



Electrical Engineer

GENERAL OVERVIEW OF POSITION:

The Electrical Engineer will perform professional engineering work to plan, evaluate and implement efficient electric and water utility design, operation, maintenance and construction; this position also provides consulting to customers on electric utility matters.

This is a professional engineering position that completes work to design, construct, operate and maintain electric distribution, electric substation, revenue metering systems and a variety of electrical power generating, and electrical equipment in the water/wastewater utility. Work is performed under the direction of the Engineering Manager. Occasional supervision is exercised over craft employees, contractors and consultants as assigned. This is an exempt position.

EXAMPLES OF DUTIES AND RESPONSIBILITIES (Illustrative only):

- Performs design engineering to accomplish assigned projects using diverse engineering skills to optimize the final product;
- Develops written installation, testing, maintenance and operating procedures for equipment and conduct training as required for assigned projects;
- Specifies equipment and services and works with vendors to provide the greatest value;
- Communicates with other personnel in the organization in order to maintain budgets and schedules;
- Supports the operations and maintenance staff in solving long and short term problems;
- Provides technical recommendations, direction and operations support;
- Conducts training and provides individual coaching for team members;
- Prepares periodic reports, management presentations and customer presentations;
- Coordinates all activities associated with equipment installation and maintenance of assigned projects and provides support at all phases of equipment installation and commissioning;
- Ensures safety program procedures are correct and are followed by utility personnel and contractors;
- Acts as a backup to other management personnel to cover vacations and 24 hour operations as required;
- Prepares detailed design specifications, drawings and implementation documents;
- Implements public bidding protocol of assigned projects;
- Supervises employees or contractors as assigned;
- Develops maintenance programs for new and existing utility facilities, including

preventive maintenance, corrective maintenance and equipment health monitoring programs;

- Monitors and evaluates utility facility conditions, recommending corrective actions, infrastructure improvements, efficiency improvements, and contingency actions;
- Evaluates stakeholder requirements and interprets manufacturer's data;
- Maintains knowledge of code requirements and regulations;
- Reviews invoices for payment;
- Assists customers with service extensions and service problems;
- Primarily responsible for MPU electric SCADA system design and enhancements;
- Specifies materials and equipment, makes inspections for compliance;
- Prepares material and construction cost estimates;
- Performs electrical engineering calculations;
- Writes and directs electrical operating and distribution switching procedures;
- Assists as required during emergency and non-emergency conditions;
- Works in all weather conditions during outages and emergencies.

(Note: The duties listed above are intended as illustrations of the various types of work performed by persons in positions covered by this classification specification. This list is not all inclusive. The omission of a particular job duty does not mean that the duty is not one of the essential functions of the position. Management reserves the right to assign employees in this classification to duties not listed above, if the duties are fairly within the scope of responsibilities applicable to the level of work performed by employees in positions covered by this classification specification.)

REQUIRED EDUCATION, TRAINING AND EXPERIENCE:

Associate Level

- Bachelor's degree in Engineering or related field with major work in Electrical Engineering from an accredited college or university;
- Successful completion of Engineer-In-Training Exam and possession of EIT credential

Mid-Level

In addition to requirements of Associate Level;

- A minimum of five years' experience in a power generating facility or related field;
- Possession of a Wisconsin Professional Engineer License, or ability to acquire upon request;

Senior Level

In addition to requirements of Mid-Level;

- A minimum of ten years' experience in a power generating facility or related fields.
- Possession of a Wisconsin Professional Engineer License

REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Associate Level and Mid-Level

- Thorough knowledge of the principles and practices of engineering as applied to the maintenance, development, and construction of utility projects;
- Knowledge of electric utility distribution systems, power generation, substation, and transmission facilities;
- Knowledge of personal computing and Supervisory Control and Data Acquisition (SCADA) systems;
- Ability to plan projects and prepare related designs, estimates and specifications;
- Ability to perform engineering computations and to make comprehensive recommendations for the solution of problems;
- Ability to plan, lay-out and direct work;
- Ability to maintain effective working relationships with others;
- Skill in the use of engineering instruments and equipment;
- Ability to express oneself clearly and concisely, orally and in writing;
- Good professional engineering judgment;
- Fundamental knowledge of Microsoft Windows and Microsoft Office software including storing and retrieving electronic files, and ability to work with a variety of electronic reporting programs.
- **Associate Level** will receive assistance with duties and responsibilities; design engineering, conducting training and coaching, preparation of reports, management presentations, customer presentations, and interpreting environmental permits and regulations to ensure compliance.
- **Associate Level** may perform on-call duties after adequate experience in plant environment.

Senior Level

In addition to requirements of Mid-Level;

- Considerable professional engineering judgment is exercised to evaluate complex technical and strategic operating issues and recommending optimum solutions.

PHYSICAL REQUIREMENTS:

- Ability to perform demanding physical tasks at times such as walking over rough or uneven surfaces, bending, stooping, working in confined spaces and lifting or carrying moderately heavy (up to 50 lb.) items;
- Ability to climb a ladder to access process equipment for inspection;
- Ability to operate complex gasoline, electric or diesel-powered machinery or shop equipment requiring manipulation of multiple controls, fine adjustments or both.

ENVIRONMENTAL REQUIREMENTS:

- Exposure to adverse environmental conditions.

SENSORY REQUIREMENTS:

- Color, sound, odor, depth, hearing and visual perception and discrimination;
- Good oral communication ability.

OTHER REQUIREMENTS:

- Possession of a valid driver's license and a good driving record;
- May be required to use personal vehicle for use on the job.

Revised and accepted on: August 21, 2019