

ELECTRICAL ENGINEER II

JOB DESCRIPTION

Classification Responsibilities: An Electrical Engineer II performs professional, electric engineering work in the Electric Engineering Section of the Electric Utility Unit or in the Engineering Design group within the Engineering Department. The employee in this class works with other technical employees engaged in drafting and design work on the electric distribution system, which includes overhead and underground circuits and duct bank systems. In addition, the employee in this class may assist in preparing special studies on the distribution systems and operational requirements for electrical loads. This class performs related duties as required.

Distinguishing Features: The Electrical Engineer II class is the journey-level classification within the professional electrical engineering career ladder. The Electrical Engineer II class differs from the Senior Electrical Engineer class by the latter having registration as a Professional Engineer and performing more difficult and varied professional engineering work assignments, with minimal direct supervision. In addition, an Electrical Engineer II will direct and review the work performed by lower-level engineers and technicians (*by assignment*). Employees in this class may progress by noncompetitive promotion to Senior Electrical Engineer upon meeting the following criteria-based promotion requirements: five or more years experience with electric systems engineering and a minimum of six months supervisory experience, and registration as a Professional Engineer (Electrical) in the state of Arizona. Work is performed under the general supervision of a Senior Electrical Engineer, Supervising Engineer, or Deputy Director - Electric who reviews work through reports, conferences, meetings, inspections, and results achieved. Employees may progress to this classification by non-competitive promotion upon meeting the specific criteria-based promotion requirements. This class is FLSA exempt-professional.

QUALIFICATIONS

Employee Values: All employees of the City of Mesa are expected to uphold and exhibit the City's shared employee values of Knowledge, Respect, and Integrity.

Minimum Qualifications Required. Graduation from an accredited college or university with a Bachelor's Degree in Electrical Engineering or related field. Considerable (3 - 5 years) experience in electric systems engineering, transmission, and primary distribution systems, or related field.

Special Requirements. Certification as Engineer-In-Training (EIT) is required prior to promotion or hire date. Must possess a valid Arizona Class D Driver's License by hire or promotion date.

Substance Abuse Testing. Due to the safety and/or security sensitive nature of this classification, individuals shall be subject to pre-employment or pre-placement alcohol, drug and/or controlled substance testing as outlined in City policy and procedures (*Engineering Department-Engineering Design Group Assignment Only*).

Preferred/Desirable Qualification. Experience working in an electric utility or operation is preferred.

ESSENTIAL FUNCTIONS

Communication: Communicates with the general public, other City employees, vendors, management, contractors, public officials, and electric customers in order to answer electric utility-related questions, explain policies and procedures, resolve problems, explain construction project requirements, etc. Instructs and trains employees regarding electrical design and procedures. Prepares and presents verbal and/or written reports concerning the activities of the respective department. Prepares equipment specifications, bid evaluations, construction standards, instructions, job assignments, various reports and correspondence, and special studies related to assigned projects with clearly organized thoughts and using the proper sentence construction, punctuation, and grammar, in order to communicate effectively and clearly.

Manual/Physical: Reviews the work products of others to ensure compliance with standard operating procedures, federal regulations (National Electric Safety Code [NESC], etc.), and City of Mesa Electric Standards and Codes. Inspects, monitors, and evaluates work-related information to determine compliance with standard operating and safety standards (NESC standards, regulations, and guidelines for Electric assignment). Operates a motor vehicle requiring a standard Class D Arizona Driver's License to conduct site visits and to make field inspections, measurements, and field checks for proposed projects and completed work. Enters data and information into a personal computer (PC) or other keyboard device (labeling machine) to evaluate and analyze electrical load databases and generate various reports. Works in a variety of weather conditions while performing field work. Meets scheduling and attendance requirements.

Mental: Works with technicians involved in performing electric engineering activities, including the preparation of job orders, construction drawings, schematic drawings, circuit maps, and electric system mapping. Prioritizes and schedules work assignments as administered by the Senior Electrical Engineer to ensure the timely completion of projects for power delivery to new customers. Resolves procedural, operational, or other work-related problems regarding design and specifications involving field conditions. Assists in coordinating work activities with projects planned by the Development Services Department and Energy Resources Department. Makes recommendations on departmental procedures, short- and long-term objectives, plans for underground electric line expansion, and overhead line and electric system integrity improvements. Conducts research and analyzes As-Built Maps, customer specifications and plans, etc., regarding the operations or functioning of electric materials and equipment to ensure that the best possible product is used in the construction of electric utility facilities.

Knowledge and Abilities:

Knowledge of:

power systems:

electric system design principles;

the equipment, materials, and procedures used in electric systems;

the regulations associated with electric system operations; and

professional electric engineering theories, principles, and techniques.

Ability to:

develop plans and specifications for additions and revisions to electric distribution systems;
make recommendations on plans and procedures relating to electric system construction, maintenance,
and service;

distinguish colors to decipher dispatch map, Blue Stake markings, AutoCAD, GIS (Geographic
Information System) mapping, etc.;

detect traffic sounds when working near moving traffic, backup warning devices when working around
moving equipment, sirens, and calls for help;

perform mathematical calculations, statistical computations, and financial and cost analyses in
evaluating equipment bids and electrical calculations, and in preparing electric system operations
reports;

learn to operate computer software and systems including MilSoft, Light Table, ArcFM, Responder,
Designer, Microsoft Word, Excel, Power Point, Access, etc., City of Mesa computerized customer
information systems, and proposed workflow/asset management systems;

understand and write specifications;

understand and interprets blueprints, schematic drawings, layouts, or specifications;

estimate labor and material costs from blueprints or specifications;

learn job-related material through on-the-job training or in a classroom setting regarding GIS training,
technical training, AutoCAD, document management, etc.; and

establish and maintain effective working relationships with supervision, coworkers, contractors,
developers, vendors, electric utility customers, City officials, and the general public.

The duties listed above are intended only as general illustrations of the various types of work that may be
performed. Specific statements of duties not included does not exclude them from the position if the
work is similar, related, or a logical assignment to the position. Job descriptions are subject to change by
the City as the needs of the City and requirements of the job change.

Revised 9/24

TC/js/ah

CS4652.DOCX

EEO-Prof

JOB FCTN-ENG

Non-DOT Safety and Security-Y (*by assignment*)

CDL-N

RESP-N

PAY GRADE: 57

IND-9410

SWORN-No

Non-DOT Random-N

DOT-N

INCREMENTS 38-200