RFP: 17-PR-DMS-40

ANNUAL MAINTENANCE AND REPAIR OF ELECTRICAL CONTROL EQUIPMENT

ATTACHMENT A: SCOPE OF WORK

1. General Information:

   District of Columbia Water and Sewer Authority (DC Water) is soliciting proposals for the maintenance, repair, installation of industrial electrical equipment and associate controls systems, located at DC Water Blue Plains facility. DC Water is seeking highly competent, experienced, and qualified contractor(s) for industrial electrical equipment. This Contractor should understand and follow basic maintenance reliability concepts. The contract will have a 1-year base period with two (2) 1-year option periods for a maximum contract life of 3 years.

2.1 Scope of Work:

   2.1.1 The Contractor (includes the supervisor, technicians (staff) and any other support or administrative staff) shall provide approximately six (6) DC Journeyman electrical licensed experienced staff with (1) DC Master electrical licensed supervisor. This may be adjusted up or down at the discretion of the COTR (Contracting Officer’s Technical Representative) at any time on one week notice during the length of the contract. Four (4) of the six (6) experienced staff members shall also have extensive knowledge and be capable of troubleshooting and correcting failures with smart MCCs (motor control center) and VFDs (variable frequency drive). Four (4) of the six (6) experienced staff members shall also have level one IR certifications from National certification Board. The Contractor will provide supervision, labor, transportation, replacement parts, modifications, installation, and maintenance of industrial electrical equipment and other related equipment at various DC Water facilities. The Contractor is encouraged to visit the site(s) and become thoroughly familiar with all conditions affecting the satisfactory completion of the contract.

   2.1.2 Each of the Journeyman Technicians must be experienced in standard principles, practices and troubleshooting of industrial electrical equipment and control systems that are connected to SCADA control systems. This includes extensive knowledge of motors, circuit breakers, electrical wiring, electrical schematics, National Electrical Code standards and all types of controls signals (4-20 MA, DI/DO). Technicians should be able to demonstrate experience troubleshooting, repair and programming of VFDs and HMIs (human-machine interface).
2.1.3 Although no SCADA programming expertise is expected from the contractor, a good understanding of the SCADA hardware and ladder logic based PLC program is expected.

2.1.4 Each journeyman technician shall be able to work independently/alone and be capable of troubleshooting, repair, and perform preventive/predictive maintenance on industrial electrical control equipment at DC Water facilities.

2.1.5 Each journeyman technician and the supervisor should be fully trained in all safety requirements in the performance of assigned tasks as per OSHA and NFPA. (Lockout/Tag Out, Arc flash, Confined space, etc.)

2.1.6 Each technician and the supervisor shall perform approximately 2,000 hours of services at the job site(s) during the base year and each option year for 14000 hours per year. Breaks, lunches, holidays and DC Water closures are not billable time. Unless otherwise directed by the COTR, the contractor’s staff is expected to be on-site during all business days and during any off-hour emergencies as requested by the COTR.

2.1.7 Maximo is DC Water’s computerized maintenance management system. (CMMS) All hours must be documented in Maximo work orders with details of the work performed. The work orders will be written for specific assets at various DC Water locations.

2.1.8 All work and services are to be performed under the supervision of the COTR and/or his or her designee.

2.1.9 The contractor shall provide the following services, but not limited to:

a. Preventative maintenance, inspections, troubleshooting, repair, planning, and scheduling coordination of work orders. All non-emergency work orders must have an estimate of man-hours, list of parts required before start of the work. For non-emergency corrective maintenance work orders, contractor shall make all necessary repairs to restore equipment to proper operating condition and document root cause analysis and recommendations. Contractor shall provide weekly schedule in advance for all non-emergency work orders.

b. Perform complete corrective maintenance, making necessary repairs to restore equipment to proper operating condition of emergency work orders. Document root cause analysis and recommendations.

c. Preventive and Predictive maintenance functions shall be based on predefined work plans. Contractor supervisor shall notify COTR if the preventive or predictive maintenance work orders generated by DC Water Maximo system includes too little or too much time for the tasks so correction can be made to include more realistic time for these tasks in future.
d. Perform root cause analysis of the reoccurring issues and submit written recommendations and plans to COTR for modification in wiring, equipment type, installation etc. to solve the issue permanently.

e. Produce and recommend changes to work plans and job tasks to increase productivity and equipment reliability.

f. Contractor shall furnish, at his own expense, all tools, test equipment, and other equipment required by his personnel to accomplish the work.

g. The tools and equipment must be kept on the site at all times and immediately available for use by Contractor's personnel.

h. During performing any of the above functions, the Contractor shall identify any changes to the existing or as-built conditions associated with a facility, equipment, systems or assets due to the work performed by the Contractor. Such changes should reflect in the as-built drawings and updated accordingly utilizing “Computer-aided design and drafting” CADD systems.

i. At the end of each day, the Contractor shall update the CMMS (DC Water utilizes MAXIMO) and document work orders to reflect the work completed, labor, work plans, asset information and material used by the end of that day. CMMS work orders should be updated to include the description of the work performed and associated “actual hours” spent on each work order for all contractor’s staff members for that particular day. If there is any deviation from the planned work schedule of any of the staff members compared to the actual work performed and the budgeted hours spent, the contractor shall provide a task analysis and justification report documenting the reasons for deviation from the planned schedule and budgeted hours. Technician shall enter the problem cause, action performed and any follow-up required in details so any other technician can take it from where the last person left.

j. No deviation from planned week work schedule should take place unless clearly directed in writing by the COTR or his/her designee.

k. The Contractor’s supervisor shall be responsible for developing work plans, for various equipment used such as VFD’s, Motors and installation of replacement wiring and develop a quality control process.

2.1.10 The contractor’s performance will be evaluated based on production, efficiency and quality.

a. Production will be based on meeting the preventive and corrective maintenance schedule. Scheduled compliance will be based on completing at least 90% of
all scheduled work hours minus emergency works hours every week. The contractor shall submit compliance reports to the COTR monthly.

b. The efficiency will be based on completing the scheduled work order within the time estimates on the work plans plus or minus 20 percent (20%). The contractor shall submit a monthly efficiency report indicating the amount of non-emergency work orders executed, man-hours estimates and actual man-hours to the COTR monthly.

c. Quality will be evaluated by measuring the amount of completed work orders rejected by DC Water when the cause of the rejection can be attributed to the contractor’s performance. Additionally, quality will be evaluated by reviewing the proper documentation of all contractors’ activities in the CMMS, lack of proper CMMS documentation will be recorded. Finally, first call resolution for corrective maintenance shall be tracked, as will repeat calls on closed CM work orders. Contractor shall submit a quality report indicating the total work order closed and the work orders rejected to the COTR monthly.

d. The COTR and or his designee will meet with contractor every month to review and approve the performance reports.

e. The monthly deliverables are as follows: (1) Compliance report; (2) Efficiency report; and (3) Quality report. In addition to the reports, the contractor shall provide contact numbers for all personnel assigned to the contract on an as-needed basis.

2.2 **Tour of Duty:**

2.2.1 The regular tour of duty under the contract is eight (8) hours per day and shall be performed during the normal working hours of 6:00 a.m. to 6:00 p.m. at the COTR’s discretion, Monday through Friday, except for holidays and emergency repairs.

2.2.2 DC Water designated COTR may request the contractor to increase or decrease at any time of the contract the manpower at the job site as needed to accomplish the work beyond the six (6) experienced Journeyman Technicians and one (1) Supervisor for the 1 year base period and the 2 (two) 1-year option periods.

2.2.3 Contractor shall provide an afterhours and weekend contact phone number and two (2) hour maximum response time after call is initiated at no additional cost. After-hours repairs shall be billable at established overtime hourly rates starting at the time of arrival at the facility and reporting to control room. Failure to respond to the call within the established two (2) hour time frame shall be considered to be nonresponsive actions; three (2) such actions within a twelve (12) month period
shall be considered cause to terminate the contract. Any after-hours work needs to be authorized by the COTR or designee.

2.2.4 The Contractor (Supervisor and journeyman technicians are expected to adhere to DC Water Drug and Alcohol policies. It is up to the Contractor to train their supervisor and technicians (staff) on all DC Water Drug and alcohol Policies. The Contractor shall provide a signed proof of training of its staff whenever requested by DC Water. This training shall include all regulator required safety training.

2.3 Supervisor Qualifications:

2.3.1 The supervisor must have a DC Master Electrical License and six (6) years of progressive experience directly involved in management, installation, repair and maintenance of electrical industrial control systems or an Associate’s degree or equivalent in Electrical Engineering.

2.3.2 The Supervisor shall be able to perform all the functions required by technicians in addition to the supervisory responsibilities.

2.3.3 The Supervisor shall be a Certified Reliability Leader (CRL by Association of Asset Management Professionals) or Certified Maintenance and Reliability Professional (CMRP by Society of Maintenance and Reliability Professionals)
   a. In case of no certification, Supervisor is required to get the certification within 6 months of contract start date
   b. Supervisor is expected to be trained and fully versed in DC Water’s Maximo CMMS within 1 month of contract start date

2.4 Industrial Electrical Technician Qualifications:

2.4.1 The contractor shall furnish up to six (6) highly qualified journeyman technicians with a minimum of five (5) years’ experience each, in industrial electrical control equipment, repair, test and installation. At least four (3) years of this experience must be at the journeyman level.

2.4.2 The journeyman technicians must have a District of Columbia Electrical Journeyman's License.

2.4.3 Journeyman resumes must specify their experience, training, formal education, personal information, and detailed work history including location and dates of employment, certificates of all formal electrical training, educational history and licensing.
2.4.4 A minimum of four (4) journeyman technicians must be certified at a minimum level one (1) Infrared Thermographer from the Infraspection Institute of other organization recognized by the National Fire Protection Association (NFPA), American Society for Testing and Materials (ASTM), American Society for Nondestructive Testing (ASNT), International Electrical Testing Association (NETA) and the Infraspection Institute Guidelines.

2.5 Interview of Contractor’s staff:

2.5.1 DC Water will interview all proposed Journeyman/Supervisor prior to qualification acceptance. The interviews will be conducted by Manager of Maintenance Service or his designee.

2.5.2 The decision to accept any candidate is at the sole discretion of the COTR. If no candidates are acceptable to the COTR then the Contractor must provide candidates that meet the requirements noted above.

2.6 Contractor's Qualifications:

2.6.1 To be considered for an award, the Contractor must furnish DC Water with the following information and proof that the personnel are highly experienced and fully qualified to perform the work.

2.6.2 The contractor must have a minimum of five (5) years of specialized experience in performing maintenance of industrial electrical controls and the associated services and systems.

2.6.3 The contractor shall submit descriptions of similar scopes of work (as described in this proposal) performed during the past five (5) years for various clients.

2.6.4 The Contractor shall submit their internal quality processes and procedures to the COTR. Contractor shall be subject to a quality management audit by the DC Water’s representative.

2.6.6 The use of apprentices for this contract is precluded by the Contractor, due to the critical nature of this work and the requirements for expeditious and timely performance.

2.6.7 The contractor shall submit samples of five electrical control related major root-cause analyses performed in the last 5 years.
2.6.8 The contractor must submit a staffing plan (including resume and qualifications as indicated above for technicians) showing the ability to provide three (3) additional back up staff (technicians) and their ability to replace any of the assigned staff at any time due to any reasons. This replacement shall happen within five (5) business days.

2.7 Conditions of Employment:

2.7.1 Each Journeyman technician will:

a. Be employed forty (40) hours per week (not including emergency work), except for holidays, and days that DC Water is closed.

b. Report for duty ready to work at a site to be designated.

c. Regularly report to work on Monday through Friday of each week and as required for emergencies and over time;

d. Breaks, lunches and public holidays shall be excluded from billing hours. Contractor may only bill hours spent on work approved by DC Water;

e. Report for work in proper Personal Protective Equipment (PPE) attire as stated by the NFPA 70E 2005 OSHA work place safety rules and DC Water safety department. Technicians will be sent home if they are not wearing the required PPE. In addition to PPE, the contractor’s staff is also expected to carry personal gas monitors while working at any of the DC Water waste water facilities (depending on work location and hazard level specified).

f. Be current, up-to date on, and comply with all DC Water safety requirements, certifications and training such as “confined space entry” as required by DC Water. Such list will be provided by DC Water at the start of the contract period with any potential updates throughout the contract period. A current preliminary list of the required certifications and training if not included in this package can be requested as a separate item

g. Any journeyman technician furnished under the contract who does not fulfill any or all of the conditions of employment above shall be judged as unqualified and as such, excluded from further participation under the contract.

h. Any journeyman technician excluded from further participation in the contract shall be replaced, at the contractor's expense, within three (3) working days upon written notification by the COTR or his designee.
i. Judgment as to the qualification of each journeyman technician to staff the contract and to the quality of work performed shall be at the sole discretion of COTR or his designee.

j. If journeyman technician furnished under the contract are judged to be unqualified on any three (3) separate occasions, this could be deemed sufficient proof that the contractor can be judged unqualified and shall be just cause for the Contracting Officer (COTR) to immediately terminate the contract, at the contractor's expense.

2.8 Contractor's Personnel shall Report to Work with:

2.8.1 Please see section 3.9.1 for vehicle requirements. The vehicles shall be equipped with safety equipment for entering confined spaces, wet locations and elevated spaces. The personnel shall be in possession of the following:

a. A full complement of tools, test equipment, and personal safety equipment necessary to perform the designated specific maintenance and repair.

b. A valid vehicle operator's permit.

c. A picture identification card.

d. Current certificate of training in CPR, Basic First Aid, Confined Space Entry and Retrieval, Lock Out – Tag Out, and Arc flash, any other regulatory required training.

2.9 Each journeyman technician and supervisor shall be Proficient in:

2.9.1 Reading (English);

2.9.2 Writing (English);

2.9.3 Speaking (English);

2.9.4 The use of tools and test equipment associated with this line of work;

2.9.5 Understanding and use of industry standards for testing, repair, maintenance and calibration; and be proficient at interpreting industrial electrical diagrams;

2.9.6 Understand and practice all pertinent electrical safety standards such as Lock Out Tag Out and Arc Flash
2.9.7 Preparation of accurate written reports of work, test results and work orders.

3.1 Certification:

3.1.1 All technicians and supervisors furnished under the contract must be trained and maintain current certification in First Aid, CPR, and Confined Space entry as defined in OSHA regulations 29 CFR 1910 and all amendments prior to beginning work. All training and tests required to acquired, maintained certification currents is the sole responsibility of the contractor.

3.1.2 Any technician supplied under the contract, whose certification technical or safety related certification(s) have lapsed, shall not be allowed to return to work until they receive current certification.

3.1.3 The contractor shall provide DC Water with certification documents as part of the proposal and at the request of DC Water at any time during the contract period, demonstrating that the technicians are in compliance.

3.2 Hazardous Materials:

3.2.1 The facilities under the contract may contain asbestos. These facilities may also contain hazardous materials including, but not limited to, sodium hypochlorite, sodium bisulfite, hydrogen sulfide, carbon monoxide, methane, and other highly hazardous materials, liquids, gas, etc.

3.2.2 Contractors are warned not to disturb any known asbestos materials during the performance of this work.

3.2.3 Any disturbance of known asbestos shall be the responsibility of the Contractor and it shall be liable to abate them at the Contractor's expense and in accordance with all the EPA, Federal and District laws, rules and regulations.

3.2.4 Prior to any work on asbestos abatement, the contractor must immediately notify, the COTR and obtain written approval to proceed with the work.

3.3 Working Conditions:

3.3.1 The contractor will be expected to work on or around equipment operating at high voltages and be exposed to various degrees of temperatures, grease, solid sludge, waste, oil fumes, chemicals, vapors, sewer gases, dirt, various water and wastewater conveyance, pumping and handling processes, and components which may be toxic, irritant acids and difficult to work with.
3.3.2 Work will be performed during inclement weather when an emergency exists, at nights, weekends and holidays.

3.3.3 The contractor will also be required to work in hazardous areas, remote locations, high elevations, confined spaces where he/she may be subjected to various hazardous material and gases as noted above.

3.4 Reports:

The contractor shall maintain a written log book at the job sites. This written log book indicates the number of work hours performed each day by each journeyman technician, the exact equipment worked on, work performed, work site location, and check-in and checkout times on each job. All written reports including the performance reports must be substantiated by the work order data reported in the Maximo CMMS. All work, test and materials orders shall be prepared as per the direction of the COTR or his/her designee. These written reports shall be prepared at no additional expense to DC Water.

3.5 Cost of Materials:

Cost of parts and materials to DC Water shall be on the manufacturer/supplier invoice and include any discounts, rebates, etc, at the lowest available cost. No markups over actual invoice are allowed. However, actual costs such as freight, shipping, handling, import fees, etc., associated with procurement may be included. DC Water will pay invoices for materials approved in advance by the COTR or his/her designee. Prior to placing the order of any material, the Contractor shall obtain a written approval of that specific order from the COTR or his/her designee.

3.6 Prior to Commencement of Work:

3.5.1 No work shall be performed without a CMMS work order number unless authorized by COTR or designee.

3.7 Manpower Adjustments:

3.7.1 DC Water may request to the contractor to increase or decrease their manpower at the job site as needed to accomplish the work. The number and type of journeyman technicians may be adjusted up or down at the discretion of the COTR at any time during the length of the contract. All the technicians including the replacement and additional staff shall be properly trained regularly as required by DC Water training guidelines.
3.7.2 DC Water reserves the right to call the journeyman technicians to the job site during an emergency, such as, in the evenings, weekends, and holidays, at the established overtime hourly rate.

3.7.3 DC Water may terminate the contract if the contractor fails to maintain the required number of technicians at the job site during the contract period.

3.8 Tools, Material and Parts:

3.8.1 The contractor shall provide each journeyman technician all required test equipment, hand tools and power tools to perform the testing, troubleshooting, maintenance, repairs, calibrations, and installation of DC Water equipment and systems at each job site.

3.8.2 Test equipment and tools include but are not limited to:
   a. Complete tool kit, appropriate to the work being performed, one (1) for each journeyman technician.
   b. Cell phones for each technician and supervisor as primary communication device on site;
   c. Personal protective safety equipment, i.e. gloves, hard hats, safety toed shoes, safety goggles, dust masks, ear plugs/ear muffs, uniforms, personal gas monitors, confined space entry equipment, harnesses, respirators, raingear and knee high rubber boots, etc.
   d. Each Technicians and supervisor shall be equipped with a new laptop computer or other Maximo interfacing devices to be used to perform CMMS activities. The new laptop computers shall be capable of interfacing with the field equipment. The computers shall have a latest licensed copy of Microsoft Office or newer (Excel, Word, Outlook and Power Point).
   e. All of the necessary road safety equipment, such as, ladders, sump pumps, flags, cones, barriers, and all equipment for confined space entry.

3.8.3 Additional Tools and Equipment:
   a. The cost for the rental or purchase of such tools or equipment shall be approved by the COTR or his/her designee prior to the Contractor obtaining the equipment.
   b. DC Water may direct the contractor to utilize tools and equipment which are the property of DC Water.
c. Equipment which is the property of DC Water shall be returned in the same condition as received.

3.9 Vehicles:

3.9.1 The Contractor shall provide at least two (2) minivan type vehicles and 1 pick-up truck. Number of vehicles needed will increase or decrease based on number of personnel assigned to project. Minimum ratio is one vehicle per two technicians. All vehicles cannot be older than 2012 models. All such vehicles shall reflect company's name and a vehicle number. They must be in good working condition and maintained in a first class manner, including but not limited to the exterior appearance of such vehicles.

It is the responsibility of the Contractor to arrange to keep vehicles cleaned and in good running condition on their own time. And since these vehicles should be service vehicles, all vehicles should be assigned to a technician. Contractor's vehicles shall be parked in the designated DC Water parking lot.

3.9.2 All such vehicles shall be subject to inspection at the discretion of DC Water. If DC Water determines that such vehicles are not maintained, the contractor shall promptly repair or replace such vehicles. If the vehicles are not repaired or replaced by the contractor within forty-eight (48) hours or less, depending on the conditions of the vehicles. The Contractor acknowledges that the cost of providing such vehicles shall be recovered by the proposed hourly rates. Thus, other than proposed hourly rates, the Contractor shall not be entitled to any additional compensation for providing such vehicles.

3.10 Minor and Major Repairs:

3.10.1 The Contractor shall perform all minor repairs as expeditiously as possible. Minor repairs are those which may normally be accomplished by an experienced knowledgeable technician in no longer than an eight (8) hour period.

3.10.2 Major repairs shall be authorized by the COTR or his/her designee. Major repairs are those which will exceed the eight (8) hour time period.

3.11 Replacement Parts:

All parts or components replaced shall be turned over to the section supervisor after being salvaged and tagged with the following information:

a. Unit serial/administrative numbers;
b. Technician's name and contract number; and

c. Remarks as to the cause of the part/component failure.

3.12 Licenses and Permits:

The contractor shall obtain at its expense, any licenses, permits, and registrations necessary for the performance of the contract.

3.13 Work Space:

3.13.1 DC Water shall provide work space at the facility to house the Contractor's employees and equipment; which are directly related to the work to be performed under the contract.

3.13.2 DC Water takes no legal responsibility for any of the Contractor's equipment left at DC Water facility, nor is DC Water liable for any injuries to the Contractor's employees during the period of the contract. It is the Contractor's responsibility to ensure that its equipment is secured and that the Contractor has ample insurance to cover loss, damage, theft of property, and its employees.