

**A & N ELECTRIC COOPERATIVE
TASLEY, VIRGINIA**

**DIRECTOR OF TECHNICAL SERVICES
ENGINEERING DEPARTMENT**

FLSA Classification: Exempt

I. OBJECTIVES

- To ensure the relaying and coordination of the transmission and substation systems for the Cooperative is done in a professional and accurate manner.
- To plan, direct, coordinate and control the specifying, testing maintenance and inventory levels of the Cooperative's electric metering, the installation of all transformer rated metering, all Automatic Meter Infrastructure System (AMI) equipment. Plan, direct, coordinate and specify employee training.
- To plan, direct, coordinate and control and provide supervision for the Large Power Billing data collection and reporting.
- To plan, direct coordinate and control the maintenance, testing and operations of the cooperative's transmission and distribution substations. Plan, direct coordinate and specify employee training.
- To plan, direct, coordinate and control the specifying, testing, maintenance and inventory levels of the Cooperative's electrical apparatus equipment (voltage regulators, sectionalizers, reclosers, circuit breakers and distribution transformers), substation equipment and substation protective equipment. Plan, direct, coordinate and specify employee training.
- To ensure that the cooperative is provided with proper technical expertise in the areas of relaying, testing, troubleshooting and construction at both the substation and transmission levels.
- Responsible for the design, specifications, installation, maintenance and upgrade of the cooperative's SCADA (System Control and Data Acquisition) system to ensure that the system is available at all times to support the mission of the Operations System Control, Engineering and Construction Departments.

II. REPORTING RELATIONSHIPS

- **Reports to:** VP of Engineering and Operations
- **Supervises:** Supervisor of Systems Control & Dispatch and SCADA Technicians.

III. RESPONSIBILITIES AND AUTHORITIES

- In coordination with the Director of System Planning and Design, directs and assists, as necessary, the design of substations and transmission projects including the procurement of land, site selection, permitting and acquisition of easements and coordination of work crews and equipment.
- Reviews all applicable national, state and local regulations such as NESC, RUS guidelines, and the NEC to ensure that the Cooperative's engineering designs meet codes and are prudent engineering practices.
- Ensures all EMF technical information and data is maintained.
- Provide advice and assist the System Operator in the review of substation and circuit switching procedures.
- Administer the testing program for the Field Engineering, Apparatus, and Metering Technician Training Program.
- Reviews operations of Technical, Substation and Transmission Services to determine if established Cooperative policies, procedures and safety rules are adhered to.
- Prepares annual meter and AMI purchase requirements and compares monthly usage to recommend corrective action.
- In accordance with field experience, manufacturer's recommendations and regulatory guidelines, develops maintenance and test procedures for apparatus, SCADA/load management equipment meters, metering and AMI equipment in conjunction with field experience, manufacturer's recommendations, and regulatory guidelines.
- Determines and specifies equipment and strategies necessary to implement distribution automation.
- Develops and delivers presentations on apparatus, metering and AMI whenever the opportunity arises.
- Assists Director System Planning & Design in determining when major system improvements concerning apparatus should be made including planning for substations and Distribution Service Points.
- Develops, complies, and submits reports to the VP of Engineering and Operations as required or directed and assists with the preparation of the annual transmission and distribution capital budget.
- Develops test procedures and historic data programs for apparatus, metering, and SCADA/Load Management software program.
- Develops and implements along with other management members, the operational plan (to include IT's long range plan) required to accomplish the Cooperative's goals and objectives.

- Is responsible for relay coordination for transmission and distribution substations and transmission systems.
- Develops and stimulates morale and motivates team spirit and enthusiasm throughout the department by appropriate delegations, recognition of accomplishment, counseling, and advancement according to merit, interest and ability; evaluates employee attitudes on organization goals.
- Responsible for making certain those employees who answer directly to this position are fully knowledgeable of ANEC's safety rules and strongly encourage compliance. In addition, takes an active role to enforce ANEC's safety rules, safety policies, and safety procedures.
- Must complete at least one (1) professional development activity annually.
- In addition to providing in-house engineering expertise, direction, guidelines, and support as qualified, determine the need for the negotiations with outside consultants, contractors, and equipment suppliers relative to substation, transmission, and relaying requirements.
- Administers in a professional manner, the labor and material contracts associated with the Cooperative's substation and transmission projects so as to ensure that the construction contractors are always in compliance with the contract's schedule and terms and conditions.
- Attends and participates in National, Regional and State meetings as directed or required.
- Approves department purchase requests invoices, timecards, travel, and other expenses.
- Advises and counsels personnel with respect to special items beyond their authority and makes the necessary decisions.
- Determines substation, transmission, and relay problems and recommends solutions to the VP of Engineering and Operations.
- Directs the operating procedures for site surveys concerning EMF readings.
- Directs and assists in the emergency restoration of substations and transmission lines.
- Provides, and is responsible for, the system planning for substations, including coordination, protection, reliability, power factor, and capacity studies.
- Responsible for planning, coordinating, administering, annually updating and distributing the Cooperative's Load Curtailment Plan and Under Frequency Response Plan.
- Supervise and manage direct-report employees to include developing adequate job descriptions, appraisals, and professional development and training plans, recommending wage adjustments and participating in the hiring and termination processes.
- Design and maintain all wireless communications systems that supports SCADA and AMR/LM.
- Maintains a WAN that supports reliable system-wide AMR/LM, SCADA, OPX telephone, two-way radio, video, and other processes communications requirements.
- Perform duties as Mobile Radio System Analyst/Administrator. This includes installation/removal of mobile radios, Line Dispatch Terminals (LDTs), desktop consoles, database management of the Node Network Controller and generation of reports.

- Performs duties as Microwave System Analyst/Administrator. This includes repair/upgrades of microwave radios, database management and generation of reports.
- Perform radio path engineering and path analysis for upgrading communications services to existing substations and new facilities as required.
- Procure new equipment for new communications circuits as per design specifications.
- Designs and maintain as reliable multi-repeater, two-way radio system.
- Perform other duties as assigned.

IV. RELATIONSHIPS

Establishes and maintains the following relationships for the purpose of coordination and communication between departments.

Internal:

- VP of Engineering and Operations: To review major projects and plans with respect to the electric system; to inform him of new developments; to obtain information, guidance and interpretations of policies; to obtain necessary approvals.
- Director of System Planning and Design: To coordinate all matters associated with the planning of substations and transmission lines as well as the system protective coordination via relaying settings.
- Director of Accounting: To coordinate on all matters having to do with transmission and substations and to coordinate all data processing requirements needed by the Substation and Transmission Engineering Department.
- Communications Specialist: Provide technical advice and assistance in support of the Cooperative's marketing.
- Director of Operations & Construction: To coordinate the activities required to carry out the design construction, maintenance, and other activities that involve both departments.
- Safety and Security: Provide technical advice and assistance in support of the Cooperative's safety issues and events.
- Information Technology Support Technician: To coordinate on matters concerning the IT requirements of the Cooperative in order to meet the Cooperative's goals and objectives.

External:

- Members: To maintain courteous and cooperative relationships, which create goodwill, and assist them in electrical matters
- Attorneys: To develop, promote, and maintain professional and congenial relationships so as to ensure that Cooperative operations are conforming to all legal statutes.

- Consulting Engineers: To develop and promote relationships necessary to obtain help in order to perform design, relaying, and engineering studies as needed.
- County Administrators: To maintain an ongoing relationship with the various County Administrative staff in order to effectively carry out the business necessary to meet Administrative requirements.
- Rural Utility Services (RUS): To maintain and promote an ongoing relationship with the General Field Representative in order to ensure that Cooperative is in compliance with all applicable RUS requirements.
- Power Suppliers: To maintain and promote cooperative working relationships; to coordinate and cooperate in design and permitting; to interchange information of mutual interest.
- State Corporation Commission: To maintain an ongoing relationship with the various Commission staffs in order to effectively carry out the business necessary to meet Commission requirements.
- Contractors: To develop and promote professional relationships that will result in Cooperative projects which are in compliance with their contract's terms and conditions and which are closed out on budget and on time.
- Public and Community: To actively participate in civic and community affairs and projects in such a manner as to bring improved public relations to the Cooperative; to seek every opportunity to obtain understanding, acceptance and support for the Cooperative's plans, programs, and objectives.
- Engineering Technical Societies: To actively participate in society meetings to keep abreast of technological advancements and support future development of the engineering profession.
- Utilities: To develop and maintain professional relationships and to exchange technical information.
- Landowners: Work with landowners on easements to obtain a mutual agreement.

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DIRECTOR OF TECHNICAL SERVICES

ENGINEERING-OPERATIONS DEPARTMENT

SPECIFICATIONS

EDUCATION:

Four (4) year Engineering Degree or equivalent with a Bachelor of Science in engineering required. Registration as a Professional Engineer in the state of Virginia preferred. Must complete at least one (1) professional development activity annually.

EXPERIENCE:

Ten (10) years of progressively responsible utility engineering experience including related experience in electric power and basic maintenance procedures, supervisory responsibility and project management. Experience should include substation and transmission design, project management, RUS design, contractual requirements, and relaying.

JOB KNOWLEDGE:

Must have a general knowledge of electricity, electrical circuits, electrical apparatus, metering, transformer banks and the operations of a rural electric transmission and distribution cooperative. Requires familiarity with mobile radio systems, which includes the installation and removal of mobile radios and other associated equipment. Must be familiar with all aspects of design, scheduling, construction management, and relaying of facilities needed to meet the demands of the electrical system. Must have working knowledge of the National Electrical Safety Code, National Electrical Code, apparatus, metering, SCADA and Load Management equipment and AMR equipment. Must be familiar with work orders and closeouts procedures. Must possess basic computer skills, to include a working knowledge of Microsoft Office products, including, but not limited to: Outlook, Excel, Word and PowerPoint as required by job responsibilities.

ABILITIES AND SKILLS:

Must be able to provide leadership and supervision to departmental staff. Must have the ability to communicate with membership, general public and other employees. Must be able to make design recommendations concerning the addition and upgrading of facilities to the cooperative's electric plant. Must be able to represent the Cooperative's interest in negotiations with equipment suppliers and interconnecting utilities. Must be able to supply technical advice on all related design matters to the VP of Engineering & Operations. Ability to analyze and solve technical problems. Must support the Cooperative on all matters related to established Policies and Procedures. Perform other duties as assigned.

WORKING CONDITIONS:

Most of the work is performed in the ANEC office. Occasional field trips for inspection of facilities or meetings with members, power and equipment suppliers and consultants. Attendance of seminars and conferences several times a year may be required.

Subject to call at any time for emergencies.