



Job Title: Electrical Engineer	Reports to: Senior Supervising Engineer
Department: Engineering	Job Grade: 9
FLSA: Exempt	Union: No
Date: April 2021	GM Approval: _____

GENERAL SUMMARY: Under the general direction of the Senior Supervising Engineer, performs a variety of operating data analysis, inspections, maintenance programs and switching for substation operations.

ESSENTIAL JOB FUNCTIONS:

- System planning for electric distribution, provide technical support for OMS (Outage Management System), SCADA (Supervisory Control and Data Acquisition), and GIS (Geographic Information System) program.
- Review and develop electric distribution configuration recommendations for efficiency and operating condition improvements.
- Design and implement smart grid and microgrids.
- Create, review changes, validate, and update underlying data for system models.
- Perform system feeder analysis, contingency studies, coordination studies, and load forecasting.
- Review, update, and create substation electrical schematics, wiring diagrams, one-line diagrams, and three-line diagrams.
- Provide AMI support.
- Review and maintain SELCO standards and specifications.
- Assist substation technical staff with the testing of and/or troubleshooting of substation breakers, relays, controls, and protective devices.
- Make recommendations for substation equipment upgrades.
- Create associated wiring schematics and wiring diagrams appropriate for substation staff to make the recommended upgrades.
- Develop, review, and implement electric system switching procedures.



- Calculate reliability indices, participate in APPA's benchmarking program, and make recommendations for improved system reliability.
- Assess Distributed Energy Resources.
- Assist with document development and audit materials preparation for the North American Electric Reliability Corporation (NERC) and the Northeast Power Coordinating Council (NPCC) Reliability Compliance efforts.
- Serve as project engineer or project manager on major Capital Improvement, complex, and high profile projects.
- Act as technical resource expert in engineering matters. Assist in the development of the Capital Improvement Plan (CIP) and budget.
- Analyze distribution system behavior to identify and correct abnormal operations.
- Supports field and substation switching activities.
- Assist with the design, maintenance, and operation of SELCO's fiber-optic and communication networks.
- Provide support for integration between various CIS, GIS, OMS, SCADA, Fiber Management, Electric System Modeling, Project Tracking, Financial, and HR systems.
- Assist in the implementation and use of the Department's Outage Management, Field Staking, and Mapping systems.
- Read and correctly interpret maps, topographical drawings, and one-line diagrams that may be highly detailed and color coded.
- Document relay operations and in coordination with the Senior Engineer, validate operating information against system design parameters
- Routinely review and analyze system power quality (Volt/VAR management). Make recommendations to improve system power factor year-to-year.
- Train and support field personnel on technologies being deployed. (GIS, OMS, capacitor controllers, GPS, and others).
- Maintain current knowledge of meters, smart grid technologies, substation controls, relaying, SCADA, Distributed Management System (DMS), GIS, OMS, Customer Information System



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(CIS) and other Digital and mechanical substation systems through study, literature, and attendance at conferences and seminars.

- Must be available “on call” as part of supervisory rotation and provide after-hours support, as required.
- Assist other departments with special projects.
- Perform other job functions as requested.

KNOWLEDGE, SKILLS & ABILITIES:

- Experience with the National Electric Safety Code (NESC) and construction standards.
- Experience using CAD tools (preferably Autodesk products) as well as system modeling software such as Milsoft.
- Experience with projects in distribution design: using medium voltage switchgear, voltage conversion projects, distribution automation projects.
- Experience with development of civil & electrical packages associated with complex cable/conduit in dense urban environments.
- Experience with SCADA.
- Ability to communicate effectively both verbally and with written reports.

QUALIFICATIONS:

Bachelor of Science in Electrical Engineering degree is required and 2+ years of prior relevant experience or graduate degree with 1+ years: relevant experience is either working directly with an electric utility or an electric utility consulting company, performing design engineering.

SUPERVISORY RESPONSIBILITY:

Supervises electric linemen and substation switchmen engaged in emergency restoration and unplanned work as well as work outside of normal business hours as required. May also be asked to supervise contractors and consultants working on SELCO projects.

WORKING CONDITIONS/PHYSICAL DEMANDS:

- Required to reside in the Town of Shrewsbury, a contiguous town or no more than a thirty (30) minute drive to Municipal Drive.
- Frequent periods spent in non-office environments, including substations and other fieldwork. Regular periods spent outside, conducting field inspections requiring exposure to weather conditions. Frequent periods spent standing and walking; occasional requirement to climb or



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sustain uncomfortable physical positions.

- May spend sustained periods at computer terminal and office environment.
- Light lifting and carrying of work materials, including files, small tools and other testing devices.
- Some travel by private car or company vehicle within the Town and to neighboring towns: valid driver's license required.

The above statements are intended to describe the general nature and level of work being performed by people assigned to do this job. The above is not intended to be an exhaustive list of all responsibilities and duties required.

***External and internal applicants, as well as position incumbents who become disabled as defined under the Americans with Disabilities Act must be able to perform the essential job functions (as listed) either unaided or with the assistance of a reasonable accommodation to be determined by management on a case by case basis.**