Statement of Work

Title: EU MDMS and Other Support--Mechanical Engineer (E070)
Revision Number: 0
Date: 4/26/2018
Requisition No: 310846

1.0 INTRODUCTION / BACKGROUND

Mission Support Alliance, LLC (MSA) Electrical Utilities (EU) is in need of a subcontractor to work in support of EU requirements as an engineer located at or near 2101M, 200 East Hanford.

The Subcontractor is required to provide staff augmentation support as set forth herein:

2.0 OBJECTIVE

The function of this position is to support program-wide activities associated with the Meter Data Management System (MDMS) including completing contract deliverables for energy management derived from the MDMS, and for configuration management of the software and hardware associated with the MDMS. These tasks fulfill requirements of MSA’s Mission Support Contract (MSC) including making the Hanford Electrical Utility systems more reliable and maintainable. The position also requires engineering and other responsibilities as outlined:

3.0 DESCRIPTION OF WORK – SPECIFIC

Tasks--based on MSC deliverables including technology advancements, governmental compliance, and support for MSA EU and other functional service areas:

1. Qualify and perform the functions as the Design Authority (DA) Engineer for the MDMS:
   - Manage the Configuration Baseline, Chart with EU program
   - Ensure operability of the system
   - Evaluate system status and performance
   - Provide technical support to Operations and Maintenance for MDMS
   - Report on system health and status quarterly

2. Support the Reliability Engineer (RE) program with any MSA engineering system:
   - Attend programmatic meetings
   - Document equipment uptime/downtime as needed
   - Trend equipment performance
   - Assist REs in resolving maintenance
3. Validate Bonneville Power Administration (BPA) power and transmission bills:
   - Download BPA data from website.
   - Chart with EU program.
   - Identify anomalies to BPA for correction.
   - Provide megawatt hours (Mwh) to RL to report to DOE HQ.
   - Incorporate new BPA rate structure to validate costs.
   - Test Meter Reader Billing System (MRBS)—in the generation of this report.

4. Operate data collection systems, including Field Data Acquisition System (FDAS), Manual Meter Collection System (MMCS), Meter Data Acquisition System (MDAS), and the XL Energy Monitoring System (XLeMS):
   - Review error messages daily from automatic data collection.
   - Direct/support the meter relay technicians’ field work activities including identifying problems with data loggers and submit to EU Work Management (EU WM) for craft to repair. Resolve data logger communications issues with telephone service providers. Compare meter data to determine inaccuracies and submit to EU WM for craft for repair.
   - Update handheld reading device and FDAS system with service additions and removals.
   - Bring new hardware and software on line.
   - Upload meter readings from handheld device daily while taking manual readings.
   - Prepare 400 Area meter readings sheet monthly.
   - Including all software, hardware, and documentation.

5. Determine BPA cost allocations:
   - Download monthly meter readings and automatic data for records.
   - Transport meter data and files to subcontractor (EMP2) for input and verification.
   - Rectify discrepancies identified during data entry or by operators while taking readings.
   - Create meter records for new services in general user access program (WHM Data).
   - Update billing spreadsheet with service additions and removals and review for errors.
   - Reprogram billing spreadsheet to free memory for more services.
   - Calculate 400 Area distribution.
   - Summarize and send to RL Finance.

6. Determine rate, historical use, and EU service assessment annually:
   - Obtain EU costs for fiscal year from CACN reports to express as rate.
   - Update annual charts.
   - Provide BPA cost breakdown by contractor to distribute EU costs.
   - Use rates for estimating energy costs and savings payback.
7. Keep current with BPA power and transmission contracts:
   - Understand regional dialogue, tiered rates methodology, rate schedules, and general provisions.
   - Review meter points in appendices.
   - Participate in revisions to modifications.

8. Respond to customer requests for data:
   - Convert Lotus meter records to Excel for load history data inquiries.
   - Add or subtract meter records for correct result.
   - Compare manual readings with automatic data.
   - Provide hourly data to determine load shifting from outages or for coincident peak demands.
   - Evaluate night setback impact on demand to determine if cost effective (on EU system deficiencies list).

9. Support the Environmental Integration Services (EIS) organization by assisting with
   - Energy audits, including:
     - Identify top users to audit that represent 75 percent of the load.
     - Convert Lotus meter records to Excel
     - Add or subtract meter records for correct result
     - Compare manual readings with automatic data.
     - Provide hourly data to correlate with other record devices.
     - Validate energy savings from retrofits or operating changes.
   - Reporting functions, including:
     - Input to Site Sustainability Plan (SSP).

10. Maintain Hanford Site Electrical Metering Implementation Plan:
   - Author annual updates.
   - Re-evaluate qualifying facilities (also used for Metering Pilot Project)

11. Validate electric bills from the City of Richland, Benton County PUD, and Benton REA.

12. Assist EU Program Management and other organizations as requested to:
   - Integrate with these and other energy management and utility systems according to MSC.
   - Integrate with department and company specific systems such as the Phoenix Asset Management System, EU Facility & Equipment Data Management System (EUFEDMS), energy management databases, etc.
   - Assist management in providing industry recommendations in planning and upgrading all systems including control systems, databases, procedures, work processes, and desktop instructions, etc.
• Work with departments and SMEs to produce adhoc reports for customers as requested. Provide customized reports for EU Engineering as requested to assist in the selection of right-sized transmission and distribution equipment.

13. Follow and consult management on all governmental acts, laws, regulations, or processes pertaining to this scope including:
   • EPAct 2005 and addendums.
   • Applicable environmental, energy and compliance requirements.

14. Support the installation of new electrical services and the removal of existing electrical services as cleanup activities evolve on the Hanford Site.

15. Coordinate with EU management to update the metering system and help troubleshoot problems which arise.

16. Create and implement a long-term metering system plan that aligns with the Hanford Ten Year Site Plan, the Hanford Lifecycle Scope, Schedule and Cost Report, and EU’s Master Plan.

17. Develop a system to provide EU Dispatchers with near real-time meter data at the facility transformer level.

18. Implement the “Green Button” requirement that allows customers to access their electricity use and cost information.

19. Network with other utility and industry individuals, companies, and associations to learn trends and best available technologies.

This position is critical for the timely completion of several activities including:
• Ensure timely completion of three contract deliverables:
   - CD0084 BPA Power and Transmission Service Invoice Verification and Breakdown of Site Contractor Costs (monthly);  
   - CD0088 Annual Update of Hanford Site Metering Plan Progress Report;
   - CD0083 Annual Electrical Load Forecasts;
• Assist with project metering design reviews;
• Support the increasing backlog of customer requests for load consumption data and cost history.

The MSA contract requires MSA to operate the Hanford electrical transmission and distribution system in a safe and reliable manner, consistent with Electric Reliability Standards. Compliance with the electrical reliability standards must be achieved and maintained in order to ensure the integrity of the bulk electric systems.
In addition, issuance of Energy Policy Act of 2005, Executive Order 13423, and DOE 430.2B all drive the need for additional meter installations. Changing guidance documents for Metering Standards in Federal Buildings, Advanced Meters, etc., all need to be incorporated into the Hanford metering program. This position will also integrate with future upgrades in others engineering, program, and control systems databases to provide a data rich environment that is continuing to grow. With an increased number of new requirements, this has become overwhelming along with load forecasting and reporting progress toward implementation goals and many have become involved. Data analysis is essential for determining where to best apply resources for repairs to upgrades. Areas that need to be assessed include a hierarchy comparison for accuracy improvements, manual vs. automatic discrepancies, facility load profiling for transformer sizing, and overloaded or underutilized services. Measurement and validation requires the interpretation of data which is a meticulous process.

Previous organization staffing reductions, re-assignment of work responsibilities, and the incumbent employee’s considerable experience and unique familiarization with the metering program has created a situation where the organization has one employee performing this essential activity. Supporting succession planning of this key/critical position within EU in particular, and MSA in general, to match future personnel needs with the bench strength of available talent. Even so, the contractor will have to find the time, ability, and/or continuity to analyze the massive amount of meter data being accumulated. Data analysis is essential for determining where to best apply resources for repairs or upgrades.

The monthly billing allocations, as well as annual electrical load forecasting, are contractual requirements that if not completed in a timely manner would cause a negative review by RL and adversely affect the amount of fee. The meter data is also used for engineering decisions on facility modifications, and for energy management and performance tracking. Due to implementation of the EPAct 2005 and subsequent policies and orders, specialized software and processes are required to support contractual, legal, and regulatory milestones (such as DOE-HQ).

4.0 QUALIFICATIONS

Minimum Qualifications:

- Bachelor’s Degree in Mechanical Engineering from an accredited University.
- A current Professional Engineering license in the State of Washington.
- Capability to qualify for MDMS Design Authority Engineering position in MSA.
- Minimum of ten years combined experience in engineering, energy management, and system integration/network administration.
- A history of communication and persuasion skills, including the ability to dialogue and interface with customers, contractors, subcontractors, MSA, and other Hanford contractor
personnel to implement an integrated team. Persuasive communication is also required with respect to motivate team members and customers to advance processes and systems.

- Strong technology capabilities: including proficiency in software, hardware, networks, and industrial utility systems.
- Ability to work independently and in a team environment.

 Desired Qualifications:

- Capabilities of acquiring data and running reports in the systems listed in section 3.0 (DESCRIPTION OF WORK – SPECIFIC) Subpart 2.
- Experience with directing and prioritizing workers’ activities (including craft) to complete projects, and meet deliverables.
- Previous experience in projects and/or systems within an electrical utility (transmission and distribution system).
- Experience with reporting for EPAct 2005 compliance and DOE energy conservation directives.
- Know-How:
  a. Depth and breadth of knowledge required to perform the job: This position requires the ability to analyze and interpret complex mathematical problems/situations and knowledge of basic electrical metering and power system concepts, including directional power flow, as they relate to generated data. Strong emphasis on quality control as it relates to delivered load data.

  b. Specialized education and experience requirements: Must be able to research, compile, coordinate, schedule, review, document, organize, verify data, conduct independent analysis and identify inconsistencies. Must be able to analyze data and grasp data trends, data relationships and utilize best sources of interval data in problem identification and resolve. Strong report writing skills which provide a good understanding of how to manipulate data that has been produced and collected from multiple processes and systems is essential.

- Problem Solving: Works under general supervision of the EU program manager. The position requires innovative reasoning to deal with a complex and at times changing mix of regulatory, programmatic, technical, business, personnel, funding, and schedule factors and constraints requiring initiative and creativity. In general, minimal supervision is required for actions within defined guidelines. Sound technical judgment and knowledge of customer programmatic priorities and expectations is required. Makes routine decisions within established procedures and well-defined standard practices. The position is visible with the RL customer and directly contributes to the MSA performance appraisal and award fee rating.

Subcontractor shall ensure that its personnel meet and maintain the appropriate training, qualifications, and certification requirements as applicable.
5.0 REQUIREMENTS

General

Subcontractor shall operate to MSA policies, procedures, and processes. MSA will supervise and direct the day-to-day work activities of the Subcontractor’s personnel.

For any work performed on the Hanford Site or any MSA controlled facility, the provisions of the On-Site Services Special Provisions, will apply to Subcontractor personnel.

5.1 Engineering Requirements – NOT APPLICABLE

5.2 Environmental, Safety, & Health Requirements

The Subcontractor shall perform work safely, in a manner that ensures adequate protection for employees, the public, and the environment, and shall be accountable for the safe performance of work. The Subcontractor shall comply with, and assist the Buyer in complying with environmental and safety requirements of all applicable laws, regulations and directives.

The Subcontractor shall exercise a degree of care commensurate with the work and the associated hazards. The Subcontractor shall ensure that management of environmental and safety functions and activities is an integral and visible part of the Subcontractor’s work planning and execution processes. As a minimum, the Subcontractor shall:

- Thoroughly review the defined scope of work;
- Identify hazards and environmental and safety requirements;
- Analyze hazards and implement controls;
- Perform work within controls; and
- Provide feedback on adequacy of controls and continue to improve safety management.

The Subcontractor shall flow down all environmental and safety requirements to the lowest tier Subcontractor performing work on the Hanford site commensurate with the risk and complexity of the work.
5.3 Quality Assurance Requirements – NON APPLICABLE

5.4 Government Property

The Subcontractor will be responsible for managing the Government-owned property as required in the Subcontract Provisions. Any future assigned property will be documented per procedure.

6.0 PERSONNEL REQUIREMENTS

6.1 Training

A. Hanford site-specific general training requirements to safely perform this work will be designated by the Buyer’s Technical Representative (BTR).

B. The following types of training qualifications are required:
   
   - Hanford General Education Training (HGET)/MSA General Education Training (MGET) is required.
   
   - Other site specific training may be required as determined during performance of this scope of work.

6.2 Security and Badging Requirements

A. For any on site work, see Special Provisions – On-Site Services for details.

B. The Subcontractor shall wear a Buyer-issued security badge identifying themselves. A minimum of two working days advance notice is needed for site badging.

C. Subcontractor employees will be required to submit to vehicle searches and not personally carry or transport certain prohibited articles.

D. Subcontractor will not require an access authorization (security clearance).

   - A security clearance is required for all Subcontractors who will have: (1) access to classified matter, (2) access Special Nuclear Material (SNM), and/or (3) require frequent, unescorted access to secured areas.

   - A facility clearance must be in place at Hanford for the individuals employer (facility), before a security clearance may be granted. Facility Clearance (FCL) approval will be required for a facility to be eligible to (1) access, handle or possess classified information, (2) SNM, or other hazardous material presenting a potential sabotage threat, or (3) responsibilities for safeguarding
$5M+ of government property. If any of these criteria apply to the SOW, the Contract Specialist needs to be notified immediately, in order to process clearance paperwork. The work cannot begin until an FCL is in place. A new FCL is required for each subcontract meeting the criteria.

- A subcontractor that will not possess classified information or matter, or SNM at the subcontractor’s place of business and will only access such security activities at other cleared facilities must be cleared as a “non-possessing facility.”

6.3 Work Location/Potential Access Requirements:

Specific work location(s) for the performance of this work is at or near 200E 2101M, with an after-hour proxy access requirement to the building.

6.4 Site Access and Work Hours

Hanford personnel at the Hanford Site work a standard 4/10 schedule. The standard work week consist of ten (10) hours of work between 6:00 am and 4:30 pm, with one-half hour designated as an unpaid period for lunch, Monday through Thursday.

Work performed outside normal operating hours shall be coordinated and/or approved through the BTR and/or the Contract Specialist prior to performing the work.

7.0 MEETINGS, SUBMITTALS

Subcontractor shall participate in all meetings as required by the Buyer’s Technical Representative (BTR).

8.0 SCHEDULE REQUIREMENTS

8.1 Schedule

Start date: **TBD**

Completion date: **9/30/2019***

*With options years.