

Contract Number: GS10F0181V

Professional Engineering Services

FSC Group 871

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|------------------------|---|
| Special Item No. 871-1 | Strategic Planning for Technology Programs/Activities |
| Special Item No. 871-2 | Concept Development and Requirement Analysis |
| Special Item No. 871-3 | System Design, Engineering and Integration |
| Special Item No. 871-4 | Test and Evaluation |
| Special Item No. 871-5 | Integrated Logistics Support |
| Special Item No. 871-6 | Acquisition and Life Cycle Management |
| Special Item No. 871-7 | Construction Management |



U.S. GENERAL SERVICES ADMINISTRATION **Worldwide Federal Supply Schedule Contract**

Contract Number: GS10F0181V
Effective 9/17/14
Contract Period: 5/13/2009 - 5/12/2019

Contract Administrator: Richard Fernandes
Small Business, Veteran-Owned



70 Essex Street • Mystic, CT 06355
[860] 536-0009 • <http://www.JMSnet.com> • RickF@JMSnet.com

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1. GSA FEDERAL SUPPLY SCHEDULE TERMS AND CONDITIONS

FSC class(es): 871-1, 871-2, 871-3, 871-4, 871-5, 871-6, and 871-7

Contract Number: GS10F0181V

Contract Period: 5/13/09 – 5/12/19

Contractor's Name: JMS Naval Architects, LLC

Contractor's Address: JMS Naval Architects
Attn: Rick Fernandes
70 Essex Street
Mystic, CT 06355

Phone Number: 860-536-0009 x102

Mobile Number: 860-662-0057

Fax Number: 860-536-9117

Email: RickF@JMSnet.com

Business Size: Small Business, Veteran Owned

DUNS Number: 079-190-297

Taxpayer No.: 46-4056050

Cage Code: 1BJX7

System for Award Management (SAM) Registered

Website: www.JMSnet.com

1. See Table of Contents of this Price List

2. Maximum Order Limitation: \$1,000,000.00

(Orders may exceed this amount however; this is the threshold where ordering activities may seek a price reduction.)

3. Minimum Order: \$100.00

4. Geographic Coverage (delivery area): Domestic and overseas delivery

5. Point(s) of Production: 70 Essex Street, Mystic, CT 06355

6. Discount from List Prices or Statement of Net Price: May be negotiated at task order level

7. Other Discounts: None

8. Prompt Payment Terms: None

9a. Government Commercial Credit Card will be accepted equal to or less than the micro-purchase threshold.

9b. Government Commercial Credit Card will be accepted over the micro-purchase threshold.

10. Foreign items: Not applicable

11a. Delivery schedule will be negotiated at the task order level

11b. Expedited delivery: Not applicable

11c. Overnight and 2-day delivery: Both overnight and 2-day delivery is available

11d. Urgent requirements: Per contract clause I-FSS-14-B, agencies can contact JMS to obtain faster delivery

12. F.O.B. point(s): Destination

13a. Ordering Address: JMS Naval Architects
Attn: Richard Fernandes
70 Essex Street
Mystic, CT 06355

Phone Number: 860-536-0009 x102
Mobile Number: 860-662-0057
Fax Number: 860-536-9117
Email: RickF@JMSnet.com

13b. Ordering procedures: For supplies and services, the ordering procedures, information on blanket purchase agreements (BPAs), and a sample BPA can be found at the GSA/FSS schedule homepage (fss.gsa.gov/schedules).

14. Payment Address: JMS Naval Architects
Attn: Accts. Receivable
70 Essex Street
Mystic, CT 06355

15. Warranty provision: Not applicable

16. Export packing charges: Not applicable

17. Terms and conditions of Government purchase card acceptance (any thresholds above the micro-purchase level). Not applicable

18. Terms and conditions of rental maintenance, and repair: Not applicable

19. Terms and conditions of installation: Not applicable

20a. Terms and conditions of repair parts: Not applicable

20b. Terms and conditions for any other services: Not applicable

21. List of service and distribution points: Not applicable

22. List of participating dealers: Not applicable

23. Preventative maintenance: Not applicable

24a. Special attributes such as environmental attributes: Not applicable

24b. If applicable, indicate that Section 508 compliance information is available on Electronic and Information technology (EIT) supplies and services and show where full details can be found (e.g. contractor's website or other location.) The EIT standards can be found at www.Section508.gov/: Not applicable

2. CORPORATE EXPERIENCE

JMS Naval Architects, founded in 1987, is a specialty maritime engineering firm with expertise in naval architecture, marine engineering, shipboard operations, salvage engineering, towing, and ships husbandry. We have successfully completed a wide range of surveying, naval architecture, and marine engineering projects for commercial and government clients representing all aspects of the marine industry. We maintain a full time staff of surveyors, naval architects, and engineers with unique qualifications related to research vessels. JMS engineers and naval architects have the advantage of sea-going and vessel operations experience. Our ability to relate to vessel crews, shipyard laborers, and technical representatives from the Navy, Coast Guard or classification societies is an important aspect of providing the most comprehensive survey. All of our naval architects have considerable experience with regulations and standards of classification societies, U.S. Coast Guard, NAVSEA, and SOLAS.

Naval Architecture Services: JMS has successfully completed a wide range of naval architecture and marine engineering projects for commercial and government clients representing all aspects of vessel operations, design, maintenance, and repair. JMS engineers provide naval architecture, marine engineering, and salvage engineering assistance for repairs, modifications, and new installation of shipboard systems. JMS engineers act as liaisons between vessel operators and shipyards for design, conversion work, ship life extension work, and other marine related services. JMS naval architects combine operational experience and technical expertise for traditional naval architecture services including:

- Preliminary and Concept Design
- Computer Aided Design and Engineering
- Structural and Stability Analysis
- Computerized Loading Programs
- Ship Inclinations
- Repair Plan Specification
- Owners Representation
- Shipyard Oversight
- Repowering
- Marine Engineering
- Finite Element Analysis
- Expert Witness Testimony
- Marine Casualty Investigation
- Regulatory Assessment

Shipyard Support: JMS has a broad client base representing all aspects of the marine industry including shipyards, marine science institutes, tug and barge operators, military vessels, and historic ships. Many of these customers operate or repair older vessels and rely on JMS to provide repair plans, structural analyses, or damaged stability reports. The repair plans developed by JMS reflect the true capability of the workforce and the limited infrastructure often available. JMS offers shipyards and ship owners full design capability and work package specifications. JMS' range of expertise also encompasses launching and dry docking support, facility engineering support, and owner's representation services for construction or repair projects. JMS provides all phases of naval architecture/engineering support including specification development, design, plan review, regulatory body liaison, change order negotiation, and on-site inspection. JMS partners with shipyards to offer complete design/build capability. These relationships provide JMS personnel with specialized shipyard experience resulting in a more efficient engineering to fabrication process.

Marine Surveying and Vessel Operations Support: JMS routinely conducts hull, mechanical, and electrical inspections for its diverse customer base. JMS personnel are certified by the American Waterways Operators (AWO) as Responsible Carrier Program (RCP) auditors and the Society of Marine Surveyors (SAMS). Surveys include:

- Structural assessments of aging vessels for steel renewal and overhaul planning
- Condition surveys of ships, barges and dry docks for pre-acquisition or insurance purposes
- Research vessel assessments of ability to conduct oceanographic research
- Vessel safety inspections to assist owners in preparing for U.S. Coast Guard inspections
- Audits of safety management systems
- Accident investigation and marine forensic engineering surveys
- Assessments of vessel and port facility security

Accident Investigation and Forensic Engineering: JMS has performed accident investigation and damage analyses for cases involving submarine collisions, amphibious passenger vessel sinkings, and hopper barge structural damage. Expert reports, depositions, and litigation support have been provided in a vessel grounding case and in a lawsuit where an explosion resulted from vessel design defects.

Technical Reports, Manuals and Feasibility Studies: JMS has written numerous operations, technical manuals, and feasibility studies. Subject matter includes cargo handling operations, cargo securing manuals, fire control plans, spill response plans, ballast water management plans, trim and stability books, safety manuals, and training manuals. In addition, JMS has written, revised, and published numerous naval architecture and engineering manuals for both commercial and government clients. Our facilities are well equipped to create documentation and vessel plans including damage surveys, blueprints, technical illustrations, and videos.

Diving Support: JMS owns and operates Divers Institute of Technology (DIT), located in Seattle, WA. DIT is recognized as one of the country's leading commercial diver training schools and is a member of ACDE. The school is fully accredited and offers a 7 month curriculum in surface-supplied and SCUBA modes compliant with commercial diving regulations. Customized training has been developed for major shipyards allowing them to perform mission-critical diving tasks in-house. JMS manages the dive team at Bath Iron Works and has been involved with significant underwater facility refurbishment on ways, piers and seawalls since creating the dive team in 1992. JMS has provided the shipyard with full time dive supervision, project management, diving program safety plans, and diver training.

Salvage and Towing: JMS has specialized expertise in salvage operations and is a member of the American Salvage Association. Naval architecture, diving, and vessel operations expertise combine to create unique qualifications related to marine casualty response. Using computer modeling naval architecture software (HECSALV), JMS engineers provide rapid assessments of ship stability and strength for intact or damaged ships. Through the Emergency Response Network, JMS engineers respond 24 hours a day to provide salvage engineering support for OPA 90 compliance to tanker and barge customers. During salvage evolutions JMS will build a consensus between the owner, Incident Commander, Coast Guard, and on-scene authorities.

Marine Science: Several years ago JMS formed an alliance with the non-profit (501-(c) 3) Ocean Technology Foundation (OTF) whose mission is "to foster excellence in ocean exploration, marine research, and education, and to promote commercial development with an emphasis on underwater activities". JMS provides marine engineering, technical expertise, and staff support to the foundation. OTF together with JMS and other organizations continue to develop national and international programs.

Quality Control: JMS is committed to delivering quality products with highly personalized and responsive service and adheres to internationally recognized ISO 9000:2001 quality standards. JMS maintains an ISO Quality System that is fully documented, available at all times for inspection or audit, and has been certified since 1999 by Intertek Testing Services. JMS proves time and again to provide optimum solutions to customer requirements. Critical to this is careful, detailed, methodical project planning. JMS incorporates extensive industry knowledge and experience to guide the correct, most advantageous, and cost effective project results. The JMS Quality Systems Manual provides guidance, procedures, and work instructions which govern all projects. Work is assigned, accomplished, and reviewed according to documented rules. Experienced personnel perform assignments only after proven training qualification. Project managers follow a step by step JMS Quality Plan Record to assure work and deliverables proceed to completion in a verifiable, auditable manner.

Facilities and Resources: JMS' primary offices are located along the Mystic River in downtown Mystic, CT. The historic community is rich in maritime tradition and offers an ideal setting for our marine business. JMS maintains a full suite of engineering and design software. Engineers are proficient in AutoCAD 2005, Rhino and Autodesk 3DS MAX for 3D modeling, HECSALV, CargoMax and GHS for hydrostatic and structural analysis, and Algor for Finite Element Analysis (FEA).

3. QUALITY CONTROL

JMS ISO 9000:2001 Quality Management System: JMS is committed to delivering quality products with highly personalized and responsive service and adheres to internationally recognized ISO 9000:2001 quality standards. JMS maintains an ISO Quality Management System (QMS) that is fully documented, available at all times for inspection or audit, and has been certified and approved without interruption since 1999 by Intertek Testing Services. The JMS QMS is the collective, organized network of procedures, activities, resources, and events that are planned and conducted for the effective operation of JMS's processes to ensure that products and services satisfy customer needs and expectations. The JMS QMS and the processes contained within are defined to enable processes, activities and requirements to be clearly understood, managed and improved. The JMS QMS is established, documented, implemented, maintained and continually improved in accordance with the needs and objectives of JMS and to meet the requirements of ANSI/ASQC Q9001-2000. The JMS Quality Management System: identifies the processes needed for the quality management system and their application throughout the organization; determines the sequence and interaction of these processes; determines criteria and methods required to ensure the effective operation and control of these processes; ensures the availability of information necessary to support the operation and monitoring of these processes; measures, monitors and analyses these processes; implements actions necessary to achieve planned results and continual improvement; ensures that any outsourced processes that affect product or service conformity with requirements are controlled.

Management Responsibilities: JMS Management realizes that leadership, commitment and involvement at all levels are essential for developing and maintaining an effective and efficient quality management system that achieves benefits for the company as well as for its customers, employees, and business partners. Top management establishes policies and strategic objectives consistent with the purposes of the organization and supports all efforts needed to comply with the quality management system, to implement the Quality Policy, and to achieve Quality Objectives. Top management is committed to the development and improvement of the quality management system. Top management ensures that customer needs and expectations are determined, converted into requirements and fulfilled with the aim of achieving and enhancing customer satisfaction. Top management ensures that quality objectives, including any needed to meet product and service requirements, are established at relevant functions and levels of the organization. Quality objectives are measurable and consistent with the quality policy. Top management ensures that responsibilities and authorities are defined and communicated within the organization. In general, all managers and supervisors share the responsibility for establishing and/or attaining relevant quality levels and objectives. All employees are responsible for performing assigned job functions or task assignments in accordance with established procedures and guidelines such that defined standards of quality are achieved. Top management formally designates a Quality Management Representative for the quality management system and manages all levels of quality control at JMS. The JMS Quality Management System Representative is:

Richard Fernandes, JMS QSM Representative
JMS Naval Architects
70 Essex Street
Mystic, CT 06355
860-536-0009 x102
orders@JMSnet.com

Resource Management: JMS management ensures that resources essential to the implementation and achievement of the organization's strategies and objectives, as well as those needed to meet the requirements of the quality management system are identified and made available. These may include people (JMS employees as well as subcontractors), suppliers, information, infrastructure, work environment and financial resources. Managers and supervisors are responsible for ensuring that all personnel assigned to work affecting quality are competent on the basis of applicable education, training, skill and experience, including work provided by vendors and subcontractors as is required by the JMS QSM.

Product Realization: The quality management system is utilized to analyze customer requirements, define the processes that contribute to the achievement of product which is acceptable to the customer, and to keep these processes under control.

Measurement, Analysis and Improvement: The quality management system provides for the measurement and evaluation of products, services, processes, customer satisfaction, and other activities and results related to monitoring and improving organizational performance. Relevant data is, collected, analyzed, summarized and communicated in order to initiate corrective and preventive action as necessary and as a basis for continual improvement.

Internal Audits: Periodic internal audits are conducted to determine whether the quality management system: conforms to the requirements of ANSI/ASQC Q9001-2000 as well as to the requirements established by the organization; is effectively implemented and maintained.

Measurement and Monitoring of Product: At appropriate stages of the product realization process, the characteristics of the product are monitored and measured to verify that requirements for the product have been met. Records are maintained to demonstrate evidence of conformity. Records indicate the person(s) authorizing release of product. Product release and/or service delivery does not proceed until all specified activities have been satisfactorily completed, unless otherwise approved by relevant authority, and, if required, by the customer.

Control of Nonconforming Products: Documented procedures define the controls and related responsibilities and authorities for dealing with nonconforming product. Nonconforming product is identified and controlled to prevent unintended use or delivery. Nonconforming product may be, reworked or otherwise corrected to eliminate the detected nonconformity; authorized for use, release, repair, or acceptance under concession by a relevant authority, including, if required, by the customer, end user, regulatory agency, or other body; precluded from its original intended use or application, and used in an application for which the relevant characteristics are conforming. Product that is reworked, repaired, or otherwise corrected is re-verified to demonstrate conformity. If nonconforming product is detected after delivery or use has started, appropriate actions are taken depending upon the effects or potential effects of the nonconformity.

Analysis of Data: Appropriate data, generated as a result of monitoring and measurement as well as from other sources, is collected and analyzed to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the effectiveness of the quality management system can be made. Analysis of data provides information pertaining to: customer satisfaction; conformity to product requirements; characteristics and trends of processes, products, and opportunities for preventive action and suppliers.

Corrective Action: Actions are taken to eliminate the cause of nonconformities in order to prevent recurrence. Corrective actions taken are appropriate to the impact of the problems encountered. Documented procedures define requirements for: reviewing non-conformities (including customer complaints); determining the causes of nonconformities; evaluating the need for actions to ensure that nonconformities do not recur; determining and implementing the actions needed; recording results of actions taken; reviewing corrective actions taken.

Preventive Action: Preventive actions are determined to eliminate the causes of potential nonconformities in order to prevent occurrence. Preventive actions taken are appropriate to the effects of the potential problems. Documented procedures define requirements for: determining potential nonconformities and their causes; evaluating the need for actions to ensure that nonconformities do not occur; determining and implementing the actions needed; recording results of actions taken; reviewing preventive actions taken.

Continual Improvement: The effectiveness of the quality management system is continually improved through the use of: the JMS Quality Policy; quality objectives; audit results; analysis of data; corrective and preventive actions and frequent management review.

4. AUTHORIZED FEDERAL SUPPLY SCHEDULE PRICE LIST

JMS offers a full range of services to the U.S. Federal Government under the following Special Item Numbers (SIN):

SIN 871-1 Strategic Planning for Technology Programs/Activities

SIN 871-2 Concept Development and Requirements Analysis

SIN 871-3 System Design, Engineering and Integration

SIN 871-4 Test and Evaluation

SIN 871-5 Integrated Logistics Support

SIN 871-6 Acquisition and Life Cycle Management

SIN 871-7 Construction Management

| SINs | SIN Description | Engineering Discipline |
|-------|---|-------------------------------|
| 871-1 | Strategic Planning for Technology Programs/Activity | Civil, Electrical, Mechanical |
| 871-2 | Concept Development and Requirements Analysis | Civil, Electrical, Mechanical |
| 871-3 | System Design, Engineering and Integration | Civil, Electrical, Mechanical |
| 871-4 | Test and Evaluation | Civil, Electrical, Mechanical |
| 871-5 | Integrated Logistics Support | Civil, Electrical, Mechanical |
| 871-6 | Acquisition and Life Cycle Management | Civil, Electrical, Mechanical |
| 871-7 | Construction Management | Civil, Electrical, Mechanical |

| Labor Category | PES Awarded Year 6 | PES Awarded Year 7 | PES Awarded Year 8 | PES Awarded Year 9 | PES Awarded Year 10 |
|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| Principal Engineer | \$164.87 | \$168.01 | \$171.20 | \$174.45 | \$177.77 |
| Engineer 1 | \$153.19 | \$156.10 | \$159.06 | \$162.08 | \$165.16 |
| Project Manager | \$129.80 | \$132.27 | \$134.78 | \$137.34 | \$139.95 |
| Marine Scientist | \$106.40 | \$108.43 | \$110.49 | \$112.58 | \$114.72 |
| Engineer 2 | \$112.25 | \$114.39 | \$116.56 | \$118.77 | \$121.03 |
| Engineer 3 | \$100.57 | \$102.48 | \$104.42 | \$106.41 | \$108.43 |
| Designer | \$85.87 | \$87.50 | \$89.17 | \$90.86 | \$92.59 |

The rates shown above include the Industrial Funding Fee of 0.75% and include a negotiated escalation rate of 1.9% for contract years 2 through 5 in accordance with I-FSS-969(b)(1). Indirect cost rates may be applied to other direct costs (such as travel); subject to negotiation at the task ordering office.

SCA Applicability Statement:

The Service Contract Act (SCA) is applicable to this contract as it applies to the entire Professional Engineering Services (PES) Schedule and all services provided. While no specific labor categories have been identified as being subject to SCA due to exemptions for professional employees (FAR 22.1101, 22.1102 and 29 CFR 541.300), this contract still maintains the provisions and protections for SCA eligible labor categories. If and / or when the contractor adds SCA labor categories / employees to the contract through the modification process, the contractor must inform the Contracting Officer and establish a SCA matrix identifying the GSA labor category titles, the occupational code, SCA labor category titles and the applicable WD number. Failure to do so may result in cancellation of the contract.

5. LABOR CATEGORY DESCRIPTIONS

Principal Engineer

- Education: Bachelor's Degree in engineering from an ABET accredited curriculum plus appropriate continuing education.
- Experience: Significant ownership in the company. Minimum 15 years of experience as an engineer with escalating job responsibilities and increasing project size and engineering complexity, or 10 years of experience plus a Master's Degree or Professional Engineer's registration. This engineer shall have accumulated significant professional experience in marine construction, ship repair, industrial vessel operations, Coast Guard regulations, classification society rules and marine transportation to assure expert skills in ship design and the marine industry. Able to manage project lifecycles, direct other engineers, and ensure implementation of quality process.
- Typical Professional Attainments: Active member of several industry professional organizations such as SNAME and ASNE. Publishes engineering papers and articles in nationally recognized periodicals and forums. Prepares and presents lectures, marketing expositions, and training seminars in national venues.

Engineer 1: Senior Naval Architect/Senior Marine Engineer

- Education: Bachelor's Degree in engineering from an ABET accredited curriculum plus appropriate continuing education.
- Experience: Minimum 15 years of experience as an engineer with escalating job responsibilities and increasing project size and engineering complexity, or 10 years of experience plus a Master's Degree or Professional Engineer's registration. This engineer shall have accumulated significant professional experience in marine construction, ship repair, vessel operations, US Coast Guard regulations, classification society rules and maritime standards to assure expert skills in ship design and the marine industry. Able to manage project lifecycles, direct other engineers, and ensure implementation of quality process.
- Typical Professional Attainments – Active member of several industry professional organizations such as SNAME and ASNE. Publishes engineering papers and articles in nationally recognized periodicals and forums. Prepares and presents lectures, marketing expositions, and training seminars in national venues.

Project Manager

- Education: Bachelor's Degree from an ABET accredited curriculum plus appropriate continuing education.
- Experience: Minimum 15 years of experience in the marine field with escalating job responsibilities and increasing project size and project complexity. This individual shall have accumulated significant professional experience in marine construction, ship repair, vessel operations, US Coast Guard regulations, classification society rules and maritime standards to assure expert skills in the marine industry. Able to manage project lifecycles, direct engineers and designers, and ensure implementation of quality process.
- Typical Professional Attainments: Active member of several industry professional organizations such as SNAME and ASNE. Publishes papers and articles in nationally recognized periodicals and forums. Prepares and presents lectures, marketing expositions, and training seminars in national venues.

Engineer 2: Naval Architect/Marine Engineer

- Education: Bachelor's Degree in engineering from an ABET accredited curriculum plus appropriate continuing education.
- Experience: Minimum 5 years of professional experience as an engineer or naval architect. This engineer shall have accumulated sufficient professional experience in marine construction, ship repair, vessel operations, US Coast Guard regulations, classification society rules and maritime standards to assure competency in ship design and shipyard operations. Able to manage project lifecycles, direct other engineers, and ensure implementation of quality process.

- Typical Professional Attainments: Active member of industry professional organizations such as SNAME and ASNE. Publishes engineering papers and articles in nationally recognized periodicals and forums. Participates in lectures, marketing expositions, and training seminars in national venues.

Engineer 3: Junior Naval Architect/Marine Engineer

- Education: Bachelor's Degree in engineering from an ABET accredited curriculum plus appropriate continuing education.
- Experience: No post-degree experience needed. Able to follow directions and independently carry out engineering and design calculations. Familiar with Coast Guard regulations, classification society rules and maritime standards. Competent in a variety of engineering and design software packages.
- Typical Professional Attainments: Active member of industry professional organizations such as SNAME and ASNE. Participates in lectures, marketing expositions and training seminars in national venues.

Marine Scientist

- Education: Bachelor's Degree in marine science from an ABET accredited curriculum, or 5 years of professional experience as marine scientist without a degree, plus appropriate continuing education.
- Experience: Minimum 5 years professional experience as a marine scientist. This individual shall have accumulated sufficient professional experience in marine science, environmental management, maritime policy, oceanography, US Coast Guard regulations and maritime standards to assure competency in marine science and regulatory issues. Able to manage project lifecycles, direct other engineers, and ensure implementation of quality process.
- Typical Professional Attainments: Active member of industry professional organizations such as MTS, SNAME and ASNE. Publishes papers and articles in nationally recognized periodicals and forums. Participates in lectures, marketing expositions, and training seminars in national venues.

Designer

- Education: Graduate of a high school, trade school, or community college vocational education program in engineering technology, drafting, industrial design technology, engineering graphics, or other related program.
- Experience: Minimum 5 years professional experience as a designer. No post-degree experience needed. Able to independently carry out design tasks using a variety of design software packages. Familiar with Coast Guard regulations, classification society rules, and maritime standards.

6. SERVICES OFFERED

JMS Naval Architects, founded in 1987, is a specialty maritime engineering firm with expertise in naval architecture, marine engineering, shipboard operations, salvage engineering, towing, and ships husbandry. We have successfully completed a wide range of surveying, naval architecture, and marine engineering projects for commercial and government clients representing all aspects of the marine industry. We maintain a full time staff of surveyors, naval architects, and engineers with unique qualifications related to research vessels. JMS engineers and naval architects have the advantage of sea-going and vessel operations experience. Our ability to relate to vessel crews, shipyard laborers, and technical representatives from the Navy, Coast Guard or classification societies is an important aspect of providing the most comprehensive survey. All of our naval architects have considerable experience with regulations and standards of classification societies, U.S. Coast Guard, NAVSEA, and SOLAS.

JMS has successfully completed a wide range of naval architecture and marine engineering projects for commercial and government clients representing all aspects of vessel operations, design, maintenance, and repair. JMS engineers provide naval architecture, marine engineering, and salvage engineering assistance for repairs, modifications, and new installation of shipboard systems. JMS engineers act as liaisons between vessel operators and shipyards for design, conversion work, ship life extension work, and other marine related services. JMS naval architects combine operational experience and technical expertise for traditional naval architecture and related services including:

- Preliminary and Concept Design
- Computer Aided Design and Engineering
- Structural and Stability Analysis
- Computerized Loading Programs
- Ship Inclinations
- Repair Plan Specification
- Owners Representation
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- Repowering
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- Finite Element Analysis
- Expert Witness Testimony
- Marine Casualty Investigation
- Regulatory Assessment
- Shipyard Support
- Marine Surveying and Vessel Operations Support
- Accident Investigation and Forensic Engineering
- Technical Reports, Manuals and Feasibility Studies
- Diving Support
- Salvage and Towing
- Marine Science

PRIMARY ENGINEERING DISCIPLINES

JMS provides services within three of the four primary engineering disciplines (PEDs) in the engineering field and subsequently many of sub-disciplines or specialties associated with the engineering disciplines of the GSA Professional Engineering Services (PES) Schedule.

Civil Engineering:

JMS services as they relate to vessels include, but are not limited to: planning, evaluation, design, consultation and management of operations, production, construction, alteration, repair, surveying, processing or assembling of new and existing vessels, equipment and subsystems, including heating, ventilation and air-conditioning.

Electrical Engineering:

JMS services as they relate to vessels include, but are not limited to: planning, design, development, evaluation, consultation and management of operations and vessel systems and sub-systems, and as such, electrical principles, models and processes. These general electrical engineering services include, but are not limited to: evaluation, design, consultation and management of: fabrication, measurement and operation of electrical devices, equipment, systems and sub-systems.

Mechanical Engineering:

JMS services as they relate to vessels include, but are not limited to planning, design, development, evaluation, consultation and management of operations and control of systems and components involving the production and transfer of energy and with the conversion of one form of energy to another. These general mechanical engineering services include, but are not limited to: planning and evaluation of power plants, analysis of the economical combustion of fuels, conversion of heat energy into mechanical energy, use of mechanical energy to perform useful work, analysis of structures and motion in mechanical systems, and design/specification development.

HOW JMS SUPPORTS EACH SPECIAL ITEM NUMBER (SIN)**871-1 Strategic Planning for Technology Programs/Activities**

JMS services provided under this SIN involve the definition and interpretation of high level organizational engineering performance requirements such as projects, systems, missions, etc., and the objectives and approaches to their achievement. Typical associated tasks include, but are not limited to:

- Analysis of missions
- Program goals and objectives
- Requirements analysis
- Organizational performance assessments
- Special studies and analyses
- Related training and general consultation

Since 1987, JMS has successfully completed a wide range of tasks as they relate to vessels involving, high level mission analysis, program goals & objectives, requirements analysis, organizational & operational assessment, special studies, training and general expert consultation. JMS has performed such strategic planning tasks for commercial and government clients representing all aspects of the marine industry. JMS maintains a full time staff of surveyors, naval architects, and engineers with unique qualifications related to research vessels. JMS engineers and naval architects have the advantage of sea-going and vessel operations experience. Their ability to relate to vessel crews, shipyard laborers, and technical representatives from the Navy, Coast Guard or classification societies is an important aspect of providing the most comprehensive survey and analysis. All of our naval architects have considerable experience with regulations and standards of classification societies, U.S. Coast Guard, NAVSEA, and SOLAS. General JMS services provided under this SIN include:

Marine Surveying and Vessel Operations Support: JMS routinely conducts hull, mechanical, and electrical inspections for its diverse customer base and provides expert-level analysis and consultation based on the results of their findings. JMS personnel are certified by the American Waterways Operators (AWO) as Responsible Carrier Program (RCP) auditors and the Society of Marine Surveyors (SAMS).

- Structural assessments of aging vessels for steel renewal and overhaul planning
- Condition surveys of ships, barges and dry docks for pre-acquisition or insurance purposes
- Research vessel assessments of ability to conduct oceanographic research
- Vessel safety inspections to assist owners in preparing for U.S. Coast Guard inspections
- Audits of safety management systems
- Accident investigation and marine forensic engineering surveys
- Assessments of vessel and port facility security

Accident Investigation and Forensic Engineering: JMS has performed accident investigation and damage analyses for cases involving submarine collisions, amphibious passenger vessel sinkings, and hopper barge structural damage. Expert reports, depositions, and litigation support have been provided in a vessel grounding case and in a lawsuit where an explosion resulted from vessel design defects.

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Marine Science: In 1996 JMS formed an alliance with the non-profit (501-(c) 3) Ocean Technology Foundation (OTF) whose mission is “to foster excellence in ocean exploration, marine research, and education, and to promote commercial development with an emphasis on underwater activities”. JMS provides marine engineering, technical expertise, and staff support to the foundation. JMS’ alliance and experience with OTF affords a visionary perspective of the marine industry. OTF together with JMS and other organizations continue to develop national and international programs that include:

- Restoration of the American Lobster population in Rhode Island, in cooperation with Rhode Island’s Department of Environmental Management, NOAA’s National Marine Fisheries Service, the U.S. Fish & Wildlife Service, commercial lobstermen, and insurance companies – a program resulting from the 1996 NORTH CAPE oil spill along the Rhode Island coast.
- A long term and comprehensive “Science, Education, and Marine Archeology Program in Portugal” (SEMAPP) in partnership with academic, business, government, and non-profit institutions
- JMS is providing engineering and technical support to the Ocean Technology Foundation’s (OTF) to locate the remains of this historic naval warship Bonhomme Richard including the development of the team’s search area based on computer drift simulations

871-2 Concept Development and Requirements Analysis

JMS has successfully completed concept development and requirements analysis projects covering all aspects of vessel operations, design, construction, maintenance, and repair. JMS services provided under this SIN involve concept-level naval architecture, marine engineering, requirements analysis, cost/cost performance trade-off analysis, feasibility analysis, regulatory compliance support, technology/system conceptual designs, salvage engineering assistance for repairs, modifications, and new installation of shipboard systems and general expert consultation for all of these areas. JMS naval architects combine their extensive operational experience and technical expertise to analyze and develop unique and customized solutions for their clients. JMS engineers act as liaisons between vessel operators and shipyards for concept-level design, conversion work, ship life extension work, and other marine services and related requirements analysis.

871-3 System Design, Engineering and Integration

JMS services provided under this SIN involve the translation of system concepts (or subsystem, program, project, activity) into preliminary and detailed designs (engineering plans and specifications), performing risk identification/analyses, mitigation, traceability, and then integrating the various components to produce working prototypes or models of the systems. All of our naval architects have considerable experience with regulations and standards of classification societies, U.S. Coast Guard, NAVSEA, and

SOLAS. JMS naval architects combine operational experience and technical expertise for traditional naval architecture services including:

- Preliminary and detailed design
- High level detailed specification preparation
- Computer Aided Design and engineering
- Computerized vessel loading programs
- Repair plan specification
- Repowering specification
- General Marine Engineering specification
- Regulatory compliance
- Configuration design
- Management
- Document control
- Fabrication assembly design
- Simulation
- Modeling
- Deck-plate naval architecture and marine engineering

871-4 Test and Evaluation

JMS naval architects, marine engineers, marine scientists and related staff combine their extensive operational experience and technical expertise to provided services under this SIN involving the application of various techniques demonstrating that a prototype system (subsystem, program, project or activity) performs in accordance with the objectives outlined in the original design. Typical associated tasks include, but are not limited to testing of a prototype and first article(s) testing, environmental testing, independent verification and validation, reverse engineering, simulation and modeling (to test the feasibility of a concept), system, quality assurance, physical testing of the product system, training, and general consultation. JMS performs test and evaluation tasks such as, but not limited to:

- Structural and Stability Analysis
- Ship Inclinations
- Repowering, refit, redesign evaluation
- Post-shakedown evaluation
- Marine engineering, crew and operations evaluation
- Finite Element Analysis
- Regulatory Compliance
- Testing of a prototype and first article(s) testing
- Environmental testing
- Independent verification and validation
- Reverse engineering
- Simulation and modeling to test concept or system feasibility
- Quality assurance
- Physical testing of the product system
- Overall efficiency of vessel and/or subsystems
- Training
- Consulting

871-5 Integrated Logistics Support

JMS services provided under this SIN involve the analysis, planning and detailed design of all engineering specific logistics support including material goods, personnel, and operational maintenance,

repair of systems, and integration of all of these systems throughout their lifecycles. Typical associated tasks include, but are not limited to ergonomic/human performance analysis, feasibility analysis, logistics planning, requirements determination, policy standards/procedures development, long-term reliability and maintainability, training, and consulting.

871-6 Acquisition and Life Cycle Management

JMS services provided under this SIN involve all planning, budgetary, contract and systems/program management functions required to procure and or/produce, render operational and provide life cycle support (maintenance, repair, supplies, engineering specific logistics) to (technology based) systems, activities, subsystems, projects, etc. Typical associated tasks include, but are not limited to:

- Operation and maintenance support
- Program/project management
- Technology transfer/insertion
- Training
- Consultation

871-7 Construction Management

JMS has a broad client base representing all aspects of the marine industry including shipyards, marine science institutes, tug and barge operators, military vessels, and historic ships. Many of these customers operate or repair older vessels and rely on JMS to provide repair plans, structural analyses, or damaged stability reports. The repair plans developed by JMS reflect the true capability of the workforce and the limited infrastructure often available. JMS offers shipyards and ship owners full design capability and work package specifications. JMS' range of expertise also encompasses launching and dry docking support, facility engineering support, and owner's representation services for construction or repair projects. JMS provides all phases of naval architecture/engineering support including specification development, design, plan review, regulatory body liaison, change order negotiation, and on-site inspection. JMS partners with shipyards to offer complete design/build capability. These relationships provide JMS personnel with specialized shipyard experience resulting in a more efficient engineering to fabrication process. JMS provided services under this SIN involving:

- Construction Management to advise or manage the process over the project
- Professional advisement or extension of agency staff
- Identifying best project delivery methods
- Expert advice of decisions in the project implementation
- Design technical reviews
- Code compliance reviews
- Constructability reviews
- Analysis of Value Engineering proposals
- Preparation of cost estimates (including independent check estimates)
- Cost analysis, cost control/monitoring
- Energy studies
- Utility studies
- Site investigations
- Site surveys
- Scheduling
- Preparation of schedules and their reviews
- Review of design scope changes (including analysis of schedule impact)
- Scheduling/conducting/documenting design related meetings

- All shipyard on-site and off-site owner's representative services recognized by the marine industry
- Training
- Consulting