

*We Support
Today's Fleet
Tomorrow's Fleet
and the Fleet after*



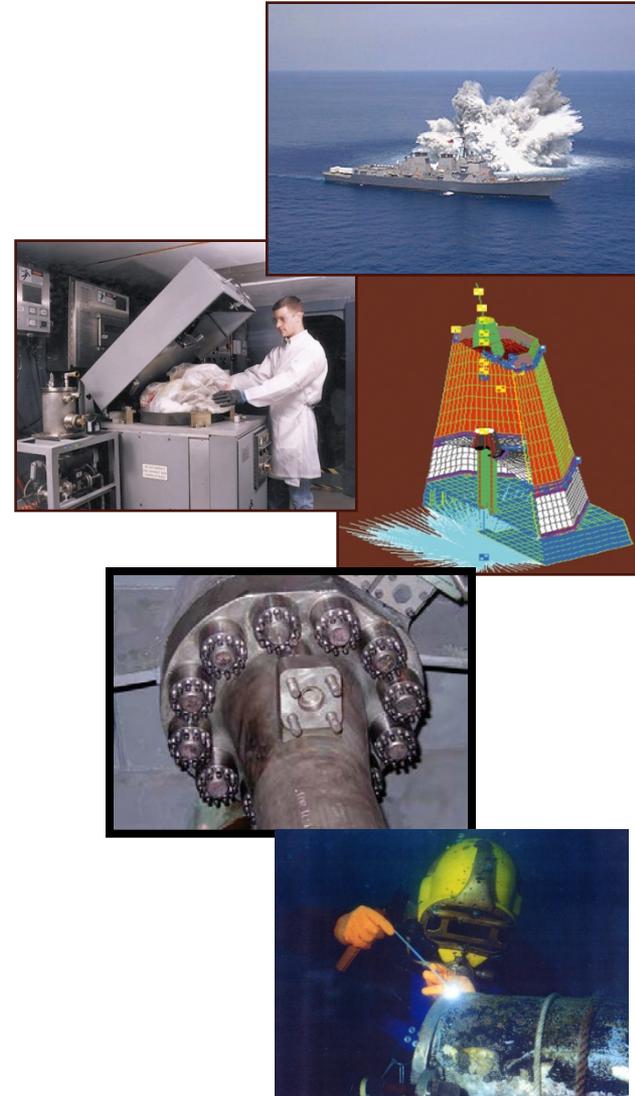
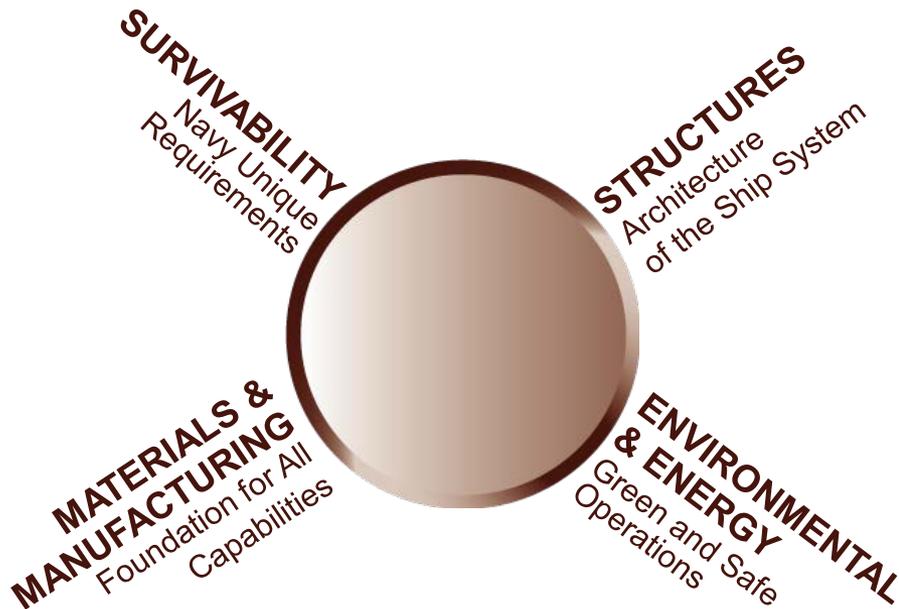
*Department 60
Naval Surface Warfare Center – Carderock Division*



Distribution Statement A - Approved for public release; distribution is unlimited

Mission

Provide fundamental enabling technologies for enhanced ship integrity and performance. Conduct full spectrum research, development, testing, life-cycle management, and in-service engineering in the areas of:





Vision

We will be the Navy's premier provider in survivability, structures, materials and environmental knowledge enabling the fleet and its warfighters to perform all missions safely and effectively.

Technical Capabilities

- CD 14: Surface, Undersea and Weapon Vehicle Materials and Manufacturing Technologies
- CD 15: Surface & Undersea Vehicle Structures
- CD 16: Alternative Energy and Power Sources R&D
- CD 17: Liquid Waste Management, Science and Systems
- CD 18: Solid Waste, Hazardous Supply & Radiation Technology Management, Science and Systems
- CD 20: Surface, Undersea and USMC Vehicle Vulnerability Reduction and Protection
- CD 25: Radiation Detection Technology Research and Management

Materials & Manufacturing Division (Code 61)

- **Welding, Processing & NDE**
 - Acquisition and ISE support
 - RDT&E on welding, processes, NDE, hull husbandry automation, and AM structures
 - Automated underwater hull surveys
 - Experts in welding consumable design and development
- **Additive Manufacturing Project Office**
 - Advancing the AM science
 - Navy Center of Knowledge
 - Developing certification processes for parts
 - Coordinating SYSCOM and DoN efforts
- **Propulsor Manufacturing Office**
 - Navy lead for Virginia Class Propulsor construction
 - Direct the design, development, manufacturing and acquisition of propulsors
- **Physical Metallurgy and Fire**
 - RDT&E, S&T, and ISE services for naval alloys
 - Metallurgical analyses and characterization
 - Supply failure analyses
 - Magnetostrictive materials
 - Evaluating the fire performance
- **Corrosion & Coatings Engineering**
 - Experts in R&D, S&T, acquisition, and ISE for naval and expeditionary environments
 - Develop mitigating technologies
 - Experts in biofouling and antifouling agents
- **Non-Metallic Mat'ls Research & Eng.**
 - RDT&E, S&T, acquisition, and ISE services
 - Experts in high temperature ceramic applic.
 - Experts in polymer processing applic.
 - Fabricator of acoustic absorbing/reflecting tiles



Environmental and Energy Division (Code 63)

- Radiation Technology and EOSH in Ship Acquisition
 - Certified Principal for Safety services for Navy ship acquisition programs
 - Environmental and radiation OSH technologies and processes
 - Radiation technical standards development
 - RDT&E, calibration, and fielding of radiation instruments and sensors
- Wastewater Management
 - Experts on domestic and international environmental policies, leaders of the DoD Uniform National Discharge Standards (UNDS) Program
 - RDT&E of oily, ballast, grey, and black wastewater treatment technologies and processes
 - Engineering support for shipboard treatment systems, shore facilities, and installations
 - Advise acquisition programs on system selection
- Solid Waste, Pollution Prevention Afloat, & Hazardous Material Management
 - RDT&E of solid waste systems and equipment for surface and submarine fleet integration
 - Development of procedures and processes for hazardous material management in the fleet
 - ISE services for subsurface fleet
 - Advanced non-skid and hull surface cleaning technologies
 - Engineering support for shore facilities and installations
- Advanced Power & Energy
 - RDT&E, S&T, and acquisition support to NAVSEA programs and USMC
 - Experts on energy storage (batteries), certification, and safety
 - Engineering support of portable and hybrid power systems and fuel cells for forward deployed expeditionary sites



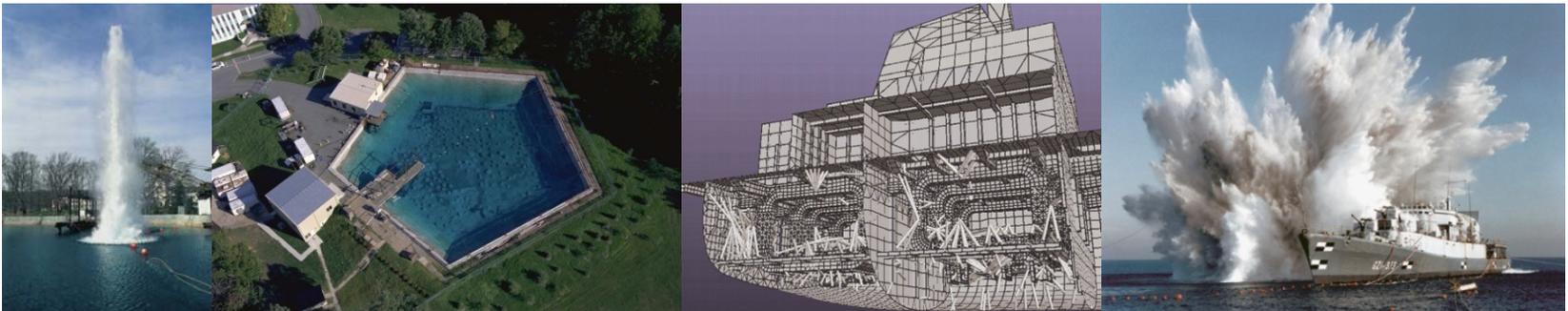
Structures and Composites Division (Code 65)

- Ship Structures
 - RDT&E, S&T, acquisition, and ISE services
 - Validate contractor designs to standards via FEA
 - Develop design methodologies and software tools for surface ships and composite structures
- Submarine Structures & Propulsors
 - RDT&E, S&T, acquisition, and ISE services
 - Validate contractor designs to standards
 - Develop design methodologies and software tools for pressure hulls, composite structures and propulsors
- Performance and Evaluation
 - RDT&E, S&T, acquisition, and ISE services
 - Measure full and model scale test articles
 - 3D measurement capabilities
 - Rough water trials to validate design loads
- Criteria and Assessment
 - RDT&E, S&T, acquisition, and ISE services
 - Develop criteria to assess naval structures
 - Use analytical simulation models to quantify lifetime structural reliability and validate measure responses
- Advanced Materials and Structures
 - RDT&E, S&T, acquisition, and ISE services for composite materials
 - Develop and evaluate composite and lightweight design and evaluations
 - Composite patch repair of cracked alloys

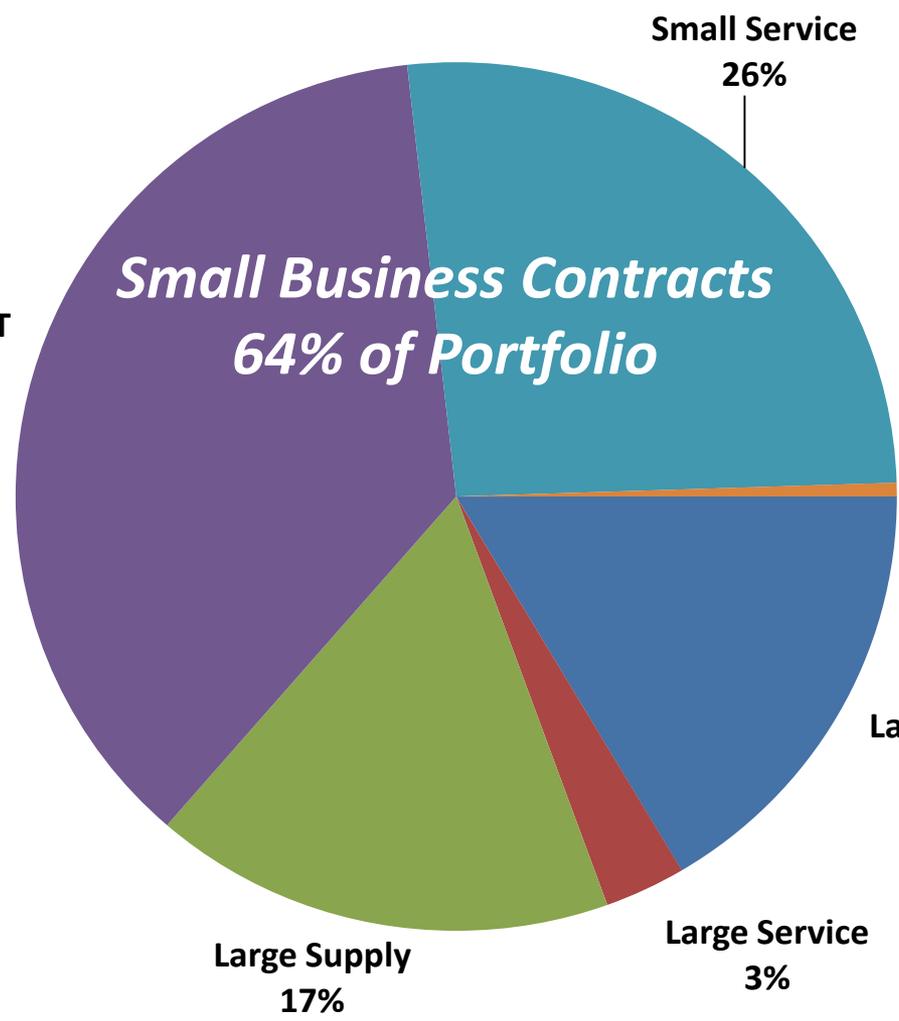


Survivability and Weapons Effect Division (Code 66)

- Underwater Explosions R&D
 - R&D and acquisition support services
 - Improving methods and procedures for shock hardening
 - Provide advanced M&S services to predict damaging effects of UNDEX on surface and submarine hulls
- Dynamic Measurements & Testing
 - RDT&E and acquisition support services
 - Measure dynamic pressure loads of ship and submarine structures
 - Preparing for the LCS-5 and-6 Full Ship Shock trials
 - Validate analytical predictions
- Hull Response & Protection
 - RDT&E, S&T, and acquisition services
 - M&S of ships, subs, and USMC vehicles responses from weapons effects
 - Develop structure, armor, and mitigation techniques to improve survivability
- Vulnerability Assessment
 - Experts in Live Fire Test & Evaluation and Total Ship Survivability Trials
 - M&S to assess primary and secondary damage and recoverability actions
- Survivability and Weapon Effects M&S
 - R&D and eventual acquisition services
 - Developing new MS technologies for advanced weapon effect simulations



Overview of Active Contracts



Type	# of Contracts	% of Total	Total Value
SEAPORT	5	53%	\$164.5M
Service	6	29%	\$90.2M
Supply	9	18%	\$53.8M

Current Service/Supply Contracts

Materials & Manufacturing Division (C/61)				
Contract Title	Total Value	Service/Supply	Contractor	Concludes (Qtr/FY)
Electrochemical Power Sources and Composite Material Engineering Services	\$20.5M	SEAPORT	Spectrum Technology Group	Q3/FY21
U.S. Marine Corp Corrosion and Materials Engineering Services	\$49.2M	SEAPORT	Vision Point Systems	Q3/FY21
U.S. Navy Corrosion Control Assistance Team (CCAT)	\$43.9M	SEAPORT	Excet Inc.	Q2/FY21
Rubber Compound (NXAS126)	\$0.51M	Supply	Burke Industries Inc.	Q4/FY19

Environmental and Energy Division (C/63)				
Contract Title	Total Value	Service/Supply	Contractor	Concludes (Qtr/FY)
Full Spectrum Environmental Quality Systems	\$49.8M	SEAPORT	BMT Designers and Planners	Q1/FY21
Thermoluminescent Dosimeter (TLD) Equipment	\$19.9M	Supply	Thermo Eberline Inc.	Q2/FY20
8800 Reader Maintenance	\$2.6M	Service	Thermo Eberline Inc.	Q3/FY19
Air Particle Sampler	\$1.6M	Supply	Spectral Labs	Q3/FY19
Electronic Personal Dosimeter (EPD) IDIQ	\$4.6M	Supply	Thermo Eberline Inc.	Q3/FY19
Tool Contamination Monitor (Shore)	\$1.4M	Supply	Canberra Industries	Q2/FY18
Air Particle Detector (APD) – Ships	\$20.0M	Supply	SAIC/Leidos	Q1/FY18
Air Particle Detector (APD) -- Shore	\$1.9M	Supply	Canberra Industries	Q4/FY17
Tool Contamination Monitor (Shipboard)	\$0.3M	Supply	Canberra Industries	Q4/FY17

Current Service/Supply Contracts

Structures and Composites Division (C/65)				
Contract Title	Total Value	Service/Supply	Contractor	Concludes (Qtr/FY)
Composite Systems for Marine Components (SBIR Phase III)	\$49.9M	Service	Seemann Composites Inc.	Q3/2020
Non Destructive Testing and Evaluation (SBIR Phase III)	\$24.5M	Service	Materials Sciences Corp	Q3/FY20

Survivability and Weapons Effect Division (C/66)				
Contract Title	Total Value	Service/Supply	Contractor	Concludes (Qtr/FY)
Engineering Services for Software Development and Shock Assessments	\$5.9M	Service	Thorton Tomasetti Inc.	Q4/FY21
Data Recording Equipment and Calibration/Repair	\$3.6M	Service	Pacific Instruments Inc.	Q2/FY20
Survivability Technical Services	\$6.6M	Service	T. Carroll Associates	Q3/FY18

Competitive Contract Requirements

Division	Contract Title	Estimated Value	Service/Supply	Anticipated Announcement (Qtr/FY)
66	Engineering Services for Advanced Survivability Assessment Program (ASAP)	\$3.7M	Service	Q3/FY17
66	Advanced Modeling & Simulation Engineering Services	\$2.4M	Service	Q1/FY18
66	Survivability Technical Services	\$7.0M	Service	Q1/FY18
63	Radiation Air Particle Detector (APD) Ships	\$6.0M	Supply	Q2/FY18
66	Engineering Services for Underwater Shock Analysis and Testing Applications	\$5.0M	Service	Q3/FY18