

MSD FY 2024-2025 ELECTRICAL ARC FLASH STUDY

~ REQUEST FOR QUALIFICATIONS ~

The Metropolitan Sewerage District of Buncombe County, North Carolina (MSD) is soliciting Statements of Qualifications (SOQ) for Professional Engineering Services associated with the FY 2024-2025 Electrical Arc Flash Study (the “project”).

General Background of Project

MSD owns and operates the public sewer system in Buncombe County. It is comprised of a 1,155-mile collection system, 39 pump stations, and a 40 mgd treatment plant located along the French Broad River. Major processes at the water reclamation facility (WRF) located in Woodfin, North Carolina include Screening, Grit and Grease Removal, High-Rate Primary Clarification, Biological Treatment via Multi-Stage RBC’s, Intermediate Clarification, Cloth Media Filtration, Disinfection, Gravity Thickening, Belt Filter Press Dewatering, Emergency Power Generation, Hydropower Facility, and Sludge Incineration.

The electrical infrastructure at MSD locations can vary from complex high voltage systems at the WRF to simpler lower voltage systems at small pump stations. The goals of the project are:

1. To ensure worker safety while working on or near exposed electrical conductors or circuit parts that are energized, and
2. To ensure that MSD meets the current guidance and standards of NFPA 70E, IEEE, and 29 CFR 1910.132(d)(1), relating to arc flash analysis and associated arc flash and shock hazard labeling.

General Scope of Work

The firm selected shall conduct an arc-flash study for approximately one hundred and forty-eight (148) wastewater reclamation facility and collection system electrical panels/components. For the identified equipment, the project shall include:

1. Data Collection:
 - a. Obtain necessary data from the electric utility for each service such as source impedance data; transformer and feeder impedance data; and associated protective device settings,
 - b. Obtain and verify field data of electrical equipment (such as relay settings, transformer nameplate data, short circuit and equipment duty ratings, load data, and bus/conductor sizes and lengths) and create facility one-line models using appropriate electronic models/databases, and
 - c. Determine operating modes and conditions that can impact short circuit currents and arc flash energy levels.
2. Preliminary Study: Perform a preliminary short circuit, device evaluation, and selective coordination study using industry standard methods and models.
3. Preliminary Study Review: Review the preliminary study with MSD for discussion and recommended adjustments and mitigation.
4. Final Study: Prepare and submit a final study including a detailed report of findings and recommendations, connected load data, short circuit study, selective coordination study (including time-current curves), recommended device and relay settings/fuse sizes, the arc flash analysis, shock hazard analysis, and one-line diagrams. Current NFPA and IEEE standards shall be utilized to yield the study results.
5. Labels: Produce and furnish to MSD arc flash and shock hazard informational labels (for all appropriate equipment identified and studied) for incident energy, arc flash boundary, PPE, shock protection information, and other labeling requirements to satisfy NFPA 70E and 29 CFR 1910.132(d)(1).
6. Work on this project shall be managed and controlled by a qualified professional electrical engineer registered in the State of North Carolina.
7. Deadline: The firm must be able to complete the project by February 28, 2025.

Submittal Requirements

NOTE: **Qualifications shall not exceed ten (10) pages in length.** Brevity, clarity, and conciseness are strongly encouraged.

1. Transmittal cover letter. The cover letter will designate the firm's contact person with phone number, mailing address, and email address.

2. Project team and sub-consultants. Identify the project manager and describe their experience related to this project. Identify other project team members and sub-consultants and their relative experience. Discuss the role of key team members. Specify the location of the offices and the percentage and type of work that will be performed at each location. Discuss the experience of the project manager with the other members of the project team.
3. Firm Qualifications. Discuss the firm's work on projects similar in size and complexity. Firm must have extensive knowledge and expertise in arc flash analysis. Indicate firm's history of meeting established schedules and budgets.
4. References. Provide references of other clients (including contact name, phone number and address) for other projects similar in scope.

Evaluation of Statement of Qualifications

The selection committee will develop a short list of the most qualified firms for the project. Short listed firms may be asked to participate in a presentation/interview process, depending on the number of firms. The selection committee will choose a firm for the proposed project based in part on the following criteria:

1. Experience on projects of similar type and magnitude, and the firm's ability to adequately address and evaluate the items described above, within the specified timeframe.
2. Qualifications and experience of the proposed team and location of team members.
3. Completeness of the submittal.
4. Any other experience or criteria deemed applicable to the project.

To Respond

If your firm is interested in this project and qualified based on the requirements above, please submit the Statement of Qualifications electronically to Brendan Davey, P.E. before 2:00 P.M on Tuesday, June 4, 2024 to bdavey@msdbc.org. The anticipated selection process timeline will be as follows:

- SOQ Submittal Deadline: June 4, 2024
- SOQ Review: June 4, 2024 – June 25, 2024
- MSD Notice of Selection by June 25, 2024

For questions regarding the process or to review information, please contact Brendan Davey directly at (828) 225-8261, or e-mail bdavey@msdbc.org.

The Metropolitan Sewerage District reserves the right to reject any and all Statements of Qualifications.