support
- **Systron Donner**
  - IMU Design Support
- **Woods Hole Oceanographic Institute (WHOI)**
  - Engineering UUV Support.
- **BST**
  - Batteries
- **Ultra**
  - MK 710 Torpedo System Test Set (TSTS)
NUWC Division Newport recently awarded 23 Multiple Award Contracts for the Procurement of Materials and Services used to Develop, Build, Fabricate, and Support the Unmanned Undersea Vehicle Family of Systems (UUV FoS).

**UUV FoS Prototyping Contract is focused on:**
- Enabling more rapid response to emerging Capability needs.
- Demonstrating prototype capability more in-line with the pace of Technology advancement.

**Indefinite Delivery, Indefinite Quantity (IDIQ) Contracts**
- Specific requirements will be defined via individual Task/Delivery Orders.

**Award:**
- Contracts awarded: 30 July 2018 (23 awards).
- Post Award Conference: 20 Sep 2018.
The Task Order schedule will remain flexible to support evolving Sponsor/Program priorities. The following are currently planned for the near-term:

- **1st-2nd Quarter FY19**: (est. $1M-$2M total).
  - Snakehead LDUUV Design and Systems Engineering support (services).
    - Autonomy and Software development and integration support (services).
  - Mid-size UUV Prototyping (multiple Sponsors) (est $1.5M total).
    - Autonomy and Software development and integration support (services).

- **3rd-4th Quarter FY19**: (est $3M-$15M total).
  - Snakehead LDUUV.
    - Hull & Structure fabrication (supplies and services).
    - Long-lead COTS and modified COTS Sensor and components (supplies).
    - Cables fabrication (supplies and services).
    - Fabrication and integration engineering support (services).
## Projected Contracts FY19-20

<table>
<thead>
<tr>
<th>Contract Number</th>
<th>Title</th>
<th>Current Value or Estimate w/ options</th>
<th>Incumbent</th>
<th>Seaport</th>
<th>Follow-On</th>
<th>Current Contract Type</th>
<th>Expected RFP Release</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>New 4032 N405</td>
<td>Technical Services for Submarine Installed Equipment</td>
<td>$16M</td>
<td>DDL Omni</td>
<td>Y</td>
<td>Y</td>
<td>CPFF</td>
<td>NOV 2018</td>
<td>SBSA</td>
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<td>New 4119 N432</td>
<td>USW Weapons FMS Engineering Services</td>
<td>$10M</td>
<td>SAIC</td>
<td>Y</td>
<td>Y</td>
<td>CPFF</td>
<td>SEP 2019</td>
<td>TBD Sources Sought</td>
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<tr>
<td>New 4119 N434</td>
<td>Propulsion Test Facilities Operations Support</td>
<td>$65M</td>
<td>SAIC</td>
<td>Y</td>
<td>Y</td>
<td>CPFF</td>
<td>OCT 2019</td>
<td>TBD Sources Sought</td>
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<tr>
<td>New 4095 N402</td>
<td>Computational and Experimental Mechanics Lab (CEML) Test Facilities</td>
<td>$17M</td>
<td>OASIS</td>
<td>Y</td>
<td>Y</td>
<td>CPFF</td>
<td>MAY 2019</td>
<td>SBSA</td>
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<tr>
<td>New 4012 N440</td>
<td>Surface Ship Torpedo Defense Services</td>
<td>$45M</td>
<td>GDIT</td>
<td>Y</td>
<td>Y</td>
<td>CPFF</td>
<td>SEP 2019</td>
<td>TBD</td>
</tr>
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</table>
# Projected Contracts (Con’t)

<table>
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<tr>
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<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>4109 N417</td>
<td>UW Defensive Systems R&amp;D and Admin Support</td>
<td>$7M</td>
<td>Purvis</td>
<td>Y</td>
<td>Y</td>
<td>CPFF</td>
<td>July 2019</td>
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<td>4119 N425</td>
<td>Torpedo Defense Program Mgmt Support</td>
<td>$35M</td>
<td>SAIC</td>
<td>Y</td>
<td>Y</td>
<td>CPFF</td>
<td>June 2019</td>
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<tr>
<td>New</td>
<td>IPLCS</td>
<td>$20M</td>
<td>N/A</td>
<td>N</td>
<td>N</td>
<td>CPFF</td>
<td>1st Qtr FY19</td>
</tr>
<tr>
<td>New</td>
<td>MK54 Improvements (several)</td>
<td>&gt;$20M</td>
<td>N/A</td>
<td>N</td>
<td>N</td>
<td>CPFF</td>
<td>1st Qtr FY19</td>
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<tr>
<td>New</td>
<td>Torpedo SW algorithms</td>
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<td>N</td>
<td>N</td>
<td>CPFF</td>
<td>1st Qtr FY19</td>
</tr>
<tr>
<td>New</td>
<td>Defensive Systems Topics (several)</td>
<td>&gt;$5M</td>
<td>N/A</td>
<td>N</td>
<td>N</td>
<td>CPFF</td>
<td>2nd Qtr FY19</td>
</tr>
</tbody>
</table>

**Notes:**
- Contract Type: CPFF
- Strategy:
  - TBD Sources Sought:
  - OTA: Open To All

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The USW Weapons, Vehicles, and Defensive Systems Department is multifaceted with needs ranging from clerical support to engineering expertise as well as significant material support.

Code 85 FY 19 projection is greater than $280M

Using a variety of contracting vehicles to achieve objectives (OTAs, Multi-award IDIQ)

Contractor Support in FY19 is greater than 250 WY’s

✓ Represents significant part of in-house WYs (> 25%)