

INTRODUCTION

Marine Systems Corporation (MSC) is pleased to offer more than thirty-four (34) years of exemplary experience in providing Marine Engineering and Design Support Services to the marine industry. As a result, MSC personnel understand the need to provide the customer with experienced, cost effective support with short lead-times. Marine Systems is confident that it offers the **BEST VALUE** in contractor support. A brief follows to introduce you to MSC's organization and capabilities.

HISTORY AND ORGANIZATION AND QUALIFICATIONS

MSC is a **Service-Disabled Veteran-Owned Small Business (SDVOSB)** Marine Engineering and Design Firm which was incorporated in Massachusetts in September 1973. MSC was organized to provide integrated planning, engineering, design and testing services in support of: construction, repair, alteration, maintenance and logistic programs of the marine industry. Today, MSC successfully supports a wide array of private and public industries in: Architectural, Structural, Civil, Mechanical and Electrical disciplines. The scope of services encompasses all Hull, Mechanical and Electrical (HM&E) systems and covers the following areas: Conceptual, Preliminary and Detailed Design, Engineering, Analysis, Assessment of Condition, Integrated Logistic Support, Test and Evaluation, Shipboard Installation Support, Cost Estimating of Alterations and Repairs, Specification Development, Technical Documentation (Interactive Electronic Technical Manual (IETM)) and On-Site Technical Engineering.

Since its inception MSC has provided top quality engineering and technical services for: the U.S. Navy, Coast Guard, Military Sealift Command, Maritime Administration, Department of Transportation, General Services Administration, Massachusetts Steam Ship Authority, private shipyards and ship owners.

For the U.S. Navy Marine Systems has provided efficient, cost effective services and held thirty-nine (39) prime Engineering and Technical Services Contracts during the past thirty-four (34) years. MSC is the current Engineering/Design support contractor for Puget Sound Naval Shipyard Detachment Boston (PSNS DET Boston), which is the Expanded Planning Yard for: Amphibious type ships, the Surface Effect LCAC class, large and small Service Craft, Yard Craft and Barges. The company currently supports the Mid-Atlantic Regional Maintenance Center (MARMC) with HM&E inspections on several classes of U.S. Navy Ships.

EXPERIENCE SUMMARY

MSC's combined corporate and personnel experience of thirty-four (34) years has been in support of submarines and a multitude of surface vessels including: AS, BB, CV, CG, DD, DDG, LCC, LHA, LHD, LPD, LSD, LCU, LCAC, FFG, PHM, T-AGS, T-AGOS, AGOR, WPB, WLIC, WLR, WTGB, barges, lighters and passenger/vehicle ferries. MSC's experience includes HM&E ship systems such as: Foundations, Tanks, Pressure Vessels, Propulsion Systems, HVAC, Piping, Plumbing, Sewage, Power, Lighting, Distribution, Interior/Exterior Communications, C4I, Weapons, Sonar and Radar.

The company is experienced in every aspect of: Engineering, Preparation of Working Drawings, Studies, Specifications and other Design Documentation and Data. Marine Systems' corporate experience includes the broad range of disciplines required to support contracts encompassing: Program Management, Structural/Engineering, Mechanical/Marine Engineering, Electrical/Electronic Engineering, Engineering Management, Computer Analysis/Programming, Quality Assurance, Logistics Support, Machinery Design and Re-Engineering to SI (metric) units. MSC's Design Engineering Support and Services include but are not limited to such tasks as the following:

1. MARINE/MECHANICAL ENGINEERING

- Propulsion and Auxiliary Systems
- Engineering studies and calculations
- Firemain design and calculations
- Fire Protection Systems
- Ballasting Systems
- Fluid Systems design and analysis
- Heating, Ventilation and Air Conditioning (HVAC) Systems design/analysis
- Boat Crane modifications
- AFFF upgrade modifications
- Computer Aided Design (CAD)

2. STRUCTURAL ENGINEERING

- Structural design, analysis and drafting for hull components
- Naval Architecture
- General Arrangements, Outfitting and Furnishing
- Engineering studies and calculations
- Finite Element Analysis (FEA)
- 3-D Modeling/Mapping
- Cargo Handling and Stowage Systems
- Weight and Moment reports and calculations
- Inclining Experiments and Stability calculations
- Performance Testing of Anchor and Steering Systems
- Computer Aided Design (CAD)

3. ELECTRICAL ENGINEERING

- Power Generating Systems analysis and design (SSTG upgrades)
- Secure/Unsecure Computer Networks design
- Power Distribution Systems surveys, analysis and design
- Lighting Systems design and upgrades
- Communications and Alarm Systems designs and upgrades
- Load, Voltage Drop and Fault Current analysis
- Battery Shop design
- Replace Pathfinder Radar with SPS 67 Navigation Radar
- Computer Aided Design (CAD)

4. TECHNICAL MANUALS

- Legacy Manual conversion
- New Technical Manual development
- IETM Web-Site maintenance
- IETM Technical updates
- IETM Publishing

The following is a sample of recent design tasks for the U.S. Navy:

- Development of modularization features for the CVN-21
- C4I (IT-21, HFRG, RADDs, ADNS, JTIDS)
- LCC 19 Structural and Electrical Shipcheck and drawing preparation
- LCAC Support System installation and SLEP Technical Manuals
- LPD 15 SSR, Booklet of General Plans and Docking Drawing Updates
- APL 4, 15, YRB 35, YRBM 38, 39 and 44 Berthing and Messing Arrangements, Structural, Piping, Vent, Power, Light and IC modifications