

## **Functional Area:**

### **3.1 - Research and Development Support Experience**

Under SYS' GSA Professional Engineering Support contract, GS-23F-0081L, SYS supported Virtual Training At Sea, Deployable Prototype, and confirmed technical feasibility in a 30-day demonstration at NSWC, Dahlgren Division using existing technology and demonstrated capability to support Naval Surface Fire Support (NSFS) constructive training and live (qualification) firings. The three systems integrated were Battle Force Tactical Trainer (BFTT), Integrated Maritime Portable Acoustic Scoring and Simulator (IMPASS) and the Forward Observer function from the Marine Corps Indoor Simulated Marksmanship Trainer-Enhanced (ISMT-E). Based on demonstration success, procurement of three deployable prototype systems for fleet delivery were directed for evaluation.

Under the PHD NSWC Advanced Underway Replenishment Contract (N63394-02-D-1250), SYS is providing Research and Development services for concept exploration and development of a test-site mock up for development of the NAVSEA Advanced Underway Replenishment System, also known as Heavy UNREP. Under this developmental concept, SYS is supporting the Design Agent for UNREP in the introduction of a new system into the UNREP Fleet.

Our leading engineer for the Virtual Training at Sea effort has more than 30 years experience providing engineering, technical and test and evaluation experience for the US Navy.

As a 19-year incumbent providing Engineering and Logistics support to Underway Replenishment, SYS has a team of qualified in-house people in place to support this effort. Our people have the qualifications to support both design and development of advanced UNREP systems and to provide in-service engineering support.

### **3.2 - Engineering, System Engineering and Process Engineering Support Experience**

Under our GSA PES contract SYS provides system engineering support for Battle Force Tactical Trainer and Navy Combat Systems in support of PEO IWS. Support includes hardware and software design, interface, integration and resolution of technical issues.

SYS lead engineer on this effort has extensive engineering experience of more than 28 years experience in the Navy and as a support contractor.

### **3.3 - Modeling, Simulation, Stimulation, and Analysis Support Experience**

Under the PHD NSWC Management, Planning, Analysis and Administration Contract, N63394-00-D-1227, SYS employs Modeling and Simulation tools to support PHD NSWC Integrated Ship Defense Department engineering, integration, test and evaluation, events and exercises for various ship classes. Simulations incorporate environmental, radar and combat system element models to support Combat System Ship Qualification Trials and other test events in the areas of scenario builds and executions, timeline script development, prediction of tracking and firing run results, preparations of pre-test and post-run comparison analysis.

SYS lead in modeling and simulation has over 30 years experience in Navy combat and weapons systems including more than 20 years of active Naval service.

### **3.4 - Prototyping, PreProduction, Model Making, and Fabrication Support Experience**

Under the SYS GSA PES contract SYS, provided prototyping services in support of BFTT participation requirements with the Missile Defense Agency (MDA). SYS personnel researched, procured, engineered and

integrated the necessary components to produce a portable COTS based remote control device (terminal) and antenna which provided connectivity between the ship and shore sites participating in the exercise.

Under the Advanced UNREP Engineering Contract and under previous UNREP contracts at PHD NSWC, SYS provides engineering and technical services to develop and fabricate mockups and prototypes for new design concepts and design modifications to underway replenishment equipment. Prototypes are developed from engineering sketches or drawings and fabrication requires burning, welding and machining services. Testing of prototype equipment is also required.

SYS personnel collectively provide several decades of data communications experience for both terrestrial and space based telecommunications mediums utilized to support Navy, Joint and Allied prototype requirements. These personnel are experienced in researching and developing solutions required to achieve interoperability between the various topologies utilized by US military services (Army, Air Force, Navy) and allied countries.

As a 21-year incumbent providing Engineering and Logistics support to Underway Replenishment, SYS has a team of qualified in-house people in place to support this effort. Our people have the qualifications to support both design and development of advanced UNREP systems and to provide in-service engineering support.

### **3.5 - System Design, Documentation and Technical Data Support Experience**

Under subcontract NAVSEA MAC PSS Contract, N00024-01-D-7022, SYS is developing Combat System Operational Sequencing System documentation for the BFTT program in support of PMS 405.

SYS is providing engineering support for the development of Non-AEGIS CSOSS procedures and documentation in support of PMS 430. We provide technical interface support to Active Fleet ships for CSOSS and Technical Operations Sequencing System documentation and in support of shipboard, portable, and shore-based testing and training systems (BFTT; Battle Force Electronic Warfare Trainer; Trainer, Stimulator-Simulator System; Multi-Mission Tactical Trainer; Mobile Combat Systems Trainer; and Tactical Advanced Simulated Warfare Integrated Trainer).

SYS technical lead in developing BFTT CSOSS has over 20 years experience in the development of technical documentation using Navy and DoD standards for military documentation.

SYS lead analyst in this effort has more than 20 years experience in development technical documents for Navy customers. His responsibilities in the CSOSS program include authoring, delivery and validation of CSOSS procedures and diagrams.

### **3.6 - Software Engineering, Development, Programming, and Network Support Experience**

Under tasking from the Naval Facilities Expeditionary Logistics Center, Port Hueneme under our GSA Information Technology Services contract, SYS provided programming services to develop an Oracle database called Table of Allowance and Assessments Reporting System (TOAARS) for Table of Allowance asset tracking. TOAARS is currently updated quarterly and distributed via machine-readable and/or hard copy format to various sites for management and budgeting purposes.

To support this program, SYS has increased its software development capabilities through recruiting additional staff to meet the specialized needs and increasing scope of this program. For the initial effort we obtained Oracle development expertise and added more programmers for support.

### **3.7 - Reliability, Maintainability, and Availability (RM&A) Support Experience**

**Subcontractors** provide Reliability, Maintainability, and Availability Support services for USW systems in support of PEO IWS5B. Provide personnel to support USW maintenance engineering efforts. Efforts

performed include; review systems, equipment, and logistics products being developed to ensure compliance with established program supportability and maintainability plans and directives; review Failure Reporting and Corrective Action System (FRACUS), Open Architecture Retrieval System (OARS) and similar data to determine equipment failure trends and develop recommendations to improve performance; evaluate ILS products supporting fielded USW systems to determine reliability, supportability, and operational availability requirements established by ship mission profiles; develop recommendations to correct deficiencies; and review ECP and evaluate impacts to maintenance documentation and processes.

### **3.8 - Human Factors Engineering Support Experience**

Under the SYS GSA PES contract, SYS personnel are currently providing Human Factors Engineering support to PMS 405 for the Battle Force Tactical Trainer (BFTT) family of shipboard and shore based combat system training systems. Support includes supporting system design and upgrades.

Work in the area of Human Factors Engineering is being performed under an SBIR with the Office of Naval Research, Contract N61339-03-C-0019, in support of Fleet maintenance personnel improvement in the Pacific Fleet. The Readiness Assessment and Training Evaluation Systems (RATES), developed by SYS for analysis of the impact of training on weapon system maintainers, is designed to provide an analytical data model (logic engine) to quantify and visualize the impact that out-of-configuration maintenance equipment and lack of personnel maintenance training have on Fleet weapon and combat system readiness.

SYS Human Factors Engineering efforts for BFTT are lead by an employee who possesses 26 years of naval combat systems experience including qualifications as a Fleet Officer of the Deck (OOD), AEGIS Tactical Action Officer (TAO), Nuclear Safety Officer (NSO) and Combat Systems Training Team (CSTT) Leader.

A multi-disciplinary work force is participating in these studies. Among the disciplines required are Systems Analysts, Computer Programmers and Human Factors Engineers.

### **3.9 - System Safety Engineering Support Experience**

**Subcontractor** Providing System Safety Engineering Support services for USW systems in support of PEO IWS5B. Anteon provides personnel in support of USW equipment personnel safety and hazardous material management issues. Ensures that USW equipment documentation is compliant with the requisite DOD, DON, and PEA requirements in the areas of personnel safety and health. Efforts performed include; submit draft documents, redlines, or review comments; participate in ILS and safety meetings; review ECP s for impact to safety and health documentation and products; attend Review Comment Consolidation (RCC), technical Review Board (TRB), or similar meetings to resolve ECP comments.

A subcontractor to SYS under the Advanced UNREP contract, for PHD NSWC, D&K Engineering is developing automated control systems to augment the operation of several existing Navy UNREP systems. Although system operability is dramatically improved, failure of the automated transfer of cargo presents a potentially fatal safety hazard for sailors tending to the Cargo UNREP process.

### **3.10 - Configuration Management (CM) Support Experience**

Under the PHD NSWC Management, Planning, Analysis and Administration contract SYS is providing Configuration Management support services to the Air Dominance Department. Specific tasking includes developing and maintaining Master Configuration Breakdown Lists for the Branch Manager, developing and maintaining Branch configuration management metrics, developing concept and process documentation for the AEGIS Combat System.

SYS workforce consists of engineers and logisticians with extensive experience supporting the Surface Navy and PHD NSWC. Our lead logistician supporting this effort has over 20 years experience providing logistics and configuration management support for weapon systems at PHD NSWC.

### **3.11 - Quality Assurance (QA) Support Experience**

Under the PHD NSWC Management Planning, Analysis and Administration contract SYS provided technical support services to review PHD NSWC work processes and update the command's Quality Management System using applicable DoD, Navy and NAVSEA requirements. Provided recommendations for changes to the QA instruction structure, proposed methods for accomplishing oversight responsibilities. This effort required that the revised system be complementary to PHD's Ordnance Installation Team Quality System instruction that was approved by implementation by NAVSEA.

SYS people are providing support to several parts of the Engineering Directorate organization. The depth of personnel experience we propose includes several former PHD NSWC civilian employees as well as former Navy officers and enlisted personnel.

### **3.12 - Information System (IS) Development, Information Assurance (IA), and Information Technology (IT) Support Experience**

In support of Electronic Data Systems under the Navy-Marine Corps Intranet Contract, N00024-00-D-6000, SYS is providing Information Technology Support services at PHD NSWC and NSWC Corona and several other Navy and Marine Corps sites in the Southwest Region. Services provided under this contract include Base Operations Manager, Senior Systems Administrator for the Server Farm, Network Administration for the Server Farm, Customer Service Representatives and Help Desk technicians.

SYS work force supporting NMCI consists of Field Technicians, Help desk personnel, Systems Administrators, Systems Engineers and Project Managers. SYS provides the Base Operations Manager at NSWC Corona.

### **3.13 - Ship Inactivation and Disposal Support Experience**

Under the previous PHD NSWC UNREP Engineering and current Advanced UNREP contracts, SYS Technologies provided engineering and technical services for Underway Replenishment systems and equipment and in-service engineering to support a broad range of functions as tasked by the In-Service Engineering Agent. SYS provides engineering and technical expertise to plan and conduct removal of underway replenishment equipment from decommissioned ships or ships whose equipment has undergone modernization. Equipment is removed and stored for installation aboard other Navy or FMS ships in accordance with plans and drawings developed by SYS engineers.

### **3.14 - Interoperability, Test and Evaluation, Trials Support Experience**

In support of PMS 405 SYS is providing engineering support for test and evaluation of Battle Force Tactical Trainer tests and trials in the areas of communications and integration with other simulation and communication systems such as BLII. We are supporting the System Operation Verification Test (SOVT) for BFTT.

Under the PHD NSWC Management, Planning, Analysis and Administration contract SYS provided direct support to the PHD NSWC Battleforce Engineering Office and the Battleforce Engineering Working Group to optimize the performance of Battleforce interoperability systems. SYS developed processes for analyzing battlegroup interoperability test data located in several databases and produced an integrated assessment of the data to support trend analysis, problem indicators and consolidation of issues requiring resolution. In addition, SYS assisted in developing and maintaining Battleforce effectiveness assessment metrics.

The lead test engineer for BFTT tests and trials has more than 28 years experience including over 20 years in the Navy, supports BFTT SOVT testing and provides engineering support to such advanced developmental efforts in support of BFTT at-sea single and multi-ship connectivity.

SYS Technologies' people are providing on-site support to several parts of the PHD NSWC S Department organization. The depth of personnel experience we propose includes several former PHD NSWC civilian employees as well as former Navy officers and enlisted personnel.

### **3.15 - Measurement Facilities, Range, and Instrumentation Support Experience**

**Subcontractors** provide data processing support to develop, enhance, and operate routines used to analyze and present model-scale acoustic data range calibration and performance data for the Intermediate Scale Measurement System (ISMS) located at NSWCCD's Acoustic Research Detachment. Develops new and update existing data reduction and presentation scripts, develop data display and editing tools, process ISMS-acquired data, generate analysis outputs, and develop user documentation.

Measurement Facilities, Range, and Instrumentation Support were performed for NSWCCD's Potomac River Test Range. Major products and services that were delivered include certified ordnance handlers, machine shop technicians, and range technicians.

Technical support to NSWC Dahlgren in implementing the coordination of all Naval multi-site scheduling and site utilization.

### **3.16 - Acquisition Logistics Support Experience**

**Subcontractors:** Under contract N00167-96-D-0006, Sub has provided extensive acquisition logistic support for the TUBA program in all phases of a systems life cycle. Planning and analysis tasks early in the life cycle identified and defined not only operational, functional, and performance requirements, but also logistic support, maintenance, and repair requirements over the system life cycle. Sub facilitated the TUBA program to evolve from an expensive standard Big Navy spares support to a specialized efficient and tailored program using special cells at NAVICP to provide quick response for carry-on systems.

Subcontractor provided acquisition logistics support to NSWCCD-SSSES for the developing and fielding of the ICAS system. This has included development of the initial system logistics plan, preparing the ILS support plan based on RM&A data and conducting shipboard validations of existing systems. Supported the ICAS program throughout its life, providing logistics support for system upgrades, developing shipboard operations and training guides and conducting COSAL validations. Provided technical assistance in developing system ILS requirements documents and has interfaced with operational units and Type commanders to validate and justify planned ILS elements.

### **3.17 - Supply and Provisioning Support Experience**

**Subcontractors** Monitor the configuration of submarine combat systems, including Acoustic Rapid COTS Insertion (ARCI) features. Reviews interface requirements and recommends the appropriate recording system configuration needed for a successful installation and certification of deploying submarines. Coordinates with NAVICP Special Teams and standard Navy Ships Parts management personnel to assist NAVICP in identifying, procuring, maintaining, and updating required spare parts inventories. This support encompasses current, future carry-on, and permanently installed data gathering systems and sensors.

Provides engineering and technical services to FTSC/LANT (Mid-Atlantic) on documentation provided by parts manufacturers for the development of the forms necessary to submit to Naval Sea Logistic Center (NSLC) and Ships Parts Control Center (SPCC) for the assignment of a National Stock Number (NSN) or Allowance Parts List (APL). This work includes developing the forms identifying the part numbers and price of each part utilizing the Interactive Computer Aided Provisioning System (ICAPS) program to ensure that all documentation is complete and correct to facilitate the provisioning process. This also includes the review of drawings, technical manuals, operating and maintenance procedures and the development of preventive maintenance. Based on the review of the documentation, the equipment is assigned a new NSN and/or an APL number for inclusion into the supply system.

### **3.18 - Training Support Experience**

Under our GSA PES contract, SYS is providing training support services in the area of curriculum development and distance learning strategies, testing and evaluation, learning methodologies, knowledge management and digital learning solutions. Agencies supported include the Center for Hemispheric Defense Studies.

In support of the Naval Construction Forces Atlantic Fleet's 3-M implementation program, SYS has developed training curriculum, training material, and conducted 30 training courses in support of Amphibious Construction Battalion -2, located in Norfolk, in their transition to the 3-M system. SYS has trained more than 250 ACB-2 personnel in performance of all aspects of 3-M including accomplishment and documentation of maintenance procedures – training included all levels of the unit from maintenance personnel to work center supervisors. SYS created a POA&M for implementation of training program within all levels of the NCF.

Under the PHD NSWC Management, Planning, Analysis and Administration Contract, SYS has provided subject matter, training and technical expertise to develop and produce several computer- based training modules for training new PHD employees in the area of Shipboard Protocol. Training was conducted to ensure that newly hired PHD employees are aware of the requirements and represent the command properly.

SYS employee possesses broad training experience which includes supporting the Center for Hemispheric Defense Studies (CHDS) as subject matter expert for the CHDS Dean and Faculty in building the instructional design course and peripheral materials that will support the team in construction of a new courses employing the selected instructional design and curriculum development methodologies and techniques.

SYS workforce consists of technical experts with subject matter expertise and military background in the area of training with extensive experience supporting the Surface Navy, PHD NSWC and the operating units of the Naval Construction Forces.

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### **3.19 - InService Engineering, Fleet Introduction, Installation and Checkout Support Experience**

In support of the Self Defense and Expeditionary Warfare Department at PHD NSWC under contract SYS performs the following In-Service Engineering, Fleet Introduction, and Installation and Checkout tasks in support of the command's In-Service Engineering Agent role.

SYS people are providing on-site support to several parts of the PHD NSWC organization.

### **3.20 - Program Support Experience**

In support of PEO IWS, SYS is assisting in the development, monitoring, tracking, execution and reporting of program budgets: Congressional, President's, OSD, NAVCOMPT, POM and BES submissions.

Under the PHD NSWC Management, Planning, Analysis and Administration Contract, N63394-00-D-1227 and its three predecessor contracts, SYS has been providing Program Management support to the Business Operations Directorate at PHD NSWC since 1992. Support includes management planning and consulting, meeting facilitation, development of high level reports and presentations, Public Affairs Office support, Human Resources support, Facilities Management support and Command Safety Program support.

Lead SYS employee has over 29 years of professional experience including Military Base Accountant, USMC Budget Officer, U.S. Department of Labor Budget Analyst, U.S. Department of Labor Chief Financial Officer and Department of Defense Financial Analyst.

The depth of personnel experience we propose includes several former PHD NSWC civilian employees as well as former Navy officers and enlisted personnel. This personnel mix ensures that we understand the needs of both the Fleet and the command and interact well with both groups.

### **3.21 - Administrative Support Experience**

SYS is providing administrative support at the Under Secretary Level in the Department of Homeland Security. Tasks performed include maintaining section files, maintaining staff and personal calendars, supplies and inventories, preparing presentations, reports and memoranda, editing correspondence, performing security functions, preparing travel orders, vouchers and reports.

SYS support lead has over 10 years experience providing clerical and administrative support to Government officials including officials of NAVSEA, PEOs and Program Offices.