

EL DORADO IRRIGATION DISTRICT
Class Specification

CLASS TITLE: Hydroelectric System Technician I/II

DEFINITION

Under supervision performs a wide variety of semi-skilled and skilled duties involving the operation and maintenance of the District's hydroelectric plant; maintains, troubleshoots, repairs and operates equipment associated with the hydroelectric plant and water conveyance system; calculates and schedules the selling of power.

DISTINGUISHING CHARACTERISTICS

Hydroelectric System Technician I: This is the first level in the Hydroelectric System Technician series; incumbents in this level learn, through progressive on-the-job training how to inspect, maintain and operate the District's hydroelectric plant and ancillary systems. The Hydroelectric System Technician I is distinguished from the level II by the level of proficiency in the performance of the full range of duties. Incumbents work under immediate supervision while learning job tasks, progressing to general supervision as procedures and processes of assigned area of responsibility are learned and proficiency is attained.

Hydroelectric System Technician II: This is the journey level class in the Hydroelectric System Technician series and is distinguished from the level I by the assignment and proficient performance of the full range of duties. Employees at this level receive only occasional instruction or assistance as new, unusual or unique situations arise and are fully aware of the operating procedures and policies within the work unit. Positions in this class are flexibly staffed and are normally filled by advancement from the level I.

The Hydroelectric System Technician II class is distinguished from the Senior Hydroelectric System Technician in that the latter performs the most difficult and responsible types of duties assigned to classes within this series and provides technical and functional supervision over assigned staff.

SUPERVISION RECEIVED AND EXERCISED

Hydroelectric System Technician I

Receives immediate supervision from an assigned supervisor; may receive technical and functional supervision from a Senior Hydroelectric System Technician.

Hydroelectric System Technician II

Receives general supervision from an assigned supervisor; may receive technical and functional supervision from a Senior Hydroelectric System Technician.

CLASS TITLE: Hydroelectric System Technician I/II

EXAMPLES OF ESSENTIAL DUTIES: *the duties specified below are representative of the range of duties assigned to this class series and are not intended to be an inclusive list.*

Performs semi-skilled and skilled maintenance tasks associated with the installation, testing, repair and preventative maintenance of mechanical, electrical, and the operational equipment associated with the District's hydroelectric plant including SCADA and communication systems and mechanical and hydraulic systems throughout the system.

Installs, calibrates, maintains, operates, troubleshoots, repairs and test electrical, electronic, and electromechanical equipment and devices. Reads and interprets electrical schematics, blue prints and drawings.

Operates testing equipment, including but not limited to, protective relay test sets, circuit breaker timing test sets, DLRO meters, TTR meters, 4-20 ma calibrators, insulation testers (Meggers®), Hi Pot testers, analyzers, wattmeters and variable power sources.

Start-up and shutdown of hydroelectric plant generators; operates the District's hydroelectric plant in accordance with PG&E and Cal-ISO protocols and contracts; calculates and determines load estimates and/or equipment requirements; monitors, controls and regulates power generation and water level conditions.

Operates remote controlled computer SCADA systems to monitor and control hydroelectric plant and Forebay Reservoir operations.

Must perform standby as required and respond to alarms, emergency and trouble calls, including after hours and on weekends as necessary.

Prepares lockout/tagout and switching orders to safely remove equipment for maintenance. Responds to and assesses problems requiring immediate action; takes appropriate actions.

Assists with system design and upgrades; coordinates with outside contractors and other District departments in the upgrade and overhaul of equipment.

Builds and maintains positive working relationships with co-workers, other District employees and the public using principles of good customer service.

Performs related duties as assigned.

CLASS TITLE: Hydroelectric System Technician I/II

QUALIFICATIONS

Hydroelectric System Technician I

Knowledge of:

Fundamentals of electricity, hydraulics and hydrology. Functional characteristics of generating and pumping units and auxiliary machinery, electrical busses, switch control circuits, valves, and spillways, metering and/or other water control devices. Basic principles of hydroelectric power generation. Knowledge of mathematics and algebra. Safe work methods and safety regulations pertaining to the work

Skill/Ability to:

Learn and develop proficiency in order to operate, maintain and repair mechanical, electrical and electronic equipment associated with a hydroelectric power plant. Learn and attain proficiency performing switching and scheduling operations. Learn and attain proficiency in recognizing abnormal operating functions and take appropriate corrective action. Read and interpret complex electrical diagrams. Use modern, precision and diagnostic tools and instruments. Keep accurate records and reports. Establish and maintain effective working relationships with those contacted in the course of work. Communicate clearly and concisely, both orally and in writing. On a continuous basis, know and understand operations, and observe safety rules; intermittently analyze problem equipment; identify and locate equipment; interpret work orders; remember equipment location; and explain jobs to others. Work in confined spaces. Ability to maintain regular and predictable attendance. Carry out responsibilities associated with standby. Intermittently, sit while studying or preparing reports; bend, squat, climb, kneel and twist when performing installation/repair of equipment; perform simple and power grasping, pushing, pulling, and fine manipulation; and lift or carry weight of 50 pounds or less. Must be physically capable of climbing ladders to a height of 50 feet, of working in cramped or awkward positions to repair equipment, and of lifting tools and equipment up to a weight of 50 pounds. Work overtime as needed on short notice. Must be willing to work outdoors in a variety of weather conditions.

Experience and/or Education:

Any combination of experience and training that would provide the required knowledge and abilities is qualifying. A typical way to obtain the required knowledge and abilities would be:

Experience:

Two years of progressive responsible experience in the maintenance and repair of electrical and/or mechanical equipment. Completion of an approved two-year technical curriculum in electrical, electronic, or mechanical technology at a community college level, or equivalent is highly desired.

Education:

Equivalent to the completion of the twelfth grade.

CLASS TITLE: Hydroelectric System Technician I/II

SPECIAL QUALIFICATIONS

License and Certificate:

Possession of, or ability to obtain, a valid California driver's license at the time of appointment. Individuals who do not meet this requirement due to physical disability will be reviewed on a case-by-case basis.

Employees in this classification whose job duties require internet connectivity or the use of a District laptop and air card while on standby must provide and utilize, at their sole expense, a functionally reliable personal internet connection or District provided reliable air card with a District-provided laptop to facilitate District stand-by business.

Hydroelectric System Technician II

Knowledge of:

Equipment and procedures for testing, inspection, calibration, installation, troubleshooting, maintenance, and repair of equipment, devices used in a hydroelectric plant. Principles and practices associated with the operation of a hydroelectric power plant. Skilled maintenance and repair of mechanical, electrical, and electronic equipment associated with a hydroelectric power plant. Knowledge of mathematics and algebra to solve electrical and electronic problems. Safe work methods and safety regulations pertaining to the work. Principles and practices of instrumentation calibration and alignment procedures. National Electric Code and other pertinent local, State and Federal laws, regulations and rules.

Skill/Ability to:

Operate, maintain and repair mechanical, electrical and electronic equipment associated with a hydroelectric power plant. Effectively perform switching and scheduling operations. Recognize abnormal operating functions and take appropriate corrective action. Ability to determine, diagnose, and isolate problems or malfunctions in order to make necessary adjustments and repairs. Read and interpret complex electrical diagrams. Use modern, precision and diagnostic tools and instruments. Keep accurate records and reports. Establish and maintain effective working relationships with those contacted in the course of work. Communicate clearly and concisely, both orally and in writing. On a continuous basis, know and understand operations, and observe safety rules; intermittently analyze problem equipment; identify and locate equipment; interpret work orders; remember equipment location; and explain jobs to others. Ability to maintain regular and predictable attendance. Carry out responsibilities associated with standby. Intermittently, sit while studying or preparing reports; bend, squat, climb, kneel and twist when performing installation/repair of equipment; perform simple and power grasping, pushing, pulling, and fine manipulation; and lift or carry weight of 50 pounds or less. Must be physically capable of climbing ladders to a height of 50 feet, of working in cramped or awkward positions to repair equipment, and of lifting tools and equipment up to a weight of 50 pounds. Work overtime as needed on short notice. Must be willing to work outdoors in a variety of weather conditions.

CLASS TITLE: Hydroelectric System Technician I/II

Experience and/or Education:

Any combination of experience and training that would provide the required knowledge and abilities is qualifying. A typical way to obtain the required knowledge and abilities would be:

Experience:

Four years of progressive responsible experience similar to a Hydroelectric System Technician I, or four years of progressive responsible experience that involved the operation, maintenance and repair of equipment associated with a hydroelectric power plant and/or completion of a formal multi-year apprenticeship program at a similar facility.

Education:

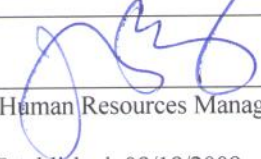
Equivalent to the completion of the twelfth grade.

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 _____ Human Resources Manager	<u>11/2/2015</u> Date
Established: 08/18/2009 Revised: 10/30/2015 FLSA: Non-Exempt Unit: Safety	