Sensors and SONAR Systems
Department, Code 15

Industry Day Conference
14 June 2016
Our resources and expertise support national and foreign military efforts
Science and Technology Enterprise
Code 151

Technical Specialties

Research and Development in:
- Automated Algorithms
- Devices, Sensors, and Materials
- Signal Processing

Technology Development to:
- Reduce Total Ownership Costs
- Enable New Warfighting Capabilities
- Fill Existing Capability Gaps

Key Programs
- Vector Sensor Development
- Fiber Optic Sensors
- Transduction Materials
- Detection, Classification, Localization, and Tracking
- Forward Sector Torpedo Defense
- Acoustic-Optic Transduction
- SONAR Automation
- Deployable Force Protection

Sponsors & Stakeholders

National Leader in Naval Undersea Science & Technology
Advanced Concepts Enterprise  
Code 152

Technical Specialties

- Acoustic Performance Prediction
- Undersea Warfare Prototyping & Integration
- At-Sea Experimentation
- Undersea Infrastructure Protection
- Systems Engineering
- Test and Evaluation
- Augmentation
- Rapid Prototyping

- Traditional and Non-Traditional Antisubmarine Warfare
- Advanced Imaging and Sensing
- Distributed Systems
- Unmanned Systems
- Advanced Control Algorithm Development
- TEMPALT – Advanced Capabilities

Key Programs

- Surface Ship and Submarine SONAR Advance Development
- Undersea Distributed Network Systems
- Unmanned Surface Vehicle Mission Modules
- Low Power Telemetry
- Precision Heading Sensors

- Engineering Measurement Programs
- Cluster Projects
- Littoral Combat Ship
- Airborne Mine Neutralization System
- Advanced Processing Build/Advanced Capability Build

Addressing FLEET Needs through Technology and Analysis
Sensors and Arrays Enterprise
Code 153

Technical Specialties

• Undersea Acoustic Metrology
• Full Spectrum Systems Engineering
  • In Service Engineering Agent
  • Technical Direction Agent
  • Physics Based Modeling
  • Acoustic Augmentation
• Handling Systems Engineering
• Towed Array Design and Engineering
  • Hull Sensor Systems
  • Fleet Support
  • Undersea Cabling
• Acoustic Sensor Design and Engineering
  • System/Sensor Acquisition
  • Sensor Lifecycle Planning and Support

Key Programs

• Undersea Acoustic Metrology & Acoustic Testing
• Surface and Submarine Towed Systems (Handlers and Arrays)
• Surface and Submarine Hull Sensors (Sphere, CAVES Technologies, WAA, LWWAA, LCCA, Chin, etc.)
• Surface and Submarine Transducers, Hydrophones, Acoustic Windows
  • Undersea Cables

We provide full spectrum Lifecycle Support for USW Sensors
Technical Specialties

- Acoustic Analysis and Reconstruction
  - Systems Engineering
  - Environmental Qualification
  - Test and Integration
- At-Sea Test Planning and Execution
  - Logistics Support
- Trainers and Training Material
  - Passive Systems

Key Programs

- Submarine SONAR System Development & Modernization
  - Forward Fit – Virginia Class
  - Backfit – 688/688i, SEAWOLF Class, SSGN, SSBN
- Test Planning, Execution and Analysis
  - Communication Systems
  - Sensor Integration
- TEMPALT/OPALT Development for Special Projects

Sponsors & Stakeholders

We build and sustain the Navy’s best Submarine & Surveillance Undersea Warfare Systems
Surface Ship and Aviation Systems Enterprise
Code 155

Technical Specialties

- Systems Engineering
- Software Engineering
- Systems Integration
  - Active Systems
  - Test & Evaluation
    - Analysis
- Logistics Support
- Training and Training Modules
- Fleet Support
- Foreign Military Sales (FMS)
- Torpedo Defense
  - Displays

Key Programs

- AN/SQQ-89(V)
  Undersea Warfare/Anti-Submarine Warfare Combat System (USW/ASWCS)
  - FMS Japan
- Fleet SONAR Self-Noise
- Littoral Combat Ship (LCS) Anti-submarine Warfare Mission Package Production
- Torpedo Warning System (TWS)
  - DDG 1000

We build and sustain the Navy’s best Surface Ship and Aviation-based Undersea Warfare Systems
Leveraging Partnerships and Collaborations to Enhance Capabilities for the Warfighter

Towed Array Handling Systems Training Facility

Code 15 Facilities

Naval Array Technical Support Center (NATSC)
Towed Array Handler & Equipment Facility
Towed Array Handling Systems Training Facility
Transducer Standards Facility
Towed Systems Development Facility

Land Based Integration Test Site (LBITS)

Unmanned Mission Module Test & Integration Facility

Unmanned Mission Module Test & Integration Facility
Quiet Water Tunnel
Engineering/Fiber Optic Lab
Low Frequency Facility
Acoustic Pressure Tank Facility

STATE-OF-THE-ART FACILITIES

STATEMENT "A"; Approved For Public Release; Distribution is Unlimited
FY 16 Funding Profile

FUNDING BY APPROPRIATION

- FMS 3%
- WCF 1%
- Other 2%
- OMN 10%
- SCN 13%
- RDT&E 30%
- OPN 41%

FUNDING BY SPONSOR

- OSD, 8,049,887
- PEO IWS, 49,752,278
- PEO SUB, 131,863,292
- Army, 2,119,243
- Fleet, 7,676,831
- ONR, 11,285,888
- PEO LCS, 12,143,963

$223M
Projected Contracting $M's

Services
Depot / SCC
Hardware
Material

FY 16
FY 17
FY 18
Code 15 Outsourced WYs By Skill FY16

- Technician: 110.5
- Engineering: 70.2
- Program Support: 19.7
- Logistician: 7.4
- Supply: 4.3

212 FTEs
We Advance Timely, Innovative, Integrated, Next Generation Solutions to Maintain FLEET UNDERSEA SUPERIORITY

We Provide Sound Solutions for the Warfighter

SPONSORS, STAKEHOLDERS, AND PARTNERS

Sensors and SONAR Systems Department
## Major Code 15 Contractors

<table>
<thead>
<tr>
<th>CONTRACTOR</th>
<th>SCOPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAE Systems</td>
<td>Towed Systems program support</td>
</tr>
<tr>
<td></td>
<td>TAHE Depot</td>
</tr>
<tr>
<td></td>
<td>Software Engineering Maintenance Activity</td>
</tr>
<tr>
<td>DDL OMNI Engineering</td>
<td>Critical Transducer Program Tech Services</td>
</tr>
<tr>
<td>Hydroacoustics Inc.</td>
<td>HLF-1 Services</td>
</tr>
<tr>
<td>L-3 Services</td>
<td>Naval Array Technical Support Center (NATSC)</td>
</tr>
<tr>
<td>L-3 Communications Corp.</td>
<td>TB-23/BQ Towed Systems Repair &amp; Support</td>
</tr>
<tr>
<td>Lockheed Martin</td>
<td>Towed Array Intermediate Maintenance Activity</td>
</tr>
<tr>
<td>MIKEL</td>
<td>System Engineering, Test &amp; Evaluation</td>
</tr>
<tr>
<td>SyQwest</td>
<td>Hydrophone Production &amp; Restoration</td>
</tr>
<tr>
<td>Sonalysts</td>
<td>Fleet Training Support</td>
</tr>
</tbody>
</table>
# Code 15 Projected Contracts – Services

<table>
<thead>
<tr>
<th>Contract #</th>
<th>Title</th>
<th>Current Contract Value (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</td>
<td>HLF-1 Services and Hardware</td>
<td>N/A</td>
<td>N/A</td>
<td>N</td>
<td>N</td>
<td>Will be CPFF</td>
<td>June 2018</td>
<td>TBD (Sources Sought)</td>
</tr>
<tr>
<td>NEW</td>
<td>Advanced Development, Integration &amp; Prototype</td>
<td>N/A</td>
<td>N/A</td>
<td>N</td>
<td>N</td>
<td>Will be CPFF</td>
<td>June 2018</td>
<td>TBD (Sources Sought)</td>
</tr>
<tr>
<td>NEW</td>
<td>USV</td>
<td>N/A</td>
<td>N/A</td>
<td>N</td>
<td>N</td>
<td>Will be CPFF</td>
<td>June 2018</td>
<td>TBD (Sources Sought)</td>
</tr>
</tbody>
</table>
## Code 15 Projected Contracts – Depot / Service Cost Centers/Hardware

<table>
<thead>
<tr>
<th>Contract #</th>
<th>Title</th>
<th>Current Contract Value (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>7126 N401</td>
<td>NATSC Depot SVCS</td>
<td>$35M</td>
<td>L3</td>
<td>N</td>
<td>Y</td>
<td>Will be CPFF</td>
<td>July 2016</td>
<td>Unrestricted</td>
</tr>
<tr>
<td>NEW</td>
<td>TR 355</td>
<td>N/A</td>
<td>N/A</td>
<td>N</td>
<td>N</td>
<td>Will be FFP</td>
<td>July 2016</td>
<td>TBD</td>
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<tr>
<td>NEW</td>
<td>DT 5920</td>
<td>N/A</td>
<td>N/A</td>
<td>N</td>
<td>N</td>
<td>Will be FFP</td>
<td>July 2016</td>
<td>TBD</td>
</tr>
<tr>
<td>NEW</td>
<td>OK-410 Production</td>
<td>N/A</td>
<td>N/A</td>
<td>N</td>
<td>N</td>
<td>Will be FFP</td>
<td>Aug 2016</td>
<td>TBD</td>
</tr>
<tr>
<td>NEW</td>
<td>HSS Cable</td>
<td>N/A</td>
<td>N/A</td>
<td>N</td>
<td>N</td>
<td>Will be FFP</td>
<td>Dec 2016</td>
<td>TBD</td>
</tr>
</tbody>
</table>
Opportunities

- ASW Performance Analysis
- Distributed Sensors
- Environmental Analysis
- Cyber Security
- Hull Mounted Arrays
- Human Systems Integration
- Bio-Inspired Sensors
- Fiber Optics
- Advanced Sensor Development
- Signal Processing
- Simulation/Stimulation
- Operator, Team and Proficiency Training
- Towed System Reliability
- Transducer / Hydrophone Technology
- In Service Engineering

Keys to Contracting Success:

- Increased Competition
- Reduced Total Ownership Cost
- Advanced Planning
- Sources Sought
Summary

• Contracting Continues to be an Important Function for the Success of Sensors & Sonar Systems Programs
  – Major Depot, Maintenance and Repair Work
  – Critical Engineering Services
  – Unique Hardware: Arrays, Transducers, Handlers, Windows, etc

• Code 15’s Contract Consolidation Plan is Being Implemented (8 down to 4)
  – System Eng, Test & Evaluation and Software Support
  – Sensors & Towed Systems Technical Services
  – Towed Array IPT Hardware and Software
  – Business Operations (Data Center, IT, Financial and Program Spt)

• New Innovative Contracting Approaches
  – PEO LCS Rapid Technology Insertion (RTI)
  – Advanced Development & Prototyping

Working with Industry, Academia and Navy Labs to Deliver Solutions to the Warfighter Where and When They are Needed