

NEVADA IRRIGATION DISTRICT

HYDRO ELECTRICAL MACHINIST I HYDRO ELECTRICAL MACHINIST II Range B45/B65 – BOD 10/10/12

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.

DEFINITION

To perform a variety of semi-skilled and skilled mechanical and electrical duties related to the operation of the District's hydroelectric generation plants; to install, troubleshoot, repair and rebuild the mechanical and electrical components of the hydroelectric generation plant and related equipment; and to ensure work is performed in a safe manner.

DISTINGUISHING CHARACTERISTICS

Hydro Electrical Machinist I: This is the entry level class in the Hydro Electrical Machinist series. Positions in this class typically have little or no directly related work experience. The Hydro Electrical Machinist I class is distinguished from the II level by the performance of less than the full range of duties assigned to the II level. Incumbents work under immediate supervision while learning job tasks, progressing to general supervision as procedures and processes of assigned area of responsibility are learned.

Hydro Electrical Machinist II: This is the journey level class in the Hydro Electrical Machinist series and is distinguished from the I level by the assignment 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 I level.

This class is distinguished from the Senior Hydro Electrical Machinist 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

Hydro Electrical Machinist I

Receives immediate supervision from the Hydroelectric Maintenance Supervisor; receives technical and functional supervision from Senior Hydro Electrical Machinist.

Hydro Electrical Machinist II

Receives general supervision from the Hydroelectric Maintenance Supervisor; receives technical and functional supervision from Senior Hydro Electrical Machinist.

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Hydro Electrical Machinist I/II

ESSENTIAL FUNCTION STATEMENTS

Essential and other important responsibilities and duties may include, but are not limited to, the following:

Essential Functions:

1. Inspect, troubleshoot, repair and maintain a wide variety of mechanical and electrical equipment associated with the District's hydroelectric generation plants.
2. Perform large scale plumbing repairs and new installation.
3. Install hydraulic, mechanical, and electrical systems according to blueprints and drawing specifications.
4. Review and ensure that the work of less experienced staff and contractors adheres to safety procedures and proper work methods.
5. Perform skilled steel, iron, stainless steel and aluminum welding using arc, gas, tig and wire feed welding equipment.
6. Operate and oversee less experienced staff in the operation of heavy equipment.
7. Perform various types of rigging necessary for the removal of turbines, rotors, and related powerhouse equipment, ensuring safety and proper use of equipment.
8. Provide input in the development and modification of the preventative maintenance schedule.
9. Develop and maintain ongoing contact with outside agencies regarding the operation and maintenance of the hydroelectric generation plant.
10. Estimate time, materials and equipment required for assigned jobs.
11. Build and maintain positive working relationships with co-workers, other District employees and the public using principles of good customer service.
12. Perform related duties as assigned.

QUALIFICATIONS

Hydro Electrical Machinist I

Knowledge of:

Basic practices of maintaining and repairing mechanical, hydraulic and electrical systems associated with the operation of a hydroelectric generation plant.

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Hydro Electrical Machinist I/II

Knowledge of: *(Continued)*

Principles and practices of gas and arc welding, surface preparation, types of rods and basic properties of metals and the effects of welding and machining such metals.

Safe use of a variety of hand tools, power tools, and welding equipment.

Basic record keeping procedures.

Modern office equipment including use of applicable computer applications.

Ability to:

Learn to repair, maintain and troubleshoot a variety of mechanical equipment associated with hydroelectric generation facilities.

Accurately perform mathematic calculations.

Read and interpret blueprints and diagrams.

Operate and use modern office equipment including a computer and applicable software.

Establish and maintain effective working relationships with those contacted in the course of work.

Communicate clearly and concisely, both orally and in writing.

Responsibility to:

Obey safe work practices, procedures, and regulations including wearing protective equipment and safety devices.

Operate equipment in a careful and safe manner.

Acknowledge the use of safeguards by other employees.

Report any removal, displacement, damage, destruction, or tampering of safety devices, safeguards, notices or warnings.

Report any safety risks or hazards to your supervisor or other management personnel.

Report to your supervisor or other management personnel any work assignment that you feel would require you to perform the work in an unsafe manner.

EXPERIENCE AND EDUCATION GUIDELINES

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

Experience:

One year of electrical and mechanical experience.

Education:

Equivalent to completion of the twelfth grade supplemented by mechanical coursework.

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License and Certificate:

Possession of a valid class A driver's license is required within six months of appointment.

Hydro Electrical Machinist II

In addition to the qualifications for the Hydro Electrical Machinist I:

Knowledge of:

Techniques for precision measuring within tolerances of .001 of an inch.

Methods, materials and troubleshooting techniques associated with mechanical, hydraulic, and electrical equipment commonly found within a hydroelectric generating plant.

Principles and practices of heavy equipment maintenance and operation.

Pertinent Federal, State and local laws, codes and regulations.

Ability to:

Independently perform a variety of skilled and complex repair, maintenance, and service tasks involving electrical, mechanical and hydraulic equipment associated with the operation of a hydroelectric generation plant and related facilities.

Independently operate a variety of tools and heavy equipment in a safe manner.

Accurately estimate time, materials, equipment and alternating factors to complete assigned work.

Respond quickly and calmly in emergency situations.

Read a variety of technical documentation, schematics, blue prints and related documents.

Ensure the safety of project employees and equipment.

EXPERIENCE AND EDUCATION GUIDELINES

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

Experience:

Two years of responsible experience similar to Hydro Electrical Machinist I with the Nevada Irrigation District.

Education:

Equivalent to completion of the twelfth grade supplemented by mechanical coursework.

License and Certificate:

Possession of a valid California class A driver's license.

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WORKING CONDITIONS

Environmental Conditions:

Work is normally performed in a temperature controlled office environment subject to typical office noise. Some duties require field visits in an outdoor environment subject to outdoor conditions including extreme heat and cold and wet, humid conditions, fumes and/or airborne particles. Duties may be performed near moving mechanical parts and on slippery and uneven surfaces with exposure to toxic or caustic chemicals and risk of electric shock.

Physical Conditions:

Essential functions may require maintaining physical condition necessary to 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.

Mental Conditions:

Essential functions may require maintaining mental condition necessary to know and understand maintenance activities, and observe safety rules; intermittently analyze problem equipment; identify and locate equipment; interpret work orders; remember equipment location; and explain jobs to others; handle conflict.