



JOB DESCRIPTION

Title: **GENERATION/SUBSTATION TECHNICIAN**
Department: Power
Class Code: 7500
FLSA Status: Non-Exempt
Effective Date: February 1, 1990 (Rev. 02/2021)

GENERAL PURPOSE

Under general supervision from the Generation/Substation Lead Worker, performs work in the operation, construction, and maintenance of the hydro-electric generation plant, the gas turbine generation station, substations, emergency generators, diversion facilities, and other Power Department and Murray City facilities.

ESSENTIAL DUTIES

- Operates and maintains substations; tests oil from circuit breakers, voltage regulators and transformers; checks, operates and maintains mechanical and electrical parts in the circuit breakers, voltage regulators, control panels, and transformers; operates and maintains substation controls, alarm points; performs new wiring of substations. Keeps accurate logs on all substations and relaying.
- Operates and maintains the Continuous Emissions Monitoring Systems (CEMS); utilizes CEMS data for operation of gas turbine generation equipment in compliance with applicable local, state, and federal regulations; maintains CEMS database, and prepares for submittal by the Department to the applicable regulatory agencies all reports and submittals required by air quality permits.
- Tests protective relaying systems; trouble shoots, diagnoses, and repairs problems found.
- Installs, operates, and maintains protective relaying for power systems; installs, operates, maintains, and wires switch gear equipment for transfer of power.
- Installs, maintains, repairs, troubleshoots and programs the PLC's (Programable Logic Controllers) used in the electrical and water systems.
- Participates in substation switching procedures during planned and emergency repairs and outages.
- Routinely inspects substations and battery installations and records observations and makes necessary repairs and corrections. Uses laptop for inspection to track trends within transformers and regulators.
- Has working knowledge of filter press in adding or filtering oil in transformers, OCB's and regulators.
- Installs, maintains and trouble shoots SCADA system.

- Responds to requests from other City Departments on a "when available basis" to maintain or install basic electrical systems and equipment when request is coordinated through Generation/Substation Leadworker.
- Installs, inspects, operates, and maintains Murray City Power Department generation units including gas turbine/generators, and hydro-electric turbine/generators, and all associated equipment and facilities.
- Provides regular operation and maintenance of power equipment; repairs electrical wiring on power equipment; checks and repairs ignition systems.
- Trouble shoots and diagnoses problems during emergency shutdowns; may perform overhaul work on generation equipment as appropriate to level of training.
- Performs related duties as required.

MINIMUM QUALIFICATIONS

Education and Experience

- Graduation from high school and a two year associate degree in electronics, or successful completion of an applicable four (4) year substation apprenticeship program certified by the Department of Labor, or four (4) years of directly related experience in two or more of the following job functions:
 - Experience in hydro-electric operation and maintenance.
 - Experience in operation or maintenance on internal combustion generation, with preferred emphasis on gas turbine technology.
 - Experience in substation systems, operation and maintenance, with preferred emphasis on SEL (Schweitzer Engineering Laboratories) relays and Omicron test equipment.
 - Experience in Programmable Logic Controllers.
- OR any equivalent combination of education and experience.

Special Requirements

- Must possess a valid Utah Driver License.
- Must be generally available for emergency "call-out" at any time of day, year-round, regardless of weather conditions.
- Must take troubleshooter's responsibility for plants and substations several times a year for a period of seven days each, as determined by an assignment schedule adopted by the department.
- Must be willing to accept standby assignment when needed.

Necessary Knowledge, Skills and Abilities

- Working knowledge of modern methods and techniques of electrical installation, generation facility operations, repair and maintenance; working knowledge of applicable local, state, and federal regulations; working knowledge of electrical supplies and equipment and their use; working knowledge of proper safety techniques and procedures; working knowledge of electronics and substation techniques.
- Skill in the operation of mechanical equipment associated with the various responsibilities of this position.

- Ability to read and modify relay drawings and electrical schematics; ability to create effective working relationships with employees and the public; ability to communicate effectively, both verbally and in writing.

TOOLS & EQUIPMENT USED

- Personal computer including word processing, spreadsheet and specialized software(AutoCad, SEL, Omicron, Internet, DAQ reports); radio; phone, and other equipment pertaining to this position.

PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- While performing the duties of this job, the employee is frequently required to sit; walk, talk or hear; use hands to finger, handle, feel or operate objects, tools, or controls; and reach with hands and arms.
- The employee must frequently lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus. Must be able to meet DOT hearing standard requirements.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- While performing the duties of this job, the employee regularly works in outside weather conditions. The employee occasionally works near moving mechanical parts in high, precarious places and is occasionally exposed to wet and/or humid conditions, ambient air, temperature extremes, fumes or airborne particles, traffic, toxic or caustic chemicals, risk of electrical shock, and vibration.
- The noise level in the work environment is usually moderate, but occasionally high.

DEPT/DIVISION APPROVED BY: _____ DATE: _____

EMPLOYEE'S SIGNATURE: _____ DATE: _____

H. R. DEPT. APPROVED BY: _____ DATE: _____