



Electrical Distribution System Engineer Position Description

Department: Technical Services Department		Immediate Supervisor: Technical Services Superintendent	
Pay Group: Field	FLSA Status: Non-Exempt		Last Updated: 1/7/2025
Pay Grade: 13			
Positions Supervised: N/A			
Position Summary Participate in electric system planning and design. Provide technical and analytical support for system and operational initiatives. Responsible for tracking and reporting system reliability. Perform duties in both field and office environments.			

Essential Functions

1. System Planning – Provide technical and analytical support for the construction, operation, and maintenance of the distribution and transmission assets. Assist with project management for system construction and improvement projects.
 - A. Develop short- and long-range distribution system planning studies, system reports, system fault current protection and fuse coordination studies, power quality studies, and load growth studies.
 - B. Responsible for filing and maintaining current engineering planning studies, reports, and substation drawings.
 - C. Identify, collect, analyze, and interpret data sets from AMI technology to identify trends, recommend process improvements and/or solve problems.
 - D. Manage and track all reliability statistics and responsible for filing related reports.
 - E. Assist with planning, installation, and maintenance of substation controls and communication.
 - F. Assist with system capacitor and voltage regulator controls.
 - G. Assist with coordination of work with developers, contractors, customers, and staff.
 - H. Maintain GIS map used for system modeling of the distribution system.
 - I. Assist with metering equipment specification, planning, software utilization, and equipment sizing.
2. System Operations / Maintenance – Provide project management for system construction and improvement projects.
 - A. Maintain records for system equipment (capacitors, voltage regulators and overcurrent protection devices).
 - B. Maintain documentation of substations and other ERMU facilities.

- C. Consult with Operations personnel to plan and implement alternate feed arrangements and switching operations to determine voltage conversion, construction, planned maintenance, and power restoration.
 - D. Maintain the Outage Management System (OMS), train personnel in entering data into and operating the OMS, assist Operations personnel to keep accurate records of outages, and review outage records to assist with the planning functions that support system reliability.
 - E. Assist with the writing, review, and/or execution of switching orders, including coordination with power supplier, area transmission companies, neighboring utilities and key accounts to facilitate maintenance and construction activities.
 - F. Assist Substation Apparatus Technician to maintain the SCADA system and ensure that equipment specified for line and substation construction projects are compatible with the system. Train personnel to operate the SCADA system and advise on SCADA system functionality/operation and recommend ideas for system improvements/enhancements.
 - G. Assist with outage management activities via SCADA, OMS, and AMI systems. Work independently and in conjunction with outside consultants to perform routine and emergency testing of major system components including power transformers, relays, and circuit breakers. Use test results to diagnose and mitigate problems with these components.
3. System Design – Assist with the overall design and planning of electrical distribution system facilities.
- A. Assist with the design and staking of system improvements, upgrades, modifications, new line extensions, and pole replacements.
 - B. Assist with the preparation of cost estimates for overhead and underground construction, maintenance and system improvement projects.
 - C. Point of contact for customers and affected property owners regarding line locations within road right-of-way and obtaining easements outside of road right-of-way.
 - D. Attend pre-construction meetings of electric and water distribution systems.
 - E. Assist with system mapping for electric and water departments.
 - F. Assist with GPS/GIS data collection and integration into mapping system.
 - G. Assist with commercial customer service size and planning.
4. Perform other responsibilities of the Technical Services Department.
- A. Review monthly substation inspections and identify appropriate follow up actions.
 - B. Prepare information and analysis for management.
 - C. Prepare, maintain and archive department records as required.
 - D. Assist with outage/storm restoration analysis and activities as needed.
 - E. Assist with meter reading, disconnects/reconnects as needed.
5. Performs other essential job duties.
- A. Regular and timely work attendance.
 - B. Follow all safety procedures.
 - C. Participate in safety and industry training as required.

- D. Assist other departments as required.
- E. Provide value-added feedback and input to enhance our work culture, customer service experience, and procedural efficiencies.
- F. Other duties as required.

Required Knowledge, Skills, and Abilities

- Knowledge of electric distribution system design, operation, substations, and GIS.
- Knowledge of NESC, APPA, NEC, OSHA, and applicable standards.
- Ability to make decisions within policy and position parameters.
- Ability to manage multiple projects and meet deadlines.
- Ability to effectively interact and communicate with other staff and customers in a professional, courteous and efficient matter.
- Ability to work effectively in a team environment.
- Proficient with various computer programs (MS Word, Excel, Power Point, etc.) with ability to learn job specific computer programs.
- Ability to read construction documents, drawings, and one-line schematics.
- Mechanical aptitude.
- Ability to perform all required physical work which may include sitting, standing, stooping, kneeling, crouching, walking, crawling, and climbing.
- Ability to work approximately 50% of the time in the field, and 50% in an office.
- Ability to drive assigned vehicles up to 50% of the time.
- Ability to infrequently lift 50lbs.

Minimum Qualifications

- High school degree or GED equivalent.
- Bachelor of Science degree in engineering or equivalent experience.
- Professional Engineer (PE) or ability to obtain within two (2) years of hire.
- Two (2) years related engineering experience.
- Experience with data analytics.
- Valid MN Driver's License.

Preferred Qualifications

- Bachelor of Science in Electrical Engineering.
- SEL acSELeRator software experience.
- Utility related ESRI software experience.
- OSI SCADA/SEL HMI software experience.
- Itron MV90 software experience.
- Knowledge and/or experience with distribution energy resources.
- NERC compliance experience.
- AutoCAD and/or ArcView software experience.

This Position Description is not intended to be all-inclusive. It is within Elk River Municipal Utilities' discretion to assign additional duties and responsibilities or remove duties and responsibilities at any time.

This Position Description does not constitute a Contract of Employment.