

## SEAPORT Enhanced

### *SEAPORT ENHANCED- ENGINEERING, TECHNICAL & PROGRAMMATIC SUPPORT SERVICES*

*Contract #: N00178-07-D-5127*

Contract Number	Owner	Expiration Date	Order Type	KEI POC
N00178-07-D-5127	KEI	Base Period plus Two Award Terms 2019	FFP, T&M	I.C. "Chet" Kizilkaya 410-326-6962 or 703-971-8985  e-mail: ckizilkaya@knowledge-engineers.com

Knowledge Engineers, Inc. (KEI) is participating in the SeaPort-e program as a women-owned small business prime contractor since May 2007. With a highly qualified cadre of experienced naval engineers, ship designers and subcontractors in place, KEI will ensure that the required skills and experience with needed resources are available to deploy a rapid, coordinated, and comprehensive response to individual task order requirements. KEI is fully committed to working closely with the NAVSEA and other SYSCOMS to ensure that all project activities are executed in full conformance to specifications—on schedule and to your complete satisfaction.

We are qualified and authorized to provide services in the following 22 functional areas in all seven (1-7) zones:

1. **Research and Development Support**
2. **Engineering, System Engineering, and Process Engineering Support**
3. **Modeling, Simulation, Stimulation, and Analysis Support**
4. **Prototyping, Pre-Production, Model-Making, and Fabrication Support**
5. **System Design Documentation and Technical Data Support**
6. **Software Engineering, Development, Programming, and Network Support**
7. **Reliability, Maintainability, and Availability (RM&A) Support**
8. **Human Factors, Performance, and Usability Engineering Support**
9. **System Safety Engineering Support**
10. **Configuration Management (CM) Support**
11. **Quality Assurance (QA) Support**
12. **Information System (IS) Development, Information Assurance (IA), and Information Technology (IT) Support**
13. **Ship Inactivation and Disposal Support**
14. **Interoperability, Test and Evaluation, Trials Support**
15. **Measurement Facilities, Range, and Instrumentation Support**
16. **Acquisition Logistics Support**
17. **Supply and Provisioning Support**
18. **Training Support**
19. **In-Service Engineering, Fleet Introduction, Installation and Checkout Support**
20. **Program Support**
21. **Administrative Support**
22. **Public Affairs and Multimedia Support**

#### **1-TASK ORDERS**

KEI has not yet received a task order under its prime SeaPort-e contract.

#### **2-TECHNICAL INSTRUCTIONS**

KEI has not yet received technical instructions under its prime SeaPort-e contract.

### **3-TEAM MEMBERS**



Knowledge Engineers, Inc. (KEI), has proven and well established capabilities in engineering, technical and program management support services and with selected team members is uniquely qualified to provide support services to Naval Sea System Command (NAVSEA) and other SYSCOMS. KEI team's naval engineering and ship design, technical and program management support capabilities provide services that cover the major part of the spectrum of mission areas supported by the activities and technical capabilities that comprise the various navy organizations and agencies that are supporting the SEAPOWER 21 objectives.

Knowledge Engineers, Inc.'s capabilities in naval engineering and ship design, technical services and program management support, to be used in execution of the objectives listed above, is based on currently available talent and onboard personnel resources and this capability is supported by the number of years of experience gained through direct support to various naval organizations and related government agencies. At the present time, the capabilities offered by KEI is provided by thirty-four highly qualified and experienced senior level professionals who hold PhD, Masters of Science, Bachelor of Science degrees in engineering or computer sciences and two with JD degree from a reputable law school. The major portion of the degrees held by KEI personnel are in the field of naval architecture and marine / mechanical engineering.

The KEI team offers its capabilities in naval engineering and ship design, system engineering and analysis, program management, software engineering and program development in the following areas:

***Research & Development Support:*** KEI has the capability to support the development and application of scientific and analytical disciplines to conduct fundamental research in naval engineering and computer science toward improvement of existing or development of new warfighting capabilities.

***Engineering, System Engineering & Process Engineering Support:*** KEI, based on its combined equivalent to 200 man-years level of experience in naval engineering and ship design, has capabilities to support the organizations who are sponsoring the SEAPOWER 21 by providing engineering and technical support services in all ship design phases extending from feasibility studies to fleet support. This support capability includes containment, mobility, ship and human support elements of ship design at the system and subsystem levels, covering most technical disciplines, including extensive hull subsystem design, ship hydrodynamics and hull form design, arrangement development, ship structures, main propulsion and auxiliary machinery systems, ship support and life support systems design as well as system integration and analysis in Integrated Logistic Support (ILS) and related disciplines toward improvement of warfighting capabilities. KEI has the capability to accomplish these objectives and goals in a cost effective manner through detail system analysis and comparative naval engineering.

***Modeling, Simulation, Stimulation, and Analysis Support:*** Modeling, simulation and related support capabilities of KEI covers relatively a large portion of its computer science support work that is being made available to its clientele. KEI has the necessary tools and the experience to provide this services, such as mathematical simulation of hydrodynamics, aerodynamic, structural and mechanical system behavior, using "mathematica" to generate differential equations and Matlab- Simulink to simulate system behavior, wargaming system for theater-level contingency planning such as recently performed for the Office of Joint Chief of Staff, simulation of traffic patterns for the evaluation of improvements in law enforcement and the introduction of related new technologies, simulation of the behavior of the Mk 45 gun system and other similar combat systems under shock as well as various ship systems product modeling and mechanical CAD/CAM management and related support.

***System Design Documentation and Technical Data support:*** As part of the overall naval engineering and ship design capability, KEI possesses the required talent and resources to assure the development, maintenance and proper application of the technical data and the system design documentation to support the planned activities.

***Software Engineering, Development, Programming, and Network Support:*** KEI possesses the necessary talent, various engineers and scientists with advanced degrees in computer sciences, that can provide the necessary support in software development and programming, utilizing various languages and computer tools that may be needed in execution of the projects related to required improvements in existing warfighting capabilities or for the development of new ones.

**Human System Integration (HSI) and Human Factors, Performance and Usability Engineering Support:** The HSI team has extensive capability in Human System Integration, covering multiple segments and the disciplines related to HSI to be used in shipboard environment.

**Configuration Management Support:** Based on the well-established experience, the technical resources and support group of KEI are very familiar with all elements of configuration control and management and will provide the necessary support in dealing with system configuration and requirements, technical and analytical disciplines in identification and documentation of functional, performance and physical characteristics of the applicable systems.

**Quality Assurance Support:** KEI's capabilities include development of QA manuals, policy and procedures in application of these in design and programmatic processes.

**Information Development & Information Technology Support:** KEI has capabilities in development and modification as well as application of software, tools and related items for the utilization of Information Technology in execution of programs as well as utilization of the related data base as management tool.

**Acquisition Logistic Support:** The area of application of technical disciplines in developments of the logistic concepts and logistic support requirements of the fleet is one of the areas where KEI can provide support. KEI is familiar with the development and the application of new concepts in ILS such as "Full Service Contracting" and "Condition Based Maintenance" and similar other innovative ideas that will reduce the cost of keeping and maintaining several fleet assets.

**In service Engineering:** KEI possesses the capability through application of engineering and analytical disciplines to establish or maintain the existing long-term technical, operation and maintenance support for in-service warfighting capabilities.

**Program Management Support:** KEI has earned its Program Management capability by providing PM support to various Navy programs, supporting NAVSEA technical organizations, Program Management Ships (PMS), Program Executive Office (PEO) Ships, and OPNAV organizations as well as supporting industry team(s) who are working on Navy programs. The areas of KEI's expertise and support capabilities include financial management, technical disciplines required to support planning, organizing, monitoring and controlling in management of acquisition programs. KEI has also expertise in government contracting and related legal issues.

In addition to the offered capabilities listed above, if requested, KEI can provide **legal support, patent application and management** and provide advise to organizations in dealing with **information transfer to foreign governments** under ITAR, and interface with the U.S. State Department.

The following corporations are KEI's team members as subcontractors under this contract:

- Abbott On Call, AOC Inc.
- BMT Designers And Planners
- Cape Henry Associates
- Carlow International
- CDI Marine
- Edwards & Kelcey, Inc
- HI-TEST Laboratories, Inc.
- Kimley-Horn and Associates, Inc.
- Northrop Grumman Space & Mission Systems Corp.
- Oceaneering International
- Science Applications International Corp. (SAIC)
- SERCO
- Video Monitoring Services of America LP (VMS)
- VSD, LLC
- VSE Corporation
- York International Corporation

### ***Abbott On Call (AOC) inc.:***

AOC, Inc. is an Engineering Services Company that specializes in Systems Engineering, Open Systems Architecture and Life Cycle Engineering. The company is a Woman Owned Small Business (WOSB) and has been in business since 1990. AOC has supported clients in both the government and private sector including such customers as DARPA, Naval Sea Systems Command (NAVSEA), Naval Surface Warfare Center (NSWC), Carderock, Naval Air Warfare Center (NAWC), Lakehurst, Northrop Grumman Ship Systems, Consolidated Edison of New York and TVA.

### ***BMT Designers and Planners:***

BMT Designers and Planners originated as a Naval Architecture and Marine Engineering firm in New York City in the early 1950s. Over the next 20 years the industry evolved and the focal point of business shifted towards Washington, D.C. and the U.S. Navy. Consequentially, its headquarters relocated to Arlington, Virginia, within arm's reach of the Pentagon, Crystal City, Navy Yard and the expanding industry hub. Today, regional support offices on both coasts enable us to provide support to a wide variety of customers. In 1989 Designers & Planners became part of the BMT Group, a world class organization with global reach extending beyond the traditional maritime sectors. Since then, we have also expanded our competencies beyond our legacy of Naval Engineering to include Environment, Safety and Advanced Technology.

D&P areas of expertise includes Naval Engineering, Ship Design, Ship Acquisition , Advanced Technology, Environmental Services, Safety Consulting and Information Technology

### ***Cape Henry Associates:***

Cape Henry Associates, Inc was incorporated in Virginia Beach, Virginia in February 2004 and it is a Service Disabled, Veteran-Owned, Small Business that specializes in providing manpower, personnel and training solutions to our US Navy and US Coast Guard customers. Cape Henry's personnel resources is consist of educated, experienced professionals perform quality research, analysis and development of products and services to satisfy customer requirements. Company's emphasis is on ship and cutter classes and systems, and their staff possesses considerable experience working within the Surface Warfare Community

### ***Carlow International:***

Carlow International is a woman-owned small business dedicated for the past 26 years to human factors research, development and application. At Carlow International human factors is defined as the engineering and scientific discipline concerned with integrating people into complex systems.

Carlow personnel have over 75 years experience in developing and applying human factors principles, tools, methods and data to complex human-machine systems for government organizations and industry in the US, Canada, Europe and the Far East.

They have contributed to human-machine interface design for every manned space program managed by NASA since Gemini. Since its inception Carlow has been involved in applying human factors to maritime systems, including Navy ships, commercial ships, and offshore platforms. Carlow has conducted analyses and simulations resulting in the reduction of workload, human error and accidents, and improvement of human performance, quality of life and safety, of Navy ships and offshore systems in the US, UK, Canada, Italy and Holland.

### ***CDI Marine:***

The CDI Marine Company (CDIM) is part of CDI Engineering Solutions, a division of CDI Corporation that employs a large pool of over 2,500 engineers and technicians serving the marine defense, aerospace, pharmaceutical Process and Industrial, and Life Sciences industries. CDIM is one of the largest engineering technical services companies in the USA providing support to industry and government sectors with a very wide range of services, from clerical, design and CAD drafting support to advanced computational hydrodynamics, prototyping, RTD&E and combat-systems engineering services covering virtually all functional areas required of the solicitation. The personnel grades and corresponding labor rates that support this spectrum of service at CDIM is therefore very wide and offers a unique opportunity for staffing programs and tasks with the most cost effective mix of skill sets and labor rates.

### ***Edwards & Kelcey, Inc:***

Jacobs Edwards and Kelcey Inc. (Jacobs) is one of the world's largest firms of engineers and constructors, with annual revenues exceeding \$8 billion. Today, Jacobs has over 48,000 employees in more than 180 offices in the United States and 47 international offices in 22 other countries. Headquartered in Pasadena, California and company has operations in North America, the United Kingdom, mainland Europe, India, Australia, and Asia. Founded in 1947, Jacobs has been specializing in the planning, development, design, construction, and operation of major capital improvements and infrastructure programs for public and private sector clients around the globe

for over 60 years. Jacobs' Arlington, Virginia office, established in 1952, offers the resources of more than 440 design and construction professionals, and technical support personnel.

#### ***HI-TEST LABORATORIES, Inc.:***

Since 1975, HI-TEST LABORATORIES has been providing test and evaluation services to government and industry. Specifically, they provide Type I and Type II Vibration testing (MIL-STD-167), Lightweight, Medium Weight, and Heavyweight Shock testing (MIL-S-901), Airborne and Structureborne Noise testing (MIL-STD-740), as well as Inclination testing (former MIL-E-16400G). In addition to these standard tests, company manage and conduct unique test programs including underwater explosion (UNDEX) for research and development in the study of weapons effects and bubble behavior.

The company has a full-time staff of engineers, instrumentation technicians, craftsmen, and support staff who are here to ensure that all performed test and assignments are performed to clients requirements and satisfaction.

#### ***Kimley-Horn and Associates, Inc.:***

Kimley-Horn (K-H) is one of the most respected and fastest growing full-service consulting engineering firms in the United States. Since its establishment in 1967, K-H has been providing engineering and technical support services to various Government agencies as well as providing services in the commercial sector.

K-H is a fully integrated engineering and technical services consulting firm. Throughout the years, company's expertise and type of services it has been providing is extended from transportation engineering to technical services in the field of Aviation, Environmental Services, Intelligent Transportation Systems, Land Development Services and Landscaping, Parking Analysis and Design, Public Involvement, Roadway and Bridge Design, Site Civil Engineering and Planning, Transit, Transportation Engineering and Planning, Urban Design and Planning and Water Resources Management and Planning. With more than 2,000 employees nationwide, K-H is able to draw from a large pool of resources to respond to a client's specific needs. The company's professionals are experienced in solving complex engineering, design and planning issues for both public and private clients.

#### ***Northrop Grumman Space & Mission Systems Corp.:***

Northrop Grumman Corporation is a leading global security company whose 120,000 employees provide innovative systems, products, and solutions in aerospace, electronics, information systems, shipbuilding and technical services to government and commercial customers worldwide. Company's streamlining organizational structure includes Aerospace Systems; Electronic Systems; Information Systems; Shipbuilding; and Technical Services.

Ships built by Northrop Grumman project power worldwide. The company is the nation's sole industrial designer, builder and refueler of nuclear-powered aircraft carriers and one of only two companies that design and build nuclear-powered submarines. The business is also one of the nation's leading providers and life-cycle supporters of major surface ships for the U.S. Navy, U.S. Coast Guard, international navies and commercial vessels.

#### ***Oceaneering International:***

Oceaneering is a global oilfield provider of engineered services and products primarily to the offshore oil and gas industry, with a focus on deepwater applications. Through the use of its applied technology expertise, Oceaneering also serves the defense and aerospace industries.

#### ***Science Applications International Corp. (SAIC):***

SAIC is a Fortune 500 scientific, engineering, and technology applications company that uses its deep domain knowledge to solve problems of vital importance to the nation and the world, in national security, energy and the environment, critical infrastructure, and health. They do this with the constant and deliberate commitment to ethical performance and integrity that has marked SAIC since its founding.

#### ***SERCO:***

Serco Inc. is the North American business unit of Serco Group, plc, one of the world's leading service companies. They improve services by managing people, processes, technology, and assets more effectively. The

company' broad array of service solutions integrate to deliver real time- and cost-efficiencies, confidence and protection for military, government and commercial customers. Serco established its North American foothold in 1988 when it was incorporated in North America, acquiring companies that shared a similar vision. In 2005, Serco Inc. acquired Resource Consultants Inc. (RCI) and then acquired SI International in 2008. Today Serco continues to advise, design, integrate and deliver innovative service solutions. The company has the industry know-how to understand the demanding challenges their customers face. Serco has the domain expertise to solve them—with a passion for excellence.

The company's agility, customer-first approach, robust portfolio of services, and global experience enables them to quickly respond with solutions that achieve outcomes with value. Headquartered in Reston, VA, Serco has approximately 11,500 employees that has helped transform government and public services around the world.

#### ***Video Monitoring Services of America LP (VMS):***

VMS a media monitoring company, a highly recognized leader in media source where it is well known to provide a comprehensive, up-to-the-minute coverage and news analysis and delivers more precise, relevant results to its clients. For over twenty-five years, the support provided by VMS is customized and the needed services are monitored, properly managed and covers all media. VMS has earned this recognition by bringing an extraordinary breadth and depth of news coverage in virtually every market and across all media including print, internet, television and radio. VMS is well known in the Media Content arena due to their capability in comprehensive print coverage of the entire U.S., superior editing for only the most relevant news, electronic delivery of clips via Media Content and personal account management with "real people" service.

#### ***VSD, LLC:***

VSD Inc. was originally established in 2001. In 2006 company was acquired by QED Systems, thus becoming VSD LLC. Before the acquisition, VSD had worked closely with QED in the past; VSD is sure to flourish as a member of the QED family.

VSD provides Engineering Services to US naval commands for various platform requirements in the forms of Integrated Logistics, Total Ships Information Management (TSIMS) Program Support, and Installation Support Services.

#### ***VSE Corporation:***

VSE Corporation was established in 1959 with a mission to provide engineering and technical support services to reduce the cost and improve the reliability of DoD systems and equipment. Originally incorporated as Value Engineering Company, VSE has evolved along with the government's and military's needs, while remaining true to its roots as a value engineering firm. VSE has three wholly-owned subsidiaries: Energetics Incorporated, Integrated Concepts and Research Corporation (ICRC), and G&B Solutions, Inc.

VSE is a broadly diversified company focused on creating, sustaining, and improving the systems, equipment, and processes of government through core competencies in legacy systems sustainment, obsolescence management, prototyping, reverse engineering, technology insertion, supply chain management, foreign military sales, management consulting, and process improvement

#### ***York International Corporation:***

YORK, over its 130 year existence, has continued to grow and expand its global influence. The primary divisions of YORK Navy Systems are located in York, PA USA, Basildon England, Hamburg Germany, Nantes France, Bergen Norway, Aarhus Denmark and Singapore, through all YORK resources are also available. All sites have global design, manufacturing, installation, and through life support capabilities. This ensures that the YORK Navy-engineered HVAC/R equipment is built to, and supported by, the most stringent military requirements as well as international quality control and classification standards – all while maintaining flexibility to meet the customer's needs.

YORK Navy Systems offers its experience and expertise in air conditioning and refrigeration equipment where over 90% of vessels in the U.S. Navy fleet, surface ships as well as submarines, utilize its equipment and systems. YORK has equipment in service with over 19 of the world's navies and has supplied air conditioning and refrigeration plants to over 1300 fighting ships including a majority of the NATO fleet. YORK, through its

own manufacturing facilities, has provided CFC-free reciprocating, centrifugal, screw, and rotary compressor equipment to world navies for vessels of all types.

**4- SERVICE EXPERIENCE:**

List of services experienced within last three (3) years:

Company/ organization	Task No: Title	Functional Area	Zone	Value	Remarks

NOTE: At the present time, KEI nor its subcontractors has received any task under this contract

**5- POC on CUSTOMER SATISFACTION:**

**Point(s) of Contact to provide information on customer satisfaction with the services performed.**

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**6- QUALITY ASSURANCE PROGRAM:**

**OBJECTIVE:**

*KEI's Quality Assurance Plan is intended to:*

- *Ensure that all steps of the project are monitored.*
- *Ensure proper user acceptance criteria for each type of testing.*
- *Determine sign-off procedures for various milestones.*

**PROCESSES:**

*We will maintain quality assurance through testing, correction, re-testing and review sessions. Although the bulk of the QA work will take place in the review sessions, before that happens we will conduct system tests and parallel tests.*

*System Tests:*

- *Functional staff scripts and conducts system tests.*
- *Technical staff takes programming changes.*
- *Functional staff corrects tables.*
- *Integration testing management reviews system test results.*

*For parallel testing:*

- *Functional and technical staff script and conduct parallel tests.*
- *Technical staff makes programming changes.*
- *Functional staff corrects tables.*
- *Functional and technical staff performs re-testing.*

*Parallel tests:*

- *Use converted data-automated and manual – to include interfaces in and out of the system, most reports, and security setup.*

- *Simulate of varying processes and period ends.*

*Quality Assurance Sessions*

*The Quality Assurance process will continue in the following sessions:*

**BUDGET:**

*The project manager, monitored by the Executive Vice President, reviews the budget for:*

- *Cost overrun potential, and*
- *Actual versus budgeted dollars, to date*

**PROJECT PLAN:**

*The project team, monitored by the Executive Vice President, reviews the project plan:*

- *To ensure milestone dates are on target,*
- *For any changes in scope, and*
- *For possible trouble spots.*

**COMMUNICATION PLAN:**

*The communication plan is reviewed by the Project Management to:*

- *Ensure that key dates are on target,*
- *Ensure that communications are effective, and to*
- *Alert the team to changes of scope.*

**ISSUES-LOG DOCUMENT:**

*The project team, monitored by the Executive Vice President, reviews the log document to ensure that:*

- *Target dates for resolution are being met,*
- *High priority items are being resolved, and*
- *The project is not in jeopardy.*

**FIT GAP DOCUMENT:**

*The project team reviews the fit gap document for:*

- *Completeness,*
- *Scope of changes,*
- *Conversion items,*
- *Interface items,*
- *Processes to be implemented,*

*Users sign off.*

**DATA-MAPPING DOCUMENTS:**

*Functional and technical staff reviews the data mapping documents for completeness. Users sign off.*

**FUNCTIONAL REQUIREMENTS DOCUMENTS:**

*Functional and technical staff reviews the functional requirement documents. Users sign off.*

**TECHNICAL REQUIREMENT DOCUMENTS:**

*Functional and technical staff reviews the technical requirement documents. Users and technical manager sign off.*

**PROJECT WALK THROUGHs:**

*Technical staff reviews project requirements and deliverables walk throughs. The technical manager signs off.*

**UNIT TESTS:**

*Functional staff review and sign off on unit tests.*

**PROCEDURAL DOCUMENTATION:**

*Functional and technical staff reviews procedural documentation. The functional/technical manager signs off on unit tests.*

**TRAINING MATERIALS:**

*Functional managers review and sign off on training materials.*

**SYSTEMS TESTS:**

*Integration testing management reviews parallel tests. Functional staff signs off.*

**GO/NO-GO DECISION:**

*The entire team reviews all aspects of the implementation to determine readiness to continue. This review examines:*

- *The results of all testing,*
- *Security readiness,*
- *Hardware readiness,*

- *Network readiness,*
- *Database readiness,*
- *Technical readiness,*
- *Production readiness.*

*On completion, the project management writes their recommendation for approval by the Vice President*

### **7- POINT ON CONTACTS:**

**Points of contact for information, Technical and Contractual, related to the SeaPort program.**

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