

City of San José
CLASS SPECIFICATION

Title: Senior Industrial Electrician (3662)

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

CLASS SUMMARY

Performs advanced journey level work involved in the construction, maintenance, installation, inspection, repairing, testing and troubleshooting 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). Duties may also include serving in lead capacity to staff including the assigning and monitoring of work; overseeing and monitoring the work of consultants and vendors; designing, fabricating and installing electrical systems; ensuring code compliance; providing temporary power. Performs related work as required.

DISTINGUISHING CHARACTERISTICS

The Senior Industrial Electrician is the second level of a three-level industrial electrician series. The Senior Industrial Electrician is distinguished from the Industrial Electrician in that the former has responsibility for performing more advanced maintenance and repair work in an industrial facility and serves as a designated lead. The Senior Industrial Electrician is distinguished from the Industrial Electrician Supervisor in that the latter has full supervisory responsibilities. 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

Three years of post-apprentice journey level industrial electrician 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.

Licensing/Certification

Possession of a valid driver's license authorizing the operation of a motor vehicle in the State of California. Completion of Substation Maintenance certification meeting the requirements of OSHA 29 CFR 1910.269(a)(2)(vii).

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;
- Recognition of the equipment and supplies commonly used in the electrician trade;
- Methods and techniques of installing, maintaining and repairing low and high voltage electrical circuit and distribution systems and hydroelectric generating equipment;
- Operational characteristics of large motors, switch gear, standby generator and high voltage substation equipment;
- Occupational hazards and standard safety practices;
- Operational methods and practices associated with water treatment processes;
- Operational characteristics of a variety of measuring and test equipment and tools for electrical maintenance;
- Principles of mathematics related to the electrical trade;
- Applicable codes and ordinances including the National Electric Code and California Electrical Safety Order;
- Pertinent Federal, State and local codes, laws and regulations.

Ability to:

- Independently perform the most difficult electrical maintenance, repair, installation and testing functions;
- Analyze problems and develop effective solutions;
- Work independently in the absence of supervision;
- Understand and follow oral and written instructions;
- Communicate clearly and concisely, both orally and in writing;
- Establish and maintain effective working relationships with those contacted in the course of work.

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.)

Knowledge of:

- Operations, services and activities of electrical maintenance and electrical safety program;
- Principles of lead supervision and training.

Ability to:

- Provide lead direction and training;
- Interpret and explain department policies and procedures;
- 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); Protective Relays;
Generation Controls

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| DUTY NO. | <u>TYPICAL CLASS ESSENTIAL DUTIES:</u> (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. | Lead and train staff responsible for maintaining, operating and adjusting electrical primary power substations ranging from 4160 to 115kv voltage, including circuit breakers, relays, batteries and controls. | Continuous |
| 2. | Plan, direct and participate in testing 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. | Train assigned employees in their areas of work including electrical maintenance, testing and installation methods, procedures and techniques. | Continuous |
| 4. | Verify the work of assigned employees for accuracy, proper work methods, techniques and compliance with applicable standards and specifications. | Continuous |
| 5. | Design, fabricate and install electrical systems and components ensuring code compliance and installing of wiring and electrical equipment. | Continuous |
| 6. | Perform inspections and monitor work of high voltage electrical substation contracts to ensure conformance to applicable standards and specifications | Continuous |
| 7. | Supervise the use, care and operation of hand and power tools | Continuous |
| 8. | Determine precautions and follow safe and effective work procedures; check job sites for potential hazards. | Continuous |
| 9. | Ensure adherence to safe work practices and procedures. | Continuous |
| 10. | Purchase electrical supplies to include filling out paperwork; coordinating purchases; and, choosing vendors. | Frequent |
| 11. | Provide temporary power to include determining needs, installing equipment and estimating costs. | Occasional |
| 12. | Respond to emergencies including evaluating and taking required actions and determining if support is needed immediately. | As Required |
| 13. | Perform 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 Created 8/12; s000