

NAME OF OFFEROR OR CONTRACTOR Synectic Solutions, Incorporated

1.0 SCOPE

1.1 Background

In 2002, the Chief of Naval Operations (CNO) promulgated *Seapower 21*. It provides a framework to align, organize and integrate the U.S. Navy to meet the wide variety of challenges that lie ahead. The CNO called upon the entire Navy, including Naval Sea Systems Command (NAVSEA) and the Warfare Centers (WCs), to find ways to become more efficient and effective. To meet *Seapower 21* objectives and to increase efficiency, the Naval Surface Warfare Center (NSWC) and the Naval Undersea Warfare Center (NUWC) have aligned to provide seamless integrated support for twelve core Product Area Directorates. The product areas are lead by Product Area Directors that notionally are very small planning and oversight offices. The day-to-day project management, planning, staffing and project execution will be provided by the geographically diverse NSWC and NUWC Divisions.

1.2 Product Area Directorates

The twelve core Product Areas are:

- Force Level Warfare Systems
- Ships and Ships Systems
- Surface Ship Combat Systems
- Littoral Warfare Systems
- Strategic Weapons Systems
- Ordnance
- Undersea Warfare (USW) Command and Control Systems
- Undersea Warfare (USW) Weapons and Vehicles
- Undersea Warfare (USW) Ranges, Analysis, and Assessment
- Undersea Warfare (USW) Fleet Material Readiness
- Homeland Security and Force Protection
- Surface Warfare Logistics and Maintenance

Attachment 1 to this Statement of Work (SOW) provides a detailed, in-depth description of the Product Area Directorates and the core equities associated with each. The NSWC and NUWC Division locations and the technical capabilities they provide in supporting the Product Areas are shown in Attachment 2 to this Statement of Work (SOW).

1.3 Scope of Contract

This SOW defines the overarching requirements for providing engineering, technical, and programmatic support services for the Warfare Centers. The Contractor shall, in response to task or delivery orders issued under this contract, provide services that potentially span the entire spectrum of product areas (as defined in Attachment 1 to this SOW) supported by the activities and technical capabilities that comprise the NSWC and NUWC (as defined in Attachment 2 to this SOW). Additionally, NSWC and NUWC may provide limited support under the contract to other Department of Defense (DoD), non-DoD, or Joint agencies for work that is integrally related to the Warfare Centers product areas and mission. Core equities within the product areas cover the range of technical skills over the entire life cycle of a warfighting capability including:

- Research, technology development, concept exploration, design and demonstration required to introduce transformational technologies into new or existing surface, undersea and strategic warfighting capabilities.

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- Prototyping and fabrication.
- Test and evaluation.
- Certification, deployment, life cycle sustainment, operation and maintenance.
- Improvement, modernization, and overhaul.
- Demilitarization and disposal.

Additionally, services provided under this contract may include new product areas, programs, or missions assigned to these activities during the life of the contract. Performance of tasking may occur outside the continental United States.

2.0 APPLICABLE DOCUMENTS

Applicable military specifications and standards that are listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS), and current on the date of contract award, plus applicable industry standards, or any other program documents may be specified within the individual delivery orders that will be issued for performing specific tasks under this indefinite quantity contract.

3.0 REQUIREMENTS

The Contractor shall provide qualified personnel, materials, facilities, equipment, test instrumentation, data collection and analysis hardware and software and services that will support NSWC and NUWC, and their subordinate Divisions in the execution of their missions, product area directorates, and technical capabilities as described in ATTACHMENT 1 – Product Area Directorate Detailed Descriptions and in ATTACHMENT 2 – Warfare Center Activities Supporting Product Area Directorates. Functional areas to be supported under this contract are described in the sections below.

3.1 Research and Development Support

This functional area consists of supporting the development and application of scientific and analytical disciplines to conduct fundamental research; scientific study and experimentation directed toward advancing the state-of-the-art or increasing knowledge or understanding; concept formulation; assessment of system and subsystem requirements; development, analysis and evaluation of concepts, technologies, systems and subsystems; and development of operational concepts and tactics with the end goal being the application of results to developing new or improving existing warfighting capabilities.

3.2 Engineering, System Engineering and Process Engineering Support

This functional area consists of supporting the application of engineering disciplines to technically support development of new warfighting capabilities and systems, technically support development of significant alterations to existing systems, support integration of existing equipment or software into different applications or platforms to support the warfighter, and support evaluation of foreign or non-developmental weapons systems, equipments, and technologies to satisfy existing warfighting requirements. Support is required for system and process engineering disciplines that systematically consider the requirements, synthesize and evaluate alternative concepts, identify a recommended selection, and generate a design and system specification.

3.3 Modeling, Simulation, Stimulation, and Analysis Support

This functional area consists of the application of a standardized, rigorous, structured methodology to create and validate a physical, mathematical, or otherwise logical representation of a system, entity, phenomenon, or process. The functional area involves the use of models, including emulators, prototypes, simulators, and

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stimulators, either statically or over time, to develop data as a basis for making managerial, technical, strategic, or tactical decisions.

3.4 Prototyping, Pre-Production, Model-Making, and Fabrication Support

This functional area consists of the building, fabrication, testing, evaluating and operating reduced and full scale models, mock-ups, prototypes, pre-production units and research and development (R&D) test tools of electronic and electro-mechanical systems and system elements. Fabrication and machining of replacement parts or equipments for fielded systems or platforms is included. Includes the use of traditional materials as well as new composite materials.

3.5 System Design Documentation and Technical Data Support

This functional area involves the engineering effort required to prepare and assure that the detailed technical data documentation that is necessary to support system development reflects the latest design, configuration, integration, and installation concepts. Technical documentation may be in the form of paper, electronic (digital) or interactive computer systems.

3.6 Software Engineering, Development, Programming, and Network Support

This functional area consists of applying the engineering and scientific disciplines to perform technical analysis of, technically support development of or selection of hardware and computer software, or modification to existing hardware and software for systems, test facilities, or training facilities. This also consists of software engineering efforts and programming support required to technically support software implementation in systems, sub-systems, and components utilizing computers, electronics, and software. Planning, designing, coding, testing, integrating, supporting, and delivering algorithms, software (source code and executables), computer programs are the inherent activities of this functional area. Generally, the software development processes used for software development under this contract shall be, as a minimum, assessed at Software Engineering Institute (SEI) Capability Maturity Model (CMM) Level 3 or equivalent, however the Government may specify other (either lower or higher) standards in individual task orders issued under the contract.

3.7 Reliability, Maintainability, and Availability (RM&A) Support

This functional area consists of applying engineering, scientific, and analytical disciplines to ensure that systems and platforms RM&A requirements are integrated with the system design, development and life cycle sustainment resulting in warfighting capabilities that function effectively when required and that detection and correction of design deficiencies, weak parts, and workmanship defects that affect functionality are implemented.

3.8 Human Factors Engineering Support

This functional area consists of applying engineering, scientific, and analytical disciplines to ensure that design of interactive systems are safer, more secure and easier to use thereby reducing accidents due to human error, increasing system integrity and enabling more efficient process operations.

3.9 System Safety Engineering Support

This functional area consists of applying engineering and analytical disciplines to ensure that safety is considered in all aspects of design, development, operation, maintenance, and modification of systems and platforms.

3.10 Configuration Management (CM) Support

This functional area consists of applying engineering and analytical disciplines to identify, document, and verify the functional, performance, and physical characteristics of systems, to control changes and non-conformance, and to track actual configurations of systems and platforms.

NAME OF OFFEROR OR CONTRACTOR **Synectic Solutions, Incorporated****3.11 Quality Assurance (QA) Support**

This functional area consists of applying engineering and analytical disciplines to ensure that the processes and products used in the design, development, fabrication, manufacture of result in quality products.

3.12 Information System (IS) Development, Information Assurance (IA), and Information Technology (IT) Support

This functional area consists of providing information system software analysis, requirements definition, design, development, test, modification, installation, implementation, quality assurance, training, and documentation to meet the evolving data storage and reporting needs of programs and management. Analyze existing IT and IS databases, web sites, and IT applications and recommend new or improved interfaces and improved management tools that meet new management requirements, or improve management effectiveness and efficiency. Perform maintenance and technical support for Local Area Networks (LAN) and Wide Area Networks (WAN) that are outside the cognizance of the Navy Marine Corps Intranet (NMCI). Modify, implement and maintain web based information systems and links. Develop web-site structure, prepare documentation for population, implement and maintain web sites. Provide systems engineering and technical support for establishment, test, upgrade, and operational support of systems, networks, workstations and support equipment hardware and software that are outside the cognizance of NMCI. Conduct IA analyses, develop, recommend, and implement, monitor, update, and maintain, IA practices, procedures, equipments, algorithms, and hardware that are outside the cognizance of NMCI.

3.13 Ship Inactivation and Disposal Support

This functional area consists of technically supporting the submarine and ship inactivation and disposal program office to ensure that critical equipment removed is safeguarded and destroyed in accordance with the appropriate Navy instructions and directives. Provide direct liaison with the Shipyard and the NAVSEA program office to insure that critical technology is not inadvertently transferred to foreign nationals or governments. Ensure proper documentation exists for the sale of excess materials from inactivated ships prior to sale by the Defense Reutilization and Marketing Service (DRMS). Technically support the demilitarization process for shipboard equipment using the Expanded Work Breakdown Structure (EWBS), Trade Security Controls (TSC), and Munitions List Items (MLI) all of which are used to determine the disposition of excess, not-ready-for-issue (non-RFI) equipment. Technically support the security classification requirements and guidelines for submarine and surface ship data and equipment necessary to assist in making decisions on sales issues.

3.14 Interoperability, Test and Evaluation, Trials Support

This functional area consists of the application of engineering, scientific, and analytical disciplines necessary to ensure that developed platforms, systems, and warfighting capabilities have been properly tested and that joint interoperability requirements have been fully met at all levels of their life cycle.

3.15 Measurement Facilities, Range, and Instrumentation Support

This functional area consists of applying engineering, analytical, and technician disciplines in the operation and support of measurement facilities, ranges and instrumentation used for testing, evaluating, experimenting, and exercising platforms and systems.

3.16 Acquisition Logistics Support

This functional area consists of applying the engineering and analytical disciplines required to implement acquisition logistics as a multi-functional technical management discipline associated with the experimental development, design, development, test, production, fielding, sustainment, and improvement modifications of cost effective systems that achieve the warfighters' peacetime and wartime readiness requirements. The principal objectives of acquisition logistics are to ensure that support considerations are an integral part of the system's

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design requirements, that the system can be cost effectively supported through its life-cycle, and that the research and development facilities and infrastructure elements necessary to the design, development, initial fielding, and operational support of the system are identified, developed, acquired, and supported.

3.17 Supply and Provisioning Support

This functional area consists of applying the analytical and technical disciplines required to ensure that research and development facilities, experimental and developmental systems, and fielded warfighting capabilities are materially sustained. The principal objectives of this functional area is to ensure that material for fleet operation and maintenance of systems is available when required, that materials are properly stored and transported, and inventories are managed in a cost effective manner to sustain supported systems.

3.18 Training Support

This functional area consists of applying the engineering and analytical disciplines required to ensure that the warfighter and technical support community is provided with adequate instruction including applied exercises resulting in the attainment and retention of knowledge, skills, and attitudes regarding the platforms, systems, and warfighting capabilities they operate and maintain.

3.19 In-Service Engineering, Fleet Introduction, Installation and Checkout Support

This functional area consists of the application of engineering, analytical, and technical disciplines and skills to establish and maintain long term engineering, operation, and maintenance support for in-service warfighting capabilities as well as the capability to modernize or introduce transformational technologies into those capabilities.

3.20 Program Support

This functional area consists of applying the business, financial management, and technical disciplines required to support planning, organizing, staffing, controlling, and leading team efforts in managing acquisition programs such that the result places a capable and supportable system in the hands of the warfighter when and where it is needed, and does so at an affordable price. This functional area represents an integration of a complex system of differing but related functional disciplines that must work together to achieve program goals through development, production, deployment, operations, support, and disposal.

3.21 Administrative Support

This functional area consists of applying the clerical and administrative disciplines required for seamless operation of offices and support functions.

4.0 GOVERNMENT-FURNISHED PROPERTY

All Government furnished information, material, and equipment will be specified in the individual delivery orders. All government furnished information is the property of the U.S. Government and shall not be transferred to any individual or agency public or private without the express written approval of the originating contracting officer except as required for the specific performance of tasks under this contract.

5.0 SECURITY REQUIREMENTS

The work to be performed under this contract may involve access to, handling of, and generation of classified material. The Contractor shall appoint a Security Officer, who shall (1) be responsible for all security aspects of the work performed under this contract, (2) assure compliance with all DoD and U.S. Navy regulations regarding security, and (3) assure compliance with any written instructions from the Security Officers of the activity issuing

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delivery orders under this contract. When applicable, a DD Form 254 will be prepared by the ordering activity and issued with the delivery order.