

Title: Engineer II –Lakeland Electric
PG: 65
Status: Civil Service
Position Reports to: Designated Supervisor
Department: Lakeland Electric

Class Code: 201920
Date: 09/08

GENERAL DESCRIPTION OF CLASS:

This intermediate level engineering position is responsible for the performance of difficult engineering assignments associated with the planning and design of a variety of projects and studies. An employee in this class demonstrates the application of engineering knowledge and skills in completing assigned projects or assisting on substantial portions of complex projects. Work is assigned with general instructions and objectives by a supervisor. Methods of procedure are outlined, but the employee has some latitude for independent judgment and action in planning details of work and in making technical decisions. A supervisor or a higher-level engineer reviews work performed.

ESSENTIAL FUNCTIONS:

1. Prepares scope of work for a given project or study which may require data gathering, specifications, plans, diagrams, schematics, equipment / materials and cost estimates for required aspects of the project or study.
2. Completes or assists in all aspects of assigned engineering project design or study.
3. Provides project management and quality control functions for work done by parties associated with the project or study.
4. Assists other divisions and City departments on multi-disciplinary and / or cross departmental projects and studies.
5. Acts as a representative / liaison to other utility and industry organizations involved in the projects or studies.
6. Maintains and complies with project schedules and budgets.
7. Operates various computer aided engineering design or analysis programs or tools and produces work orders or studies to support projects.
8. Maintains an efficient filing and records system for projects from initiation to project close out.
9. Assists in preparing complex forecasts, studies, technical reports, and related items.

SPECIFIC FUNCTIONS FOR ENERGY SUPPLY:

1. Oversees contract maintenance and repair projects.
2. Investigates and analyzes plant operation and maintenance problems to determine solutions.
3. Develops design of complex power generation systems, construction standards, bid specifications, and drawings for specific projects according to established guidelines and engineering practices.
4. Provides construction management support, field inspections, quality control, and contract interface with construction crews, as needed, for construction projects.
5. Researches and verifies "as built" condition of systems and equipment, including underground systems.
6. Calculates statistical averages, cumulative and rolling averages, statistical trends, rates of change, percentages, etc., and tabulates, plots, and formats the results.
7. Assist in testing and operation of power plant equipment, performance of pollution controls testing, survey work, and non-destructive testing programs

SPECIFIC FUNCTIONS FOR ENVIRONMENTAL:

1. Assists various departments within the organization on environmental permits, laws and regulations.
2. Assists with permitting activities such as reviewing permit applications/draft permits for accuracy and completeness.
3. Interprets environmental permits, laws and regulations as needed.
4. Acts as a liaison between regulatory agencies and the City for facility visits, inquiries, notifications and issues arising from compliance matters.

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5. Reviews, prepares, and submits environmental reports and data to various regulatory agencies within established time frame.
6. Oversees Environmental contract and audit projects.
7. Investigates and analyzes environmental compliance issues to determine solutions.
8. Develops complex environmental projects, environmental audit standards, bid specifications, and drawings for specific projects according to established guidelines and engineering/environmental practices.
9. Provides assistance in research and verification of environmental laws, regulation and legislations.
10. Calculates statistical averages, cumulative and rolling averages, statistical trends, rates of change, percentages, etc., and tabulates, plots, and formats the results.

SPECIFIC FUNCTIONS FOR SYSTEM CONTROL:

1. Uses electric system software models to review planned system segment outages and advise the Electric System Operator on the feasibility of the request. Develop contingency plans for unanticipated electric system segment outages. Publish contingency plans.
2. Analyzes and extrapolate load growth data and incorporate it into the electric system software models. Run the models to verify the accuracy of the data.
3. Assists in the review and update the annual Energy Delivery 10 Year plan for new substations, transmission lines, distribution lines and other facilities.
4. Uses the electric distribution system software model to make capacitor bank size and location and line regulator location recommendations.
5. Calculates various system performance indices. Make recommendations for work that may improve system performance.
6. Complies with local and national planning standards. Assist in developing documents required by the standards.

SPECIFIC FUNCTIONS FOR TRANSMISSION & DISTRIBUTION:

1. Responsible for the design of transmission and distribution power lines and structures for the power grid while following established codes and standards.
2. Provides construction management support, field inspections, quality control, and contract interface with construction crews, as needed, for construction projects.
3. Develop and prepare cost estimates for equipment, materials, and labor, along with preliminary design work, in support of the budgeting process and project management.
4. Participate in the development of design standards and materials lists.
5. Performs field inspections to define project needs, including easements, permits, and tree clearing, and verifies final as-built drawings for completed projects.
6. Assists in the coordination of T&D facility impacting road projects with state and local governmental agencies.

SPECIFIC FUNCTIONS FOR SUBSTATION OPERATIONS:

1. Responsible for the design of T&D substation related facilities while following established codes and standards.
2. Provides construction management support, field inspections, quality control, and interface with construction crews, as needed, for construction projects.
3. Develops and prepare cost estimates for equipment, materials, and labor, along with preliminary design work, in support of the budgeting process and project management.
4. Performs field inspections to define project conditions and needs and verifies final as-built drawings for completed projects.

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ADDITIONAL RESPONSIBILITIES:

1. Performs related work as required.

KNOWLEDGE, SKILLS & ABILITIES:

1. Considerable knowledge of fundamental and applied engineering sciences, principles, and practices.
2. Considerable skill in the use of engineering, and mathematical references and tables, charts, and computer equipment required in professional engineering work.
3. Knowledge of design and test codes, sources of technical information and safety requirements related to electric power facilities.
4. Some knowledge of permitting requirements for City, County, and State agencies.
5. Knowledge of project expenditures and budgetary cost controls.
6. Ability to establish and maintain effective working relationships with supervisor, co-workers, consultants, other utilities, other City employees and the general public.
7. Ability to procure goods and services from various vendors.
8. Ability to use various portable test equipment and meters, and survey instruments and to perform engineering and surveying calculations.
9. Ability to read, understand and interpret, plans, specifications, technical reports, and engineering drawings.
10. Ability to perform routine technical computations, make estimates, compiles statistical information, and performs analysis.
11. Ability to understand, follow, and transmit complex oral and written instructions.
12. Ability to be a self-starter, self-motivated, detail oriented, a team player and to be able to carry out assignments independently and with minimal supervision.

WORKING ENVIRONMENT/CONDITIONS:

Energy Supply, Environmental & Regulatory Affairs:

The job may require some physical work that involves walking, balancing, climbing ladders and stairs, kneeling, stretching, reaching, pushing, pulling, crouching, bending or standing some of the time, occasional lifting up to 30 pounds, routine keyboard operations and operation of City vehicles.

Work may include fieldwork as required at various job sites as well as to perform job duties in an office, power plant and outside environment. Employee may also have exposure to the general hazards of the industrial working environment and construction sites.

The job requires normal visual acuity, and field of vision, hearing, speaking, color perception, sense of smell, depth perception, and texture perception.

Energy Delivery, Corporate Pricing & Reporting:

Requires sedentary and active work that involves walking or standing some of the time, and routine keyboard operations, operation of City general purpose vehicles (automobile or pick up truck), some job duties may be performed in an office environment while other duties may require field work at various outdoor job sites.

The job risks exposure on rare occasions to electrical or mechanical or chemical hazardous conditions, and occasional exposure to noise levels, dusts pollen, bright or dim lights, cold or heat, wet or humid conditions, fumes and heights

The job requires normal visual acuity, and field of vision, hearing, speaking, color perceptions, depth perception, and texture perception and sense of smell.

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QUALIFICATIONS (EDUCATION, TRAINING, AND EXPERIENCE):

1. Graduation from an accredited four (4) year college or university with a Bachelor of Science degree in engineering.
2. Two (2) years of experience in related engineering work.
3. An equivalent combination of advanced engineering degree and experience, which is determined to be directly related to the foregoing specific experience requirements, may be substituted.

SPECIAL REQUIREMENTS:

1. Must possess a valid state of Florida driver's license.
2. Must maintain a valid contact phone number.
3. May be required to attend meetings at locations other than primary work location.
4. May be required to pass and maintain qualification for:
 - a. Respiratory Protection Physical.
 - b. Pulmonary Function.
 - c. Qualitative and Quantitative Fit Test(s).
5. May be required to work overtime, or alternate hours, as necessary for the efficient operation of the department. Position may be designated as Mission Critical by Department Director.