

SAN BERNARDINO MUNICIPAL WATER DEPARTMENT CLASSIFICATION SPECIFICATION

TITLE: ELECTRICAL SERVICES SUPERINTENDENT

DATE: 1/8/2019

JOB CODE: 51834

FLSA STATUS: EXEMPT

UNIT REPRESENTATION: MID-MGMT

Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are not intended to reflect all duties performed within the job.

DUTIES SUMMARY

Under the general administrative direction of the Director of Water Reclamation, to plan, organize, implement and control installation, maintenance, operation, repair, and servicing of electrical/instrumentation/Supervisory Control and Data Acquisition (SCADA) systems (electrical, electronics, process control systems, telemetry, communication and related systems, and devices) and equipment associated with water and wastewater utilities; schedule, assign, monitor and inspect work in progress and upon completion; supervise assigned administrative staff and electrical/instrumentation/SCADA personnel involved in the preventative maintenance, adjustment, repair, overhaul, replacement and installation of electrical and instrumentation apparatus and related equipment and devices; ensure work is completed following appropriate and applicable provisions of the Electric Code, approved plans and specifications, and standard industry practices; research and prepare a variety of studies and reports regarding the Department's short and long-term electrical, electronics, telemetry, communications, and related systems requirements; perform related work as required.

DISTINGUISHING CHARACTERISTICS

Supervision is received from the Director of Water Reclamation. Supervision is exercised over the Electrical, Instrumentation, and SCADA (EI&S) Section and other Water Utility and Water Reclamation employees. In the absence of the Director, the EI&S Superintendent may act as his/her designee. This is a single-incumbent class responsible for planning, coordinating, and directing the construction, installation, maintenance, repair, and servicing of all industrial electrical and electronics-related systems and equipment used in the treatment and distribution of potable and reclaimed water and the collection, treatment, and transmission of wastewater. The work of this class is complex and involves significant accountability and decision-making responsibilities. The ability to understand customer's needs and balance response with cost effective scheduling is essential.

EXAMPLES OF DUTIES

The following duties are typical essential duties for positions in this classification. Any single position may not perform all of these duties and/or may perform similar related duties not listed here:

- Provide courteous and expeditious customer service to the general public, City, and Department staff;
- Routinely adhere to and maintain a positive attitude toward City and Department goals;

- Plan, organize, control, integrate, and evaluate the work of assigned staff; with staff, develop, implement, and monitor work plans to achieve goals and objectives; contribute to the development of and monitor performance against the annual Section budget; supervise and participate in developing, implementing, and evaluating plans, work processes, systems, and procedures to achieve annual goals, objectives, and work standards;
- Plan, organize, direct, and evaluate the performance of assigned staff; establish performance requirements and personal development targets; regularly monitor performance and provide coaching for performance improvement and development; counsel employees; recommend, draft, and implement disciplinary action in accordance with the Department's personnel rules, policies, and labor agreements;
- Plan, direct, and participate in conducting administrative or management assessments relating to assigned requirements; identify problems, perform research and analysis, and evaluate alternatives; discuss findings with Department executives and managers; develop conclusions, recommendations, and implementation plans; direct, coordinate, and participate in implementing policies and practices;
- Conduct frequent inspections to reactively evaluate work completed by the EI&S Section to ensure conformance with Department standards ("Quality Control");
- Proactively lead the dynamic review and revision of existing procedures and methods to provide assurance that high quality delivery of the Department's services is maintained ("Quality Assurance");
- Develop, document, and audit Standard Operating Procedures (SOPs);
- Represent the Department with other agencies, organizations, and individuals; communicate with customers in accordance with the Department's policies and/or procedures on dissemination of information;
- Provide day-to-day leadership and work with staff to ensure a high performance, customer service-oriented work environment which supports the Department's mission, strategic plan, objectives, and values;
- Prepare the Section's annual operating and capital outlay budget requests; monitor expenditures against goals and objectives; approve procurement Requisitions; verify issuance of Purchase Orders; support the objectives and needs of the Purchasing Section and Finance Division with asset tracking;
- Develop recommendations to improve the operation of the Department's systems and facilities, including automation and process control; coordinate Section activities with other Sections, Divisions, Departments, and Agencies;
- Ensure compliance of Section's work to pertinent codes, regulations, and guidelines; review and coordinate the implementation of local, state, and federal laws and regulations with appropriate personnel;
- Participate in the Department's short- and long-range planning processes; review engineering design plans for the Department's systems and facilities to ensure conformance with Department standards and policies; develop specifications and drawings for electrical, instrumentation, or SCADA equipment; develop designs for field automation and process control modifications; participate in the analysis of trends such as population and industrial growth and the development of strategies to meet and serve expanding community needs; confer with engineering staff, consultants, and contractors regarding the design and construction of new systems, facilities, and the renovation of existing facilities;

- Develop and maintain contracts for the electrical construction work done for the Department and closely coordinate with the Department's Contracts Section; ensure compliance with Department purchasing and fixed assets policies, as well as the California Public Contract Code;
- Research and monitor technical developments in techniques, equipment, supplies, and material used in the Department's electrical and electronics systems on field equipment and telemetry systems;
- Plan, coordinate, direct, and oversee the scheduled and emergency installation, maintenance, repair, and servicing of the Department's electrical and electronics systems;
- Supervise employees engaged in constructing, installing, maintaining, testing, and repairing electrical mechanisms, low voltage (600V or less) panels, switches, motors, controls, power output frequency regulators, solenoids, telemetry, clay valves, automatic control valves (ACVs), voltage controls, low cut-out alarms, geothermal couplers, relays, electronic controls, generators, electronically automated systems, measurement systems, chlorination control systems, and other electrical equipment and apparatus; work in and around low voltage circuits, panels, and equipment;
- Supervise and direct the installation, maintenance, and repair of control circuits, pressure switches, floats, underground cables, motors, telemetry, copper lines, and power output frequency regulators and transducer recorders;
- Oversee troubleshooting and repairing of instrumentation systems, control and process loops, PIDs, and associated equipment;
- Supervise the inspection of tele-metering, electric controllers, programmable controllers, process meters, analyzers, flow systems, and a variety of other types of instrumentation for proper operation;
- Oversee and direct the installation, repair, modification, calibration, and preventative maintenance on a wide variety of complex digital, analog, programmable, and other auxiliary equipment used in the collection, transmission, and treatment of water/wastewater;
- Oversee and monitor the work of others performing calibration and maintenance of meters, analyzers, recorders, control systems, and feed systems, including but not limited to electric, electronic, pneumatic, hydraulic, and mechanical equipment; keep accurate maintenance records;
- Monitor the work performed by others related to electrical and electronic apparatus and instrumentation including repair, replacement, disassembling, assembling, installing, and testing;
- Assist technicians with difficult troubleshooting problems;
- Prepare, review, and maintain a variety of records, reports, memoranda, correspondence, directives, time sheets, incident reports, maintenance requests, daily operation reports/logs, and other documents; review and approve payroll timekeeping records;
- Read, interpret, and direct others with regard to electrical and instrumentation plans, specifications, blueprints, sketches, wiring diagrams, and schematics;
- Supervise the testing of power distribution, transformers, circuit breakers, meters, and other apparatus;
- Inspect equipment installation work performed by contractors and other personnel for workmanship and compliance to ensure conformance with electrical standards and specifications;
- Estimate labor and materials for EI&S installations and repairs; lay out work on the project site; prepare reports of time and material expended;

- Maintain an inventory of parts, materials, and supplies used in the electrical instrumentation shop and in performing everyday tasks;
- Oversee and participate in the documentation of all programming, testing, and updates performed;
- Evaluate and maintain records of maintenance and repair functions; prepare routine and special reports on equipment maintenance and repair;
- Assure effective cost and manpower controls through a formal and continuing computerized maintenance management system;
- Maintain network communication between equipment, controls, field hardware, and SCADA system;
- Respond to emergency situations (by telephone and/or in person) during off hours as required;
- Ensure the Department's safety program and goals are implemented and carried out in the EI&S Section; develop and propose safety requirements to be carried out in the EI&S Section; keep up to date on the latest safety requirements and procedures and provide for continuing instruction of supervisors and employees; inspect and assure that safety equipment is consistently used and worn by employees (and self) and that proper safety standards and procedures are adhered to and enforced;
- Oversee all high-voltage work above 480 volts for safety compliance;
- Exercise a high level of tact and diplomacy in dealing with the public as well as other Sections and Divisions of the Department;
- Work effectively with others;
- Supervise, train, develop, and evaluate the performance of assigned personnel;
- Interview applicants and recommend action on appointments;
- Schedule and conduct staff meetings; attend other meetings and meaningfully contribute comments and recommendations;
- Safely operate Department vehicles;
- Perform other related work as required.

QUALIFICATIONS

Any combination of education, training, and experience that would likely provide the knowledge, skills and abilities to successfully perform in the position is qualifying. A typical combination includes:

Knowledge of:

- Advanced principles, practices, and methods of administrative, organizational, and economic procedures; advanced principles of project and contract management, including scheduling; principles and practices of public administration, including budgeting and maintenance of public records;
- Intermediate to advanced levels of supervision, including appropriate laws and regulations concerning FLSA, EEO, ADA, and other requirements concerning discrimination, harassment,

sexual harassment, and working conditions; principles and practices of effective management and supervision;

- Principles and practices of preventive, predictive, and reliability-centered maintenance systems; applications and use of computerized maintenance management systems;
- Principles, theory, and practices of electricity, electronics, pneumatics, hydraulics, and mechanics as they apply to installation, maintenance, and repair of equipment and instruments commonly found in water and wastewater production, transmission, distribution, and treatment facilities;
- Electrical drawing analysis and NEC codes;
- Programmable logic controller (PLC) programming theory at an advanced level for testing, troubleshooting, and repairs of PLC components and data highway systems;
- Industrial electricity and safety practices, precautions, and procedures;
- Tools, materials, methods, and practices of electrical, electronic, and instrumentation trade;
- Methods, materials, and equipment used in chemical process (chlorine and other) system installation and repair;
- Symbols and standard practices used in the preparation of process and instrument flow diagrams;
- Electrical installations and maintenance in water utility or reclamation facilities including low voltage (600V or less) electrical circuit;
- Shop mathematics applicable to the electrical trade;
- Appropriate safety precautions and procedures;
- Instrumentation calibration concepts and procedures;
- Advanced level computer operation skills, including word processing, database programs, spreadsheets, electronic mail, Department utilized software application programs, and SCADA operation;
- Complex record keeping, documentation, and practices;
- Advanced level of English usage, spelling, grammar, and punctuation;
- Research methodologies relating to regulatory issues;
- Federal, state, and local laws and regulations governing water and wastewater distribution, collection, and treatment; other applicable codes and regulations;
- Department personnel policies and labor agreement provisions.

Ability to:

- Digitally prepare clear, concise, and comprehensive correspondence, reports, studies, and other written materials that are generally free of grammatical error;
- Understand, carry out, and/or accurately convey oral and written instructions; read and write the English language at an advanced level; communicate clearly and concisely, both orally and in writing;

- Functionally use computer hardware, navigate the internet, functionally use Microsoft Office Suite products (Outlook, Word, Excel, and PowerPoint), and functionally use the Department's purchasing work order management, GIS, and other software programs and applications;
- Exercise sound, expert, independent judgment within general policy guidelines;
- Exercise tact and diplomacy in dealing with sensitive, complex, and confidential issues and situations;
- Plan, organize, schedule, and monitor work for efficiency, quality, and timeliness;
- Recognize, analyze, and define a variety of routine to complex mechanical, electrical, chlorination, and instrumentation problems and direct necessary repairs;
- Correct instrument operating problems and make recommendations for system modifications to meet operational needs without close supervision;
- Operate power tools, hand tools, and light equipment used in electrical activities; operate specialized test equipment such as milliamp and millivolt calibrators, multimeters, power supplies, and oscilloscopes;
- Perform a wide range of skilled water utility or reclamation electrical installation, wiring, repair, and maintenance work on low voltage circuits in accordance with safety standards;
- Read, understand, interpret, and apply moderately complex materials including technical manuals, drawings, specifications, layouts, diagrams, blueprints, plans, and schematics;
- Keep detailed, complex, and accurate records;
- Recognize, report, and correct unsafe working conditions;
- Make advanced arithmetical calculations involving fractions, decimals, and percentages with speed and accuracy;
- Establish and maintain effective relationships with those contacted in the course of work;
- Operate a vehicle observing legal and defensive driving practices;
- Make work assignments, set priorities for, train, and review the work of subordinate supervisors and staff personnel;
- Maintain a driving record which meets Vehicle Code Standards and is acceptable to the Department and its insurance carrier;
- Respond to call-out or emergencies as required; handle emergency situations as directed.

MINIMUM QUALIFICATIONS

Education and Experience:

High School graduation or G.E.D. equivalent and completion of sixty (60) semester units (90 quarter units) of college level course work in business administration, electrical engineering, electronics, instrumentation and control systems, or closely related science and five (5) years of journey-level experience in programming of PLCs, electrical and/or electronic instrumentation maintenance and repair, including five (5) years supervisory

experience in the construction, installation, maintenance, and repair of electrical and electronics system, equipment and facilities.

Or

A Bachelor's Degree from an accredited college or university in Business Administration, Electrical Engineering, Electronics, or Instrumentation and Control Systems, or closely related science, and four (4) years of journey-level experience in programming of PLCs, electrical and/or electronic instrumentation maintenance and repair, and at least two (2) years supervisory experience in the construction, installation, maintenance and repair of electrical and electronics system, equipment and facilities.

Or

High School graduation or G.E.D. equivalent and ten (10) years of journey level experience in programming of PLCs, electrical systems and electronic instrumentation installation, maintenance, and repair and at least five (5) years supervisory experience in the construction, installation, maintenance and repair of electrical and electronics system, equipment and facilities.

And

Certificates: Possession of a valid California Class "C" driver's license required upon application. For out-of-state applicants, a valid driver's license is required and a valid California Class "C" driver's license is required within ten (10) days of appointment (CA Vehicle Code 12505c).

NECESSARY SPECIAL REQUIREMENTS

An employee within this classification may be designated as a "key responder" and as such shall be required to respond to non-normal working hour emergency operational conditions.

PHYSICAL TASKS AND ENVIRONMENTAL CONDITIONS

Work involves exposure to potential physical harm, infectious disease and hazardous chemicals including smoke, fumes, gas, treated water, high frequency noise, dirt, dust, grease, oil, chemicals, solvents and toxic agents. Incumbents need to be able to tolerate unpleasant odors, wet conditions and uncomfortable climate conditions. There is frequent need to stand, stoop, walk, crawl, climb and perform other similar actions during the course of the workday. Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

Incumbents require sufficient mobility to work in a variety of environmental and weather conditions, transport materials and supplies weighing up to 50 pounds, work in boom truck with lift of 30 to 60 feet and work to heights of 150 feet. Must be able to see in the normal visual range with or without correction. Must be able to hear in the normal audio range with or without correction. Employee accommodations for physical or mental disabilities will be considered on a case-by-case basis.

CAREER LADDER

From: Electrical Services Superintendent

To: Director of Water Reclamation

Job Description:

BOWC Approved:

10/18/2011

Rev w/title change

01/08/2019

Testing Standards: App Review/Supp App Review: