

Madera-Chowchilla Water and Power Authority

Job Description

JOB TITLE: CANAL AND HYDRO PLANT OPERATOR I, II

DEPARTMENT: SYSTEM OPERATIONS

SUPERVISOR: CANAL AND HYDRO PLANT SUPERINTENDENT

FLSA STATUS: [] Exempt [X] Non-Exempt [X] At-Will

PURPOSE

Under general supervision, to start, load and stop a hydraulic turbine generator on schedules determined by Authority operations; maintain the generation of electric power; inspect and maintain the plant and equipment in ready condition maximizing operating efficiency to satisfy anticipated power and water delivery schedules; and serves as Canal Operator on the Madera Canal, ensuring adequate flows of water for the Madera Irrigation District (MID) and Chowchilla Water District (CWD).

CLASS CHARACTERISTICS:

CANAL AND HYDRO PLANT OPERATOR I

This is the journey level of craft apprenticeship. Incumbents perform both skilled and semi-skilled duties but remain in a learning status under moderate supervision for the higher-level duties. Fully competent and qualified in all aspects of a body of work and given broad/general guidance. Incumbents can complete work assignments to standard, and more often need to make general decisions.

CANAL AND HYDRO PLANT OPERATOR II

This is a more senior journey level of craft apprenticeship. At this level incumbents are expected to proficiently perform the full scope of skilled work which requires the consistent application of advanced knowledge and requires a skilled and experienced practitioner to function independently. Senior-level work includes devising methods and processes to resolve complex or difficult issues that have broad potential impact. May also coordinate the work of one or two subordinates.

ESSENTIAL FUNCTIONS *(Duties may include, but are not limited to, the following):*

- Controls water flows in the Madera Canal and ensures sufficient flows to operate hydroelectric power plants and adequate flows for distribution to MID and CWD.
- Maintains accurate records of water flows.
- Maintains proper water elevations and adequate supply of water in the Equalization Reservoir.
- Performs high voltage switching in a safe and correct manner.
- Monitors and responds to canal and power plant alarm system.

- Makes daily inspection of the condition of the Madera Canal's structures and inspects for possible breaks or hazards.
- Performs daily inspection of hydroelectric plant equipment in accordance with check lists provided.
- Observes and reports unusual conditions affecting plant operations.
- Performs maintenance on canal and hydro plant facilities.
- Confers with MID, and CWD operations for power and water dispatch orders.
- Starts turbines and loads generators on a timely basis to execute operating orders.
- In the event of an emergency shutdown, logs all relay targets and conditions, and performs all special operations required to properly stop the hydro turbines and maintain correct flows in the canal.
- Assist with training designated personnel in routine plan operating principles and procedures.
- Maintains a variety of data and prepares reports.
- Pesticide application for weed and rodent control.
- Operate heavy equipment while performing maintenance duties.
- Other duties as assigned.

ESSENTIAL RESPONSIBILITIES

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

1. **General Knowledge** – Basic math; English grammar, spelling and punctuation; general science; chemistry.
2. **Specialized Knowledge** – Geometry; algebra; operation of hydroelectric generation plants; turbine and generator operations and maintenance procedures; water control in canals and reservoirs; principles of hydrology; construction and maintenance methods; application of pesticides.
3. **Resources** – Turbines, generators, meters, gauges, and pumps; pickup; generating records; canal flow records.
4. **Solving Problems** – Analyzing generator shutdowns; determining why power plant will not come back on-line; balancing the water flow in the Madera Canal.
5. **Communication** – Ability to communicate clearly with all Authority personnel, customers, general public, clients, and stakeholders of the Authority. Channels of communication may include mobile radio, phone, literary instructions, computer, and may also include the use of oral, written, auditory, and visual senses. Employee will display the ability to communicate with respect even in times of difficult matters.
6. **Safety** – Ability to work safely, following all Authority safety procedures and rules. Identify potential hazards and communicate them to authorized personnel. Pay close attention to working conditions and make every attempt to mitigate risk. Driving on rural roads,

highways, and canal banks. Attention to water hazards, rivers, streams, and electrical shock. Working around moving heavy equipment; road hazards; dense fog and rough or slippery canal banks.

WORKING CONDITIONS

The work environment characteristics described here are representative of those an employee may encounter while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. This position requires the employee to work in sometimes hazardous conditions; some of which include:

- Working solitary shifts, irregular/extended hours
- At the direction of the supervisor, may require on-call status.
- Evening and weekend work
- Outdoors, sun exposure 50%-100% of the time, and darkness
- Near swift flowing water and slippery surfaces
- Near road traffic
- Extreme temperatures, heat, cold, damp, rain, dust, fog, high humidity
- Wetness: more than 10% of work time getting all or part of body/clothing wet
- Oil: Some parts of body in contact with oil or grease occasionally
- Occasional loud sounds
- Insects and rodents
- Confined space - cramped, awkward, and in uncomfortable positions

PHYSICAL REQUIREMENTS

To perform this job effectively, there are physical demands that are required of the employee. The following items are examples of physical abilities that will be necessary to perform the essential functions of this position:

- Concentrate for extended periods of time on problems in assigned areas.
- Expending very high level of physical energy in hiking, lifting, carrying, pushing and pulling equipment in uneven terrain and near swift moving water.
- Must be able to carry, push, pull, reach, and lift equipment and parts weighing up to 50 pounds.
- Sufficient finger/eye coordination and dexterity to operate equipment and machinery.
- Some work above floor level on ladders or other surfaces above the ground.
- Operates Authority vehicles in monitoring and functioning water delivery systems.
- Stoops, kneels, crouches, crawls, and climbs during field water delivery work.
- Stands and walks for extended time periods.
- Hearing and vision within normal ranges with or without correction.

QUALIFICATIONS

CANAL AND HYDRO PLANT OPERATOR I

Any combination of education and experience which would likely provide the necessary knowledge, skills, and abilities is qualifying. A typical way to obtain the knowledge, skills and abilities would be:

Education – High School Graduate/Diploma required. Completion of Hydroelectric Plant Trainee program desired.

Experience – Recognition as a Hydroelectric Plant Operator desired or two years involving operation and maintenance of a large open canal water delivery system.

CANAL AND HYDRO PLANT OPERATOR II

Any combination of education and experience which would likely provide the necessary knowledge, skills, and abilities is qualifying. A typical way to obtain the knowledge, skills and abilities would be:

Education – High School Graduate/Diploma required. Completion of Hydroelectric Plant Trainee program required (Two years of hydroelectric or large pumping plant operating experience may be substituted for the completion of a hydro plant trainee program).

Experience – Four years' experience as a Hydroelectric or large pumping plant operator and four years of experience involving the operation and maintenance of a large open canal water delivery system or equivalent related experience.

LICENSES:

Possession of a valid California Class C Driver License is required at the time of appointment. Must obtain and maintain a Qualified Applicators Certificate with categories C, and F within six months of hire date. Failure to obtain or maintain such required license(s) may be cause for disciplinary action. Individuals who do not meet this requirement due to a physical disability will be considered for accommodation on a case-by-case basis. Maintain proof of clean driving record and comply with Authority Policy Section 212 (Use of District vehicle.)

I have reviewed this Job Description and agree with its contents.

Employee Signature

Date

Supervisor Signature

Date

This job description may be changed to include new responsibilities and tasks or change existing ones as management deems necessary and will be reviewed/updated on an annual basis or as necessary to comply with current state legislation.