



NAVAL SURFACE WARFARE CENTER PHILADELPHIA DIVISION

INDUSTRY DAY BRIEF

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Propulsion, Power & Auxiliary Machinery Systems, Department 40

May 2016



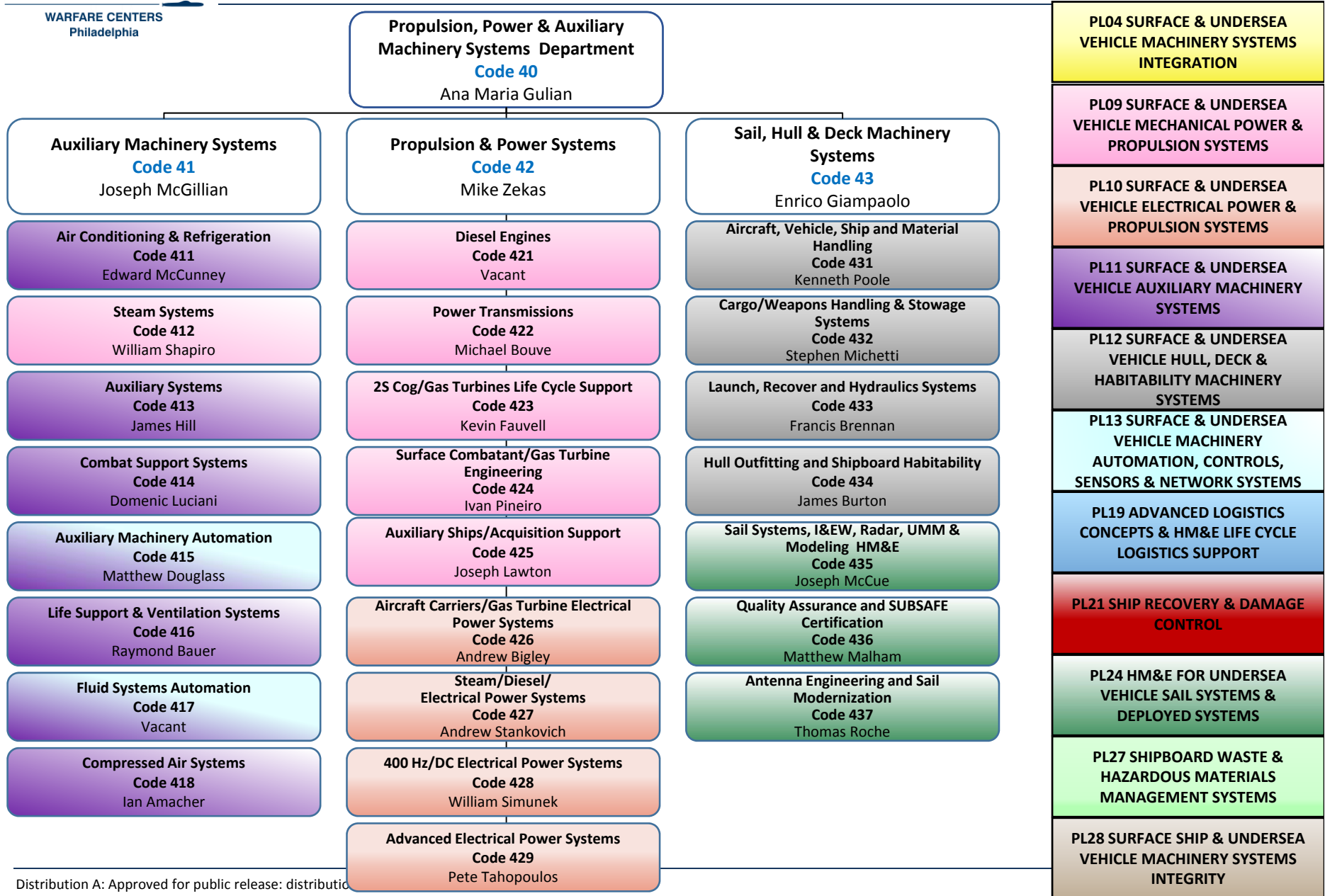
Department 40 Responsibilities

- Systems: Main Propulsion, Electric Power & Distribution, Auxiliary Systems, Steam, Submarine Sail Systems , Submarine Hydraulics, Deck Machinery and Habitability.
- Major Roles:
 - Life Cycle Manager
 - In Service Engineer
 - Acquisition program engineering support
 - TWH for Submarine Sail Systems
 - Technical Authority: Engineering support to SEA 05
 - SUBSAFE Supervising Authority for OII-MSD (NAVSEA note 5000)



WARFARE CENTERS
Philadelphia

ORGANIZATION CHART WITH TCs



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DEPARTMENT OVERVIEW

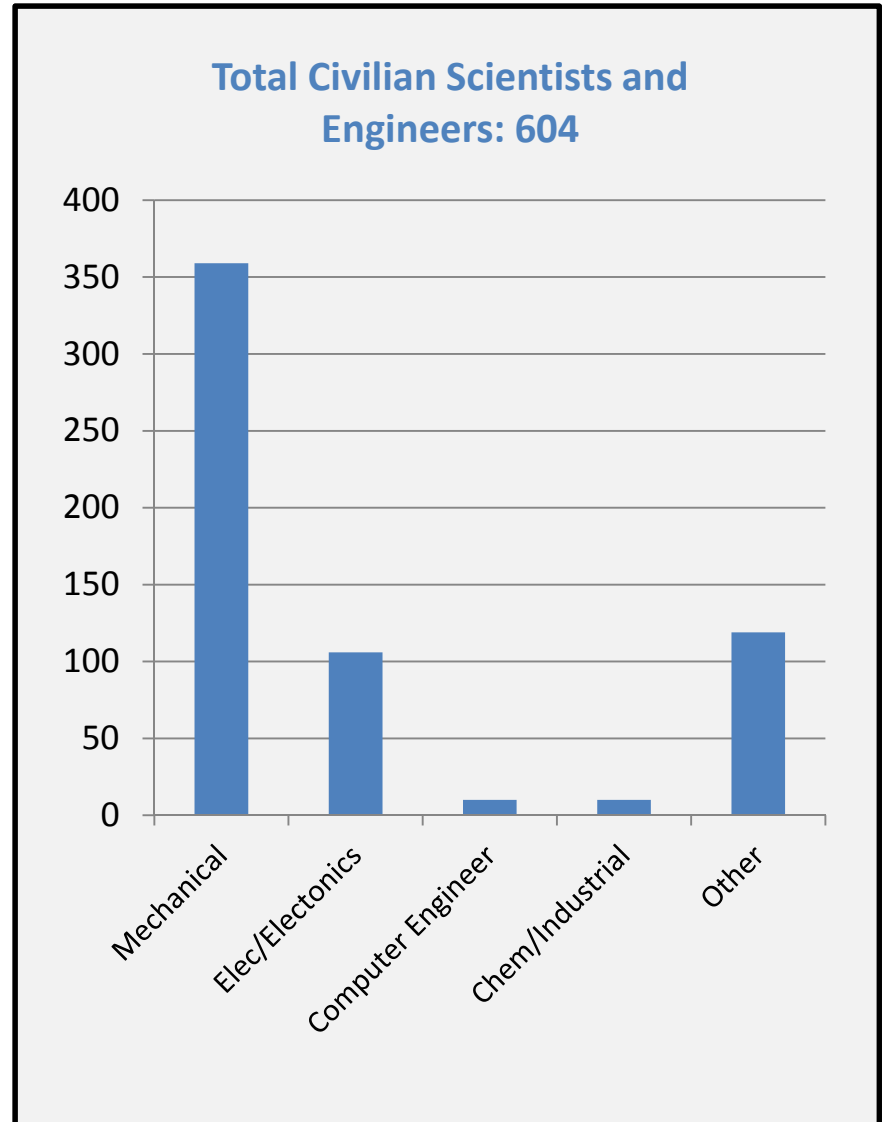
TOTAL END-STRENGTH
(Civilian, Military, Contractors)
692

TOTAL CIVILIAN
604

TOTAL MILITARY
0

TOTAL CONTRACTORS
*88

EDUCATION LEVELS (ALL CIVILIANS)
Bachelors: 362
Masters: 111
Doctorate: 1



*On-site Contractors

Division 41 Responsibilities

— In the Auxiliary Machinery Systems Division, we provide full spectrum and innovative engineering support for the following systems under our cognizance:

- Air Conditioning and Refrigeration
- Steam Systems
- Auxiliary Systems
- Combat Support Systems
- Auxiliary Machinery Automation
- Life Support & Ventilation Systems
- Fluid Systems Automation
- Compressed Air Systems



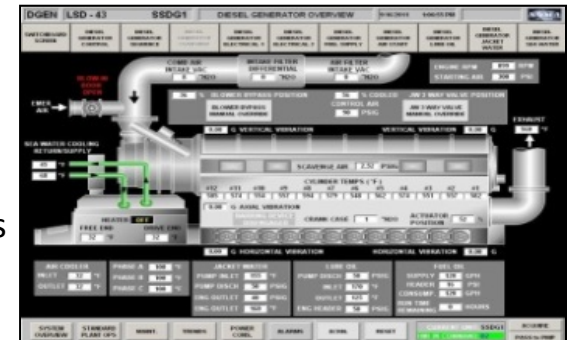
— In collaboration with our NAVSEA Technical Warrant Holders, we provide leadership for the research, development, testing, acquisition, integration, maintenance, sustainment, and modernization of these systems thru:

- Technology Development
- Failure Investigation / Analysis
- Metrics Assessment
- Distance Support
- Land & Shipboard Test & Evaluation
- In Service Engineering
- Acquisition Support
- System Design
- Boiler and Pressure Vessel Inspections
- Energy Conservation
- Obsolescence Management & Legacy System Upgrades
- Training and Logistics

Division 42 Responsibilities

— In the Propulsion and Power Systems Division, we provide full spectrum and innovative engineering support for the following systems under our cognizance:

- Gas Turbine Systems for Main Propulsion and Power Generation
- Diesel Engines for Main Propulsion and Power Generation
- Power Transmission Systems, Propulsors, and Waterjets
- Electrical Power Generation, and Distribution and Conversion Systems
- Advanced Integrated Electric Propulsion and Power Systems

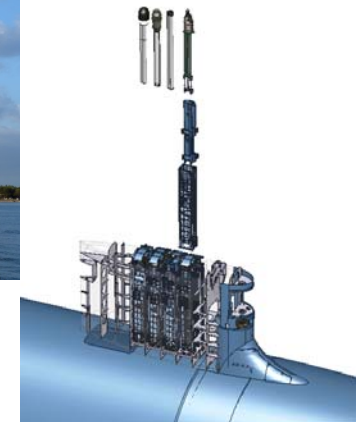


— In collaboration with our NAVSEA Technical Warrant Holders, we provide leadership for the research, development, testing, acquisition, integration, maintenance, sustainment, and modernization of these systems thru:

- | | |
|--------------------------------------|--|
| • Technology Development | • 2S Cog / Depot Management |
| • Acquisition Support | • Failure Investigation / Analysis |
| • System Design | • Metrics Assessment |
| • Modeling & Simulation | • Distance Support |
| • Machinery Arrangements | • Energy Conservation |
| • Land & Shipboard Test & Evaluation | • Obsolescence Management & Legacy System Upgrades |
| • In Service Engineering | • Training |

Division 43 Responsibilities

- Applicable Systems/Areas Include:
 - Anchor, Mooring, Towing and Amphibious Assault Systems
 - Aviation & Material Handling and Stowage
 - Weapons/Cargo Handling and Stowage Systems
 - Launch/Recovery & Crane Systems
 - Hydraulics and Steering Mechanical
 - Hull Outfitting
 - Shipboard Habitability
 - Maintenance Technologies
 - Submarine Sail Modernization/Maintenance
 - SUBSAFE
 - Submarine Availability Material Planning
- Engineering Agent for Life Cycle Management of Surface & Undersea Vehicle Hull, Deck, and Habitability Machinery Systems.
- Responsibilities extend across ship acquisition, modernization and in-service phases
- Major focus areas include technical requirements, design, reliability, maintainability and integrated logistics support (ILS)



NSWCPD LABS & TEST FACILITIES

AUXILIARY & LIFE SUPPORT SYSTEMS COMPLEX

- 3 Test Facilities
- 2 Buildings
- Approximately 23,500 sq. ft.

CARGO, WEAPONS HANDLING, & HULL SYSTEMS COMPLEX

- 8 test facilities
- 2 Buildings
- approx. 7,000 sq.ft.

MACHINERY NETWORK, SENSORS, & DATA SYSTEMS COMPLEX

- 34 test facilities
- 6 Buildings
- approx. 63,000 sq.ft.

PROPULSION & ELECTRICAL MACHINERY SYSTEMS COMPLEX

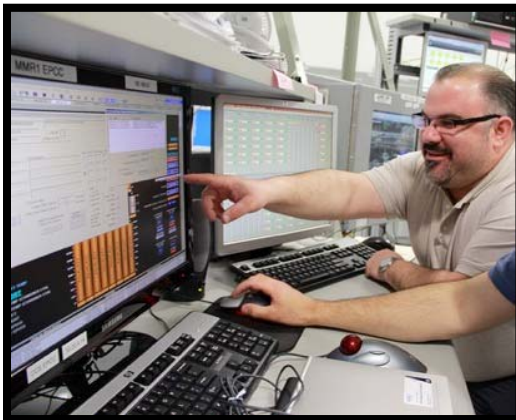
- 40 test facilities
- 5 Buildings
- approx. 243,000 sq.ft.

ENVIRONMENTAL & DAMAGE CONTROL SYSTEMS, & MATERIALS TECHNOLOGY COMPLEX

- 6 test facilities
- 2 Buildings
- approx. 28,000 sq.ft.

UNDERSEA VEHICLE SAIL & DEPLOYED SYSTEMS COMPLEX

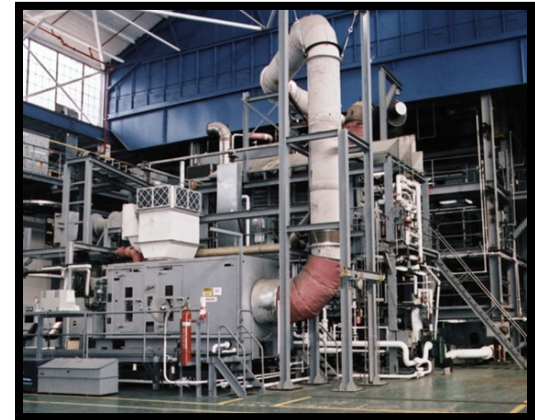
- 14 test facilities
- 1 Buildings
- approx. 42,000 sq.ft.



NSWCPD HAS 107 LABS & TEST FACILITIES WITHIN 7 BUILDINGS

A TOTAL OF APPROXIMATELY 400,000 SQ. FT.

A REPLACEMENT COST OVER \$1.4B





Competitive Contract Requirements - Projected FY16 Announcements

Brief Description	ROM	Anticipated Announcement Date (FY/QTR)	Requiring Technical Code
Amphibious and Military Sealift Command Weapons Handling Work	\$50M	FY16/Q3	432
Engineering and Technical Services in Support of HM&E and Steam Propulsion Plant Systems and Equipment.	\$35M	FY16 / Q3	412
Engineering and Technical Services for the Modernization, Upgrade, Inspection and Maintenance of HM&E and Steam Systems	\$40M	FY16 / Q3	412



Competitive Contract Requirements - Projected FY16 Announcements

Brief Description	ROM	Anticipated Announcement Date (FY/QTR)	Requiring Technical Code
Engineering, Technical, Logistics, and Installation Support Services for Propulsion, Power and HM&E Ship Systems Maintenance and Performance	\$80M	FY16/Q4	427
Engineering and Drawing Development and Revision Services for Electric Power and Generation Equipment	\$15M	FY16 / Q4	427
Advanced Weapons Elevator Technical Services in Support of Test Site Infrastructure Design	\$5M	FY16/Q4	432



Competitive Contract Requirements - Projected FY17 Announcements

Brief Description	ROM	Anticipated Announcement Date (FY/QTR)	Requiring Technical Code
Fleet Support Services for Compressed Gas Systems (Potential Multi-Award Contract)	\$300M	FY17 / Q1	418
Engineering Services to Provide Ship Machinery System, Propulsion, Electrical, and Control Systems Support of New Acquisition, Ship Life-Extension, Sustainment and In-Service	\$40M	FY17 / Q1	429
Engineering and Technical Support for Combat Support Systems and Cargo Weapons Handling Systems	\$350M	FY17/Q2	414/432



Competitive Contract Requirements - Projected FY17 Announcements

Brief Description	ROM	Anticipated Announcement Date (FY/QTR)	Requiring Technical Code
Habitability Technical and Industrial Services (Potential Multi-Award Contract)	\$1B	FY17 / Q2	434
Engineering and Financial Services for Power Transmission Equipment and Systems.	\$25M	FY17 / Q2	422
Engineering, Technical, and Logistics Lifecycle Support for Gas Turbine Systems and Components onboard U.S. Navy Vessels, Other Government Marine Vessels and at Shore Facilities/Land Based Test Sites	\$40M	FY17 / Q2	424



Competitive Contract Requirements - Projected FY17 Announcements

Brief Description	ROM	Anticipated Announcement Date (FY/QTR)	Requiring Technical Code
Submarine Outboard HM&E Design and Drafting Services	\$5M	FY17 / Q2	437
Submarine External Hydraulic Valves, Manifold, Multi-Stage Actuator Design and Production	\$15M	FY17 / Q2	437
Assembly, Testing, Repair, Refurbishment and Restoration of Submarine Antenna, Periscope and Communication Systems, Assemblies and Components	\$5M	FY17 / Q2	435