Division: Engineering
Subdivision: Engineering

Position: Electrical Engineer
FLSA Status: Exempt
Job Family: PROFESSIONAL/TECHNICAL
Safety Sensitive: No

Approved On:

POSITION PURPOSE
To provide the utility with in-house skills in some or all of the following areas: Coordination and management of major electric and broadband engineering projects; SCADA and relay control systems design, programming, and testing; Substation design and equipment upgrades; System Modeling and Planning; Power quality and reliability assessments; Information Systems Analysis, Design, and Integration; and Setting Design Standards and Equipment Specification

ESSENTIAL DUTIES
Incumbent is accountable for all duties of this job and other projects and responsibilities may be added at the City’s discretion.

Electric Utility System Planning and Operational Duties

- Provide technical or supervisory support for various electric outage restoration functions including reconnaissance, dispatching, OMS operation, SCADA, and GIS program support. (175.3)

- Review and develop electric system configuration recommendations for efficiency and improved operating conditions. (175.3)

- Perform voltage drop, flicker, fault current, and arc flash calculations. (175.3)

- Create, review changes, validate, and update underlying data for system models. (175.3)

- Perform system feeder analyses, contingency studies, coordination studies, and load forecasting using LPC’s engineering analysis and modeling software.

- Review, update, and create substation electrical schematics, wiring diagrams, one-line diagrams, and three-line diagrams. (175.3)

- Review and maintain LPC standards and specifications. (175.3)
• Assist substation technical staff with the testing of and/or troubleshooting of substation breakers, relays, controls, and protective devices. (175.3)

• Make recommendations for substation equipment upgrades. Create associated wiring schematics and wiring diagrams appropriate for substation technical staff to make the recommended upgrades. (175.3)

• Develop, review, and implement electric system switching procedures. (175.3)

• Calculate reliability indices, participate in APPA’s benchmarking program, and make recommendations for improved system reliability. (9.3) (175.3)

• Assist with document development and audit materials preparation for NERC Reliability Compliance efforts. (220.2)

• Serve as project engineer on major Capital Improvement, complex, and high profile projects. (175.3)

• Act as technical resource expert in engineering matters. (175.3)

• Assist in the development of the Capital Improvement Plan (CIP) and budget. (43.3) (43.5)

• Attend and participate in professional group meetings; and stay abreast of new trends and innovations in the field of Electric Utility Engineering. Serve as a City representative, or supervise participation by other City staff, on City committees and PRPA. (9.3)

• Analyze material or system failures; consult with manufacturers and other utilities regarding failures; and report results. (175.3)

• Analyze distribution system behavior to identify and correct abnormal operations. (175.3)

• Assist with the design, maintenance, and operation of LPC’s fiber-optic and communication networks. (41.4)

• Provide support for integration between various CIS, GIS, OMS, Fiber Management, Electric System Modeling, Project Tracking, Financial and HR systems. (41.4) (175.3)

• Assist in the implementation and use of the Department’s Outage Management, Field Staking, and Mapping systems. (175.3)

**SCADA (Supervisory Control and Data Acquisition)**

• Perform regular technical programming of the SCADA system and provide programming and troubleshooting assistance as needed during special testing and operations. (175.3)
• Confer with dispatch operators, project engineers and supervisors regarding 
  SCADA and relay issues. Provide general and technical support to staff. (175.3)

• Develop, implement and maintain procedures for documenting activities in 
  instrumentation and control areas related to programming of RTU’s and HMI 
  software, field implementation of programming changes, and process control 
  improvements. (175.3)

ADDITIONAL DUTIES

• May train professional and technical engineering staff. (175.3)
• Act as a department representative to other city teams, PRPA and RMEL. (9.3)
• Assist in the restoration of facilities during large-scale outages. (175.3)
• Although infrequent, respond to system emergencies as required day or night. 
  (175.3)
• Establish and maintain effective working relationships with other City employees, 
  developers, contractors, other City departments, and members of the community. 
  (9.3)
• Perform other related duties as assigned and required.

The City of Longmont expects employees to engage in frequent, meaningful 
communication in all interactions. Team members are expected to fully engage, 
participate, make decisions, take action and hold self and others accountable.

REPORTING RELATIONSHIPS
Supervision Received:
General direction provided by the Director of Electric and Broadband Engineering.

Supervision Exercised (direct reports and/or direct staffing decisions):
May provide indirect technical supervision of technical and labor positions within scope 
of project management functions.

KNOWLEDGE, SKILLS AND ABILITIES
Education and Experience:
Any combination of education and experience equivalent to a Bachelor’s Degree from 
an accredited college or university with major coursework in Electrical Engineering or a 
related field and 3 (three) years’ experience performing professional engineering work.

Bilingual Requirements: None

Knowledge of:
• Advanced principles and practices of Electrical Power Engineering.
• Principles of electric utility safety procedures and electric utility operating 
  procedures.
• CAD based software
• National Electric Safety Code
• National Electric Code
Applicable laws and regulatory codes relevant to design and construction.

Ability to:

- Recommend and implement goals, objectives, and practices for providing effective and efficient engineering services.
- Apply engineering, administrative, computer applications, and management knowledge to solve specific technical and practical problems and make defensible and appropriate engineering judgments.
- Perform complex engineering computations. Prepare clear, concise, and comprehensive reports and defend recommendations and decisions.
- Perform work and manage a function independently.
- Communicate clearly and concisely both verbally and in writing. Define problems, collect data, establish facts and draw valid conclusions.
- Establish and maintain effective working relationships with other City employees, representatives of other agencies and organizations, developers, contractors, other City departments, and members of the community.
- Clearly explain technical materials to non-technical audiences and interpret an extensive variety of technical instructions in mathematical or diagram form. Work cooperatively and collaboratively with co-workers, customers, and representatives of outside agencies.

Additional requirements:
Possession of a valid State of Colorado Driver’s License is required.
Possession of an Engineer-In-Training certificate is preferred.

EQUIPMENT USED
Standard office equipment including, but not limited to, smart phones, personal computer and associated hardware and software, telephone, copier, calculator, and fax. Equipment used includes motor vehicles, manual and computer-aided drafting equipment, and surveying equipment.

WORKING CONDITIONS AND PHYSICAL REQUIREMENTS
Work is performed primarily in an office environment, but requires field visits and inspections. The job entails constant sitting; ability to read and understand detailed documents, blueprints, maps, and other printed and digital materials. Requires the ability to use language and math, reason and solve problems, communicate clearly and concisely with co-workers and the public. Must be able to work under stress, manage multiple tasks concurrently, and handle frequent interruptions. The job also entails frequent light (under 5 lbs.) lifting and carrying, reaching and bending or stooping, twisting, driving, and the use of near and far vision. Work may require occasional moderate (15-40 lbs.) lifting and carrying, pulling, pushing, climbing, crawling and kneeling or squatting. Employees may be exposed to noise, dust, fumes, solvents, slippery or uneven walking surfaces, machinery and moving vehicles, working in and around water. The job requires working alone, as well as working closely with others.
The City of Longmont is a drug-free workplace that provides employment opportunities in compliance with all pertinent federal, state, and local laws and City values that promote employee participation in the delivery of quality services to and on behalf of the community. Accordingly, the City celebrates diversity in the workforce.

This position description is a valid statement of the job duties, responsibilities, requirements and performance expectations of this position.

This job description has been reviewed and approved.

Department General Tom Roiniotis
Manager:

Human Resources Staff: