**WARREN RURAL ELECTRIC COOPERATIVE CORPORATION**

**ENGINEERING AND OPERATIONS DEPARTMENT**

**ELECTRICAL ENGINEER**

**OBJECTIVES:**

* To ensure that all system protective devices are correctly applied and appropriately coordinated to protect Warren RECC’s electrical facilities.
* To provide timely, reliable and accurate engineering support to the Engineering and Operations department and to support and to assist the Manager of Engineering with the fulfillment of the department’s goals and objectives.
* To ensure that approved system improvements are designed and installed in a manner consistent with the designer’s intent, established engineering standards and the needs of the project’s primary stakeholders.

**REPORTING RELATIONSHIPS:**

Reports to: Senior Manager of Engineering

Supports: Operations and Field Engineering Personnel

**ESSENTIAL FUNCTIONS:**

* Ensures that all transmission, substation and distribution protective devices are correctly applied and appropriately coordinated. Routinely reviews the coordination and application of these protective devices to ensure they operate within their specified limitations and nameplate ratings. Issues relay setting sheets and directs the issuance of work orders as necessary to meet these objectives.
* Designs and/or oversees the subsequent construction of substation improvements specified in the Construction Work Plan (CWP) or by the directive of the Senior Manager of Engineering. Creates and issues specifications and contracts necessary to procure the apparatus, major station equipment and construction services necessary to complete these projects. Ensures that the terms of these documents are adhered to by contractors or consultants hired to assist with construction of these projects.
* Is knowledgeable of all substation control circuits and advises other employees in their appropriate operation. Directs modifications to these circuits by issuing drawings and special instructions describing the work to be completed and the procedures to be followed. Assumes responsibility for all changes to relay control circuits by personally overseeing the work. Prevents unintentional outages resulting from such changes. Directs other employers to cease any activity that could result in an outage that is preventable and unnecessary.
* Reviews all work orders pertaining to CWP projects ensuring that the proposed construction appropriately meets the intent of CWP projects original scope of work. Advises the Field Engineering Supervisor of any changes needed to more appropriately meet the scope of work identified in the CWP or to correct other system problems and/or weaknesses that would otherwise be impractical. Consults the system model and other employees to determine what weaknesses or opportunities may exist.
* Keeps abreast of developments and advancements in system protection techniques, equipment and practices. Evaluates the technical and economic methods of these alternatives and reports them to the Senior Manager of Engineering.
* Routinely consults and interacts with employees of the Operations department. Frequently participates in district safety meetings and addresses concerns or questions that the Operations employees pose in a timely manner. Personally follows up on requests that cannot be addressed on the spot. Coordinates requests for non-CWP system improvements requested by Operations employees and directs the issuance of work orders as necessary. Consults with the Senior Manger of Engineering when requested changes are inconsistent with established standards or precedent.
* Reviews all underground subdivision layouts to ensure the proposed design allows for adequate system protection and backfeeding. Consults with the Field Engineering Supervisor pertaining to any changes that may be needed and assists with the specification and procurement of special equipment necessary to construct the job. Also advises the Field Engineering Supervisor as to required conductor and equipment sizing.
* Assists Field Engineering personnel with the sizing and design of large industrial service entrances and ensures that the proposed design adequately meets the needs of the customer. Specifies and procures special equipment as needed.
* Reviews and determines compliance with Commercial and Industrial Power Contracts. Recommends changes to the Senior Manager of Engineering
* Advises customers, consultants and employees of the fault current available on the system providing a report of available fault duty and system impedance as requested.
* Oversees the maintenance of the Cooperative’s master substation records, original relay setting sheets and other related documents and drawings. Organizes this information in a manner that is easy to reference and maintain. Ensures that critical records are safeguarded from loss in the event of disaster.
* Reviews and recommends changes to the policies and procedures impacting the Engineering and Operations Department. Performs annual study of line extension costs and recommends charge adjustments accordingly.
* Assists the Senior Manager of Engineering as needed to fulfill the goals and objectives of the Engineering group. Conducts special projects and generates reports outlining pertinent recommendations, potential alternatives, technical merit and economic feasibility. Assumes responsibility for implementing such recommendations when directed.
* Is knowledgeable of the scope of the long range plan and the system weaknesses it seeks to correct. Consults with other Engineering staff to ensure that the design of current system improvements address future system weaknesses when possible.
* Assists with the development of The CWPs, Long Range Plans, and Load Forecasts.
* Assumes responsibility for the maintenance of tools, transportation and work equipment assigned.
* Recognizes conditions detrimental to system operations and reports such conditions promptly.
* Aids in the formulation of the Department Work Plan and Budget.
* Keeps familiar with Environmental Protection Agency “Right-to-Know” regulations as they pertain to chemical substances, etc., found or used in the work area.
* Works according to safety rules and policies adopted by Warren RECC, is responsible for own safety and reports all accidents to Supervisor.
* Complies with traffic laws, regulations and safe practices while operating any company vehicle.
* Such other duties as may be assigned.

**IMPORTANT:** This job description is not intended to be all-inclusive; an employee will also perform other reasonably related job responsibilities as assigned by the immediate supervisor and other management as required.

Warren RECC reserves the right to revise or change job duties as the need arises. This job description does not constitute a written or implied contract for employment. Management reserves the right to change job descriptions, job duties, or working schedules based upon the needs of the Cooperative and/or their duties to accommodate individuals with disabilities.

**JOB SPECIFICATIONS**

**POSITION:** Electrical Engineer

**EDUCATION:**

College graduate with a Bachelor’s degree in Electrical Engineering with an emphasis in power systems.

**EXPERIENCE:**

Must possess practical experience in the design and troubleshooting of high and low voltage three-phase power systems. Must have first-hand experience with solving technical problems in a team environment. Prior leadership a must. Utility experience in the areas of transmission, distribution or substation design and/or operation desired.

**KNOWLEDGE:**

Must have a working knowledge of electric utility systems, the National Electrical Safety Code, safety regulations, standard utility construction specifications and construction contracts, materials and practices. Must have a fundamental understanding of protective device coordination and symmetrical components.

**ABILITIES AND SKILLS:**

Must be proficient in the use of personal computers, operating systems and applications such as spreadsheets, word processors, databases and engineering analysis software. Must also demonstrate proficiency with equipment such as meters, oscilloscopes, hand tools, modems, power supplies and test equipment. Must understand electrical drawings and be capable of designing electrical circuits typically employed in electrical substations.

**WORKING CONDITIONS:**

Must be able to work in all types of weather. Must keep work areas and vehicles in a neat and presentable manner.

**OTHER:**

Must have a valid driver’s license. Must not be color blind.