

City of San José
CLASS SPECIFICATION

TITLE: INDUSTRIAL ELECTRICIAN (3661)

DEPARTMENT	ACCOUNTABLE TO	FLSA STATUS
Environmental Services	Industrial Electrical Supervisor	Non - exempt

CLASS SUMMARY

Performs journey-level electrical work in connection with the construction, maintenance, installation, inspection testing, repair and alteration of electrical power generating plant and substation machinery and equipment and other electrical equipment and systems found in the Water Pollution Control Plant (i.e. the sewage and wastewater treatment facility). Performs related work as required.

DISTINGUISHING CHARACTERISTICS

The Industrial Electrician is the first level of a three-level industrial electrician series. The Industrial Electrician is distinguished from the Senior Industrial Electrician in which the latter is responsible for performing more advanced maintenance and repair work in an industrial facility and for serving as a designated lead. The Industrial Electrician series is distinguished from the Electrician series in that in addition to performing the duties characteristic of the latter series, incumbents are required to maintain high voltage power lines, their supporting structures, and related equipment as a primary work assignment.

QUALIFICATIONS

(These qualifications are typically required. An equivalent combination of education, experience, knowledge, skills, and abilities sufficient to satisfactorily perform the duties of the job may be substituted.)

Minimum Qualifications

- **Education and Training:** High School Graduation or equivalent and completion of an approved apprenticeship program;
- **Experience:** One year of post-apprenticeship experience performing duties that include a minimum 12 kV or higher voltage substation construction, equipment maintenance, control and protective system troubleshooting and maintenance in an industrial, utility, and/or manufacturing environment.
- **Acceptable Substitutions:** Successful completion of the California Division of Apprenticeship Standards electrician certification exam or documented proof of completion of 8500 hours of both course work and experience in all of the areas covered in the State of California Electrician Apprenticeship Standards may be substituted for completion of a recognized Electrician Apprenticeship program. These areas include residential wiring, commercial and industrial wiring, intercom and signals, controls, underground work, trouble shooting, finishing and fixture hanging, solid state controls, and stock and inventory.
- **Licensing/Certification:** Possession of a valid driver's license authorizing the operation of a motor vehicle in the State of California. Substation Maintenance certification meeting the requirements of OSHA 29 CFR 1910.269(a)(2)(vii) is desirable.

Other Qualifications

(Incumbents may be required to have different combinations of the listed qualifications, or more specific job-related qualifications depending on the position.)

Basic Knowledge, Skills and Abilities

(Needed at entry into the job in order to perform the essential duties.)

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Knowledge of:

- Fundamentals of electricity and electronics including their application to the operation of high voltage substation equipment (i.e. 115kv, 4160v & 480v), electrical motor controls, circuit breakers, generator controls, protective relay testing & calibration, and switchgears;
- National Electrical Code, California Electrical Safety Orders, NFPA70E, and CAL OSHA;
- Techniques, tools, and materials of the electrical utility trade;
- Environmental and safety practices, procedures, and standards.

Ability to:

- Read and interpret blueprints, schematics and electrical diagrams and documents;
- Install and maintain electrical systems and equipment;
- Direct the activities of electrical vendors, contractors and other staff;
- Make rough estimates of materials, supplies, and equipment required for jobs;
- maintain accurate records of time, labor, materials and equipment for work performed and prepare reports (oral and written) as necessary;
- Drive electric carts and light duty vehicles safely;
- Develop standard operating procedures and train new staff on work procedures;
- Use communication and interpersonal skills to interact effectively with coworkers, supervisor, the general public, etc. to exchange or convey information;
- Understand, follow and provide oral and written instructions.

Skill to:

- Operate hand and power tools and equipment in a safe manner;
- Operate and maintain electric motors, transformers, generators, controls, and other electrical equipment;
- Troubleshoot electrical problems in an industrial facility;
- Use computers and related software applications.

Desirable Qualifications

(Knowledge, skills and abilities; licenses, certificates, education, experience that is more position specific and/or likely to contribute to more successful job performance.)

- Ability to program Programmable Logic Controllers (PLCs) & Variable Frequency Drives (VFD's);
- Training and/or certification in any of the following:
NFPA 70E; Electrical Safety for Industrial Facilities; Programmable Logic Controllers (PLC's); Motor Controls; Variable Frequency Drives (VFD's).

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DUTY NO.	TYPICAL CLASS ESSENTIAL DUTIES: (These duties and estimated frequency are a representative sample; position assignments may vary depending on the business needs of the department.) Duties may include, but are not limited to, the following:	FRE-QUENCY*
1.	Maintain, operate and adjust electrical primary power substations ranging from 4160 to 115kv, including circuit breakers, relays, batteries and controls.	Continuous
2.	Test low and high voltage electrical equipment including circuits, transformers, high voltage switches, phase shifters, and electrical components of process control, telemetering, cathodic protection systems and electronic equipment boards.	Continuous
3.	Diagnose problems and determine needed repairs or modifications; install conduit and pull wires for motors, control panels and lighting fixtures	Continuous
4.	Review work orders, maintain activity logs, prepare requisitions and obtain approvals for various projects.	Continuous
5.	Design, fabricate and install electrical systems and components to include ensuring code compliance and installing wiring and electrical equipment.	Continuous
6.	Determine precautions and follow safe and effective work procedures; check job sites for potential hazards.	Continuous
7.	Attend various meetings and act as a liaison with contractors, vendors, and other departments.	Frequent
8.	Purchase electrical supplies to include filling out paperwork; coordinating purchases; and, choosing vendors.	Frequent
9.	Respond to emergencies including evaluating and taking required actions and determining if support is needed immediately.	Occasional
10.	Performs other duties of a similar nature or level.	As Required

*Frequency defined as %, (totaling 100%) *or* “Continuous” (daily or approximately 20%+), “Frequent”(weekly or approximately 15%+), “Occasional”(monthly or approximately 10%+), “As Required”(Intermittent or 5% or less)

CLASSIFICATION HISTORY <i>Created 9/12; s000</i>
