Company Overview:

MIKEL, a small women-owned business, was founded in March 1999. Our primary line of business involves providing professional engineering services in the disciplines of Electrical, Ocean, and Acoustic Engineering to both commercial entities and the Department of Defense.

MIKEL has been providing Undersea Warfare (USW) solutions to the departments of defense and homeland security and civilian organizations since their inception. Our solutions include the development of fixed and portable underwater tracking ranges, submarine sonar signal processing and combat system data processing improvements and tactical analysis and training evaluation tools. Our products are integrated into existing underwater platforms and are used in submarine attack and analysis centers. Some examples of our technology include underwater acoustic detection, discrimination and tracking of undersea vehicles, including threat submarines and torpedoes, localization and positioning algorithms used to improve the navigation accuracy of unmanned undersea vehicles, target motion analysis algorithms used to determine undersea tactical picture and automated performance measurement/analysis systems. MIKEL personnel have also been responsible for the development of the first ever towed array target motion analysis (TMA) algorithm installed on U.S. submarines as well as multi-sensor TMA algorithms to determine the 3D positions of all targets.

MIKEL provides a unique set of employees who possess both tactical and operational experience with advanced degrees. The key to sustained high quality services performance resides in its personnel. To that end, MIKEL retains personnel who have the requisite experience to ensure continued excellent performance.

All of the staff have been involved in providing technical services to the Federal Government for several decades and as such ensure that only the highest quality of support can be expected by GSA. If needed, MIKEL can provide resumes for these individuals that will detail the experience necessary to run a company and support the services outlined in the PES designated SIN descriptions.

In addition to the key staff presented here, MIKEL has an extensive network through its employees and consultants that allow it to not only reach in to meet the depth and breadth of work but to also reach out to supplement and add staff as required to meet customer requirements. As we grow, we will have an even greater ability to satisfy all tasking. Sustained growth is being accomplished through the hiring of senior level personnel and less experienced but more technically current engineers, mathematicians, and scientists recommended by our consultants and through our relationships with UMASSD and URI as well as other universities throughout the country.

MIKEL's PES schedule was awarded under the following SINs: 871-1 Strategic Planning for Technology Programs/Activity, 871-2 Concept Development and Requirements Analysis, 871-3 System Design, Engineering and Integration, 871-4 Test and Evaluation under the primary engineering discipline (PED) of Electrical Engineering (EE). Accordingly, we can support work covered under the partial list of sub-disciplines or specialties identified below.

Planning, design, development, evaluation and operation of electrical principles, models and processes. It includes, but is not limited to, the design, fabrication, measurement and operation of electrical devices, equipment and systems (e.g., signal processing; telecommunication; sensors, microwave, and image processing; micro-fabrication; energy

systems and control; micro- and nano-electronics; plasma processing; laser and photonics; satellites, missiles and guidance systems, space vehicles, fiber optics, robotics, etc.).

Within the electrical engineering PED, there are several specialties within the scope of this work; a partial listing follows:

- Aerospace and Electronic Systems
- Antennas and Propagation
- Broadcast Technology
- Circuits and Systems
- Computer
- Communications
- Consumer Electronics
- Components Packaging, and Manufacturing Technology
- Dielectrics and Electrical Insulation
- Education
- Control Systems
- Remote Sensing
- Engineering Management
- Electromagnetic Compatibility
- Information Theory
- Lasers & Electro-Optics
- Industrial Electronics
- Intelligent Transportation Systems
- Industry Applications
- Instrumentation and Measurement
- Nuclear and Plasma Sciences
- Magnetics
- Microwave Theory and Techniques
- Power Electronics
- Neural Networks Council
- Oceanic Engineering
- Reliability
- Robotics & Automation
- Professional Communication
- Solid-State Circuits
- Systems, Man, and Cybernetics
- Vehicular Technology
- Ultrasonics, Ferroelectrics, and Frequency Control
- Signal Processing on Social Implications of Technology

General Services Administration, Authorized Federal Supply Schedule Price List:

Schedule for – Professional Engineering Services (PES)
Federal Supply Group: 871 **Class:** R425
Contract Number: GS-10F-0150U
Contract period: March 04, 2008 through March 03, 2013

Contractor: MIKEL, INC
275 Martine Street
Fall River, MA 02723
Telephone: (508) 675-2681
FAX Number: (508)675-2943
Web Site: www.mikelinc.com
E-mail: kbmendell@mikelinc.com
Contract Administration: Kelly Mendell

Business Size:
Small, Woman Owned Business

Customer Information

1a. Table of Awarded Special Item Number(s) with appropriate cross-reference to page numbers: 871-1(EE) 871-2(EE) 871-3(EE) 871-4(EE) 871-1RC, 871-2RC, 871-3RC, 871-4RC

1b. Identification of the lowest priced model number and lowest unit price for that model for each special item number awarded in the contract. This price is the Government price based on a unit of one, exclusive of any quantity/dollar volume, prompt payment, or any other concession affecting price. Those contracts that have unit prices based on the geographic location of the customer, should show the range of the lowest price, and cite the areas to which the prices apply.

1c. If the Contractor is proposing hourly rates a description of all corresponding commercial job titles, experience, functional responsibility and education for those types of employees or subcontractors who will perform services shall be provided. If hourly rates are not applicable, indicate "Not applicable" for this item.

2. Maximum Order: $750,000.00

3. Minimum Order: $100.00

4. Geographic Coverage (delivery Area): Domestic and Overseas

5. Point(s) of production (city, county, and state or foreign country):
Same as company address

6. Discount from list prices or statement of net price:
Government net prices (discounts already deducted). See Attachment.

7. Quantity discounts: None Offered

8. Prompt payment terms: Net 30 days

9a. Notification that Government purchase cards are accepted at or below the micro-purchase threshold: Yes

9b. Notification whether Government purchase cards are accepted or not accepted above the micro-purchase threshold: Will accept over $2500.00

10. Foreign items (list items by country of origin): None

11a. Time of Delivery (Contractor insert number of days): Specified on the Task Order

11b. Expedited Delivery. The Contractor will insert the sentence "Items available for expedited delivery are noted in this price list." under this heading. The Contractor may use a symbol of its choosing to highlight items in its price list that have expedited delivery:
Contact Contractor

11c. Overnight and 2-day delivery: The Contractor will indicate whether overnight and 2-day delivery are available. Also, the Contractor will indicate that the schedule customer may contact the Contractor for rates for overnight and 2-day delivery: Contact Contractor

11d. Urgent Requirements: The Contractor will note in its price list the "Urgent Requirements" clause of its contract and advise agencies that they can also contact the Contractor's representative to effect a faster deliver: Contact Contractor

12. F.O.B Points: Destination

13a. Ordering Address: Same as company address

13b. Ordering procedures: For supplies and services, the ordering procedures, information on Blanket Purchase Agreements (BPA's), and a sample BPA can be found at the GSA/FSS Schedule homepage (fss.gsa.gov/schedules).

14. Payment address: Same as company address

15. Warranty provision: Contractor's standard commercial warranty

16. Export Packing Charges (if applicable): N/A

17. Terms and conditions of Government purchase card acceptance (any thresholds above the micro-purchase level): Contact Contractor

18. Terms and conditions of rental, maintenance, and repair (if applicable): N/A

19. Terms and conditions of installation (if applicable): N/A

20. Terms and conditions of repair parts indicating date of parts price lists and any discounts from list prices (if applicable): N/A

20a. Terms and conditions for any other services (if applicable): N/A

21. List of service and distribution points (if applicable): N/A

22. List of participating dealers (if applicable): N/A

23. Preventive maintenance (if applicable): N/A

24a. Special attributes such as environmental attributes, (e.g. recycled content, energy efficiency and/or reduced pollutants):

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/.

25. Data Universal Numbering System (DUNS) number: 13-8534420

26. Notification regarding registration in Central Contractor Registration (CCR) database: Registered

Awarded SIN Numbers:

871-1(EE) ***Strategic Planning for Technology Programs/Activity***

MIKEL has expertise in the evaluation of high-level U.S. Navy mission objectives and resulting performance requirements. We have completed multiple projects in these areas. For example, our company analyzed the Active Intercept Ranging capability for the Naval Sea Systems Command (NAVSEA) with the goal of defining key components of an active intercept and collision avoidance system. As a result, MIKEL defined multiple technology and system development options based on various sensor, signal processing, and system alternatives. This was accomplished by the research and analysis of current system requirements, an in-depth analysis of multiple systems' performance and cost implications and the development of a working knowledge of viable system alternatives. One of the options was selected and a full program objective and milestone plan was produced.

A second example of previous successfully completed projects lies in the evaluation of resources required to execute technical approaches and programs to meet all the current requirements for undersea ranges. MIKEL conducted a fundamental study that would challenge all of the long held assumptions forming the basis for these requirements and proposed a new set of technology solutions meeting these requirements. The definition and interpretation of assumptions that formed the requirements for undersea tracking ranges were evaluated and scrutinized by key professional engineers with critical knowledge and experience in undersea tracking range requirements and technology. MIKEL provided an in-depth analysis covering the fundamental purpose of undersea ranges and the assumptions underlying the existing range architecture based on an understanding of high-level mission requirements for undersea tracking ranges. Examining and challenging many of the fundamental assumptions allowed the identification of alternative approaches that could meet the requirements, improve the products for conducting range exercises to providing affordable solutions for portable ranges. This effort also identified new technology opportunities that would allow the next generation range architectures to emerge and identified the Research and Development required to provide the next generation capability.

This analysis resulted in a fundamental systems engineering process that looked beyond the ORD (Operational Requirements Document), and focused at the basic mission requirements. MIKEL provided NUWCNPT with the support in analyzing the current approach and identifying new architectures to improve the product. In addition,

MIKEL provided the fundamental groundwork to identify the R&D and production programs required to meet the user's needs.

871-2(EE) ***Concept Development and Requirements Analysis***

MIKEL has significant experience and expertise in the areas of concept development and requirements analysis for the US Navy. An example of a successfully completed project is the studies conducted of newly emerging submarine combat systems (sensors, combat control and weapons) and special warfare systems in order to define performance requirements and shortfalls and evaluate tradeoffs in performance and cost of different technical approaches addressing the shortfalls. MIKEL conducts studies of current and newly emerging submarine combat systems (sensors, combat control and weapons) and special warfare systems to include detection, classification, tracking, localization/target motion analysis and weapon preset and post launch control and the effect of these functions on tactical decision making. We identify operational problems based on the analysis of system performance during actual at sea operations and work with developers of ASW systems to define system requirements/specifications and assist in the implementation and integration of new capabilities within the combat system that address the identified operational problems. Concept studies are also performed to evaluate how best to measure crew performance during synthetic training events conducted at the submarine multi mission team trainers. This includes measurement of how the submarine combat system and special warfare system supports crew decision making. This is accomplished through modeling & simulation; development of measures of performance and measures of evaluation models and algorithms using MATLAB and statistical estimation theory.

871-3(EE) ***System Design, Engineering and Integration***

MIKEL's core expertise lies within the system design, engineering and integration SIN. Previously, we provided these services to the Naval Underwater Warfare Center, Newport Division (NUWCNPT). They required the development and implementation of methodologies to automate the time consuming and error prone processes of manual track reconstruction/rectification and analysis and evaluation of government approved measures of performance and measures of effectiveness. Design studies and analysis were required to select appropriate hardware and system architectures and automation methodologies. High level detailed specifications were developed to be used for prototype system development. Configuration management was performed to control development and dissemination of system builds and document control.

MIKEL developed and documented a new analysis system (called the Tactical Analysis Toolbox – TAT) for ASW exercise reconstruction and quantification; tactical performance analysis; and tactical metric calculations. New capabilities developed included: multiple target and multiple ASW platform analysis including aircraft (fixed wing and helicopters), surface units including SURTASS units, and submarines; reconstruction and track rectification capability including quantification of

reconstruction errors; analytical and analysis support for Theater USW reconstruction and analysis; incorporating the use of environmental data into the analysis process; simulated torpedo firing analysis and evaluation; and export of analysis data and track information to ASW Tactical Analysis System (A-TAS) data base system. We also provided documentation an well as training on TAT analysis capabilities and upgrades.

In addition, another ongoing effort that exemplifies our system engineering, design and integration skills can be seen throughout our development of an undersea ranging technology for submarines by the Naval Sea Systems Command (NAVSEA) to provide an enhanced capability for ship self defense and survivability. This capability is being developed for installation and deployment on all classes of U.S. Submarines and is intended to interface to the existing sensors that are installed as part of the platform's overall sensor suite. MIKEL designed developed, implemented and tested sensor, signal processing and data processing algorithms to allow detection and passive ranging to underwater acoustic active emissions from sonar and torpedo systems. We conducted laboratory and experimental testing of existing and new sensors and developed signal and data processing hardware and software to process the detection data provided by the sensors. We performed risk identification/analysis/mitigation, traceability encompassing the various sensor, signal and data processing components and then integrated the best components to produce a working active intercept ranging system prototype/ model of the final system. Software was implemented and developmental testing of proposed algorithms was performed. This was achieved by modeling and simulation of proposed signal and data processing approachs to verify functionality and conformance with design objectives. We utilized mathematical analysis and physics based modeling for algorithm development and MATLAB software environment for implementation and testing.

871-4(EE) Test and Evaluation

MIKEL has extensive expertise in the area of Test and Evaluation of current and emerging submarine combat systems during both laboratory training scenarios and actual at sea operations conducted on instrumented training ranges or in the open ocean. To demonstrate this, we performed test and evaluation of current and newly emerging submarine combat systems to assess the suitability of the systems supporting various ASW and special warfare missions as they were originally designed. MIKEL performed test and evaluation of submarine combat systems, special warfare systems and tactics during actual at sea surface ship, aircraft and submarine joint and individual platform exercises. More specifically, MIKEL performed test and evaluation of various USW platforms, systems and tactics utilizing modeling & simulation and provided the development of measures of performance and measures of evaluation models and algorithms using MATLAB and statistical estimation theory. Known experts in the field of test and evaluation were utilized to conduct this task.

Disaster Recovery Purchasing SIN(s):
871-1RC
871-2RC
871-3RC
871-4RC

Labor Categories:

Professional Engineering Services – Schedule 871
SINS: 871-1; 871-2; 871-3; & 871-4

	Labor Category	Base Period Year 1 Rates	Base Period Year 2 Rates	Base Period Year 3 Rates	Base Period Year 4 Rates	Base Period Year 5 Rates
1	Administrator	$ 41.52	$ 43.10	$ 44.74	$ 46.44	$ 48.20
2	Sr. Electrical Engineer	130.57	135.53	140.68	146.03	151.58
3	Engineer I	70.07	72.73	75.49	78.36	81.34
4	Engineer II	84.85	88.07	91.42	94.89	98.50
5	Engineer III	119.90	124.46	129.19	134.10	139.20
6	Engineer IV	129.76	134.69	139.81	145.12	150.63
7	Engineer V	146.92	152.50	158.30	164.32	170.56
8	Operations Research Analyst	121.73	126.36	131.16	136.14	141.31
9	Program Manager	124.77	129.51	134.43	139.54	144.84
10	Project Manager	83.05	86.21	89.49	92.89	96.42
11	Sr. Program Manager	166.65	172.98	179.55	186.37	193.45
12	Sr. Operations Research	119.77	124.32	129.04	133.94	139.03
13	Subject Matter Expert	130.57	135.53	140.68	146.03	151.58
14	Technician	73.54	76.33	79.23	82.24	85.37

Labor Descriptions:

	Labor Category	Labor Category Description	Education	Yrs. Experience	Substi-tution
1	**Administra-tor**	Must be able to perform administrative duties in support of existing contracts. Involves scheduling and logistical support of onsite and off-site corporate meetings and events. Aid in preparation financial and technical reports and meeting minutes. Responsible for purchases of small materials and budget. The qualifications for this role include: strong interpersonal skills, strong computer and internet skills (Word, Excel, PowerPoint, Internet Explorer), present information in a clear, concise manner, verbally and written.	HS	2-6	N/A
2	**Senior Electrical Engineer**	Designs, develops, and tests all aspects of electrical components, equipment, and machinery. May use computer-assisted engineering and design software and equipment to perform assignments. Applies principles and techniques of electrical engineering to accomplish goals. Requires a bachelor's degree in engineering and at least 8-10 years of experience in the field or in a related area. Demonstrates expertise in a variety of the field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of tasks. May provide consultation on complex projects and is considered to be the top level contributor/specialist. A wide degree of creativity and latitude is expected. Typically reports to a manager or head of a	Bachelor	8-10	No

	Labor Category	Labor Category Description	Education	Yrs. Experience	Substi-tution
		unit/department.			
3	**Engineer I**	Responsible for design, development, implementation, and analysis of technical products and systems. Performs engineering design evaluations. May develop a range of products. Recommends alterations to development and design to improve quality of products and/or procedures. May require a bachelor's degree in engineering and 0-2 years of experience in the field or in a related area. Has knowledge of commonly-used concepts, practices, and procedures within a particular field. Relies on instructions and pre-established guidelines to perform the functions of the job. Works under immediate supervision. Typically reports to a supervisor or manager.	Bachelor	0-2	No
4	**Engineer II**	Responsible for design, development, implementation, and analysis of technical products and systems. Performs engineering design evaluations. May develop a range of products. Recommends alterations to development and design to improve quality of products and/or procedures. Requires a bachelor's degree in engineering and 2-4 years of experience in the field or in a related area. Familiar with standard concepts, practices, and procedures within a particular field. Relies on limited experience and judgment to plan and accomplish goals. Performs a variety of tasks. Works under general supervision. Typically reports to a supervisor or manager.	Bachelor	2-4	Yes

	Labor Category	Labor Category Description	Education	Yrs. Experience	Substi-tution
5	**Engineer III**	Responsible for design, development, implementation, and analysis of technical products and systems. Performs engineering design evaluations. May develop a range of products. Recommends alterations to development and design to improve quality of products and/or procedures. Requires a bachelor's degree in engineering and 4-6 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on experience and judgment to plan and accomplish goals. Performs a variety of complicated tasks. A wide degree of creativity and latitude is expected. May report to an executive or a manager.	Bachelor	4-6	Yes
6	**Engineer IV**	Provides expert judgment and analysis for the design, development and implementation of technical products and systems. Resolves highly complex technical issues and conducts advanced research. Recommends alterations to development and design to improve quality of products and/or procedures. Requires a bachelor's degree in engineering and 6-8 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of tasks. Leads and directs the work of others. A wide degree of creativity and latitude is expected. May report to an executive or a manager	Bachelor	6-8	Yes

	Labor Category	Labor Category Description	Education	Yrs. Experience	Substi-tution
7	**Engineer V**	Provides expertise in one or more areas for the design, development and implementation of technical products and systems. Recognized as technical leader and resource. Recommends alterations and enhancements to improve quality of products and/or procedures. Responsible for all internal activities and product development. Requires a bachelor's degree in engineering and at least 8-10 years of experience in the field or in a related area. Demonstrates expertise in a variety of the field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of tasks. May provide consultation on complex projects and is considered to be the top level contributor/specialist. A wide degree of creativity and latitude is expected. May report to an executive or a manager.	Bachelor	8-10	Yes
8	**Operations Research Analyst**	Provides analysis support in any of the following disciplines: engineering, science, business, financial, cost, operations or program management. Typical duties performed may include; analysis, design, development, testing, integration, logistics, program management, cost, financial, or management analysis, or maintenance of systems, processes, programs, offices or products.	Bachelor	6-8	Yes
9	**Program Manager**	Plans and directs all resources on a specific project/projects. Manages the development, implementation, and evaluation of complex designs, product	Bachelor	8	Yes

	Labor Category	Labor Category Description	Education	Yrs. Experience	Substi-tution
		construction and testing in order to ensure completion of project as efficiently and effectively as possible. Familiar with a variety of the field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. Leads and directs the work of others. A wide degree of creativity and latitude is expected.			
10	**Project Manager**	Responsible for the coordination and completion of projects. Oversees all aspects of projects. Sets deadlines, assigns responsibilities, and monitors and summarizes progress of project. Prepares reports for upper management regarding status of project. May require a bachelor's degree and 4-7 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of tasks. Leads and directs the work of others. A wide degree of creativity and latitude is expected. Typically reports to a Program Manager.	Bachelor	4-7	Yes
11	**Senior Program Manager**	Coordinates and monitors the scheduling, pricing, and technical performance of company programs. Responsibilities also include aiding in the negotiation of contracts and contractual changes and coordinating preparations of proposals, plans, specifications, and financial conditions of contracts. Develops new business and expands product line. Ensures	Bachelor	10	Yes

	Labor Category	Labor Category Description	Education	Yrs. Experience	Substi-tution
		adherence to master plans and schedules, develops solutions to program problems, and directs work of incumbents assigned to program from various departments. Ensures projects are completed on time and within budget. Acts as advisor to program team regarding projects, tasks, and operations. Requires a bachelor's degree and at least 10 years of experience in the field or in a related area. Familiar with standard concepts, practices, and procedures within a particular field. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of complex tasks. A certain degree of creativity and latitude is required. Typically reports to a unit/department head.			
12	**Senior Operations Research**	Collects and analyzes data to evaluate operational difficulties and makes recommendations to solve problems. Develops and follows modeling and evaluation processes to determine the effectiveness of current operational activities to determine problem areas and develop solutions. Requires a bachelor's degree and 8-10 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on extensive experience and judgment to plan and accomplish goals. Performs a variety of tasks. Leads and directs the work of others. A wide degree of creativity and latitude is expected. Typically reports to a manager or head of a unit/department.	Bachelor	8-10	Yes

	Labor Category	Labor Category Description	Education	Yrs. Experience	Substi-tution
13	**Subject Matter Expert**	Recognized at the industry level in a technical field or specialized engineering or technology area and is proficient in relevant engineering principles and practices. Applies experience, skills, and expert knowledge within an engineering discipline to complex assignments. Generates unique concepts as evidenced by synthesis of new products or processes. Creates or uses engineering/scientific tools to solve technical problems. Utilizes and develops tools, techniques, processes and/or facilities such as state-of-the-art simulation environments, laboratories, and test facilities. Provides leadership for engineering activities in a specialized engineering or technology subject area. Serves as a major contributor to technical planning process and for providing technical management and guidance. Minimum Experience: This position typically requires eleven years of experience in functional areas such those described above. See Note below. Minimum Education: Master's or equivalent in Engineering, Science, or other related field.	Masters	11	Yes
14	**Technician**	Able to apply electrical and electronic theory to develop, manufacture, maintain, and service a wide variety of electrical and electronic equipment and components. Must be able to assemble, maintain and test electrical equipment and components. Able to diagnose the cause of malfunctions,	None	5	Yes

	Labor Category	Labor Category Description	Education	Yrs. Experience	Substi-tution
		perform preventive and corrective procedures, and conduct periodic tests. They may suggest changes in or replacement of equipment which fails to meet operating standards.			
15	**Training Specialist**	Designs and conducts company training programs. Monitors and reports the effectiveness of training on employees during the orientation period and for career development. May be involved in initial plan design and existing plan enhancements. Requires a bachelor's degree in a related area and 4-8 years of experience in the field or in a related area. Familiar with a variety of the field's concepts, practices, and procedures. Relies on experience and judgment to plan and accomplish goals. Performs a variety of complicated tasks. May lead and direct the work of others. May report directly to an executive or head of a unit/department. A wide degree of creativity and latitude is expected.	Bachelor	4-8	Yes