



DECEMBER 2018
FLSA: NON-EXEMPT

POWER PLANT OPERATOR I/II

This class specification indicates, in general terms, the type and level of work performed as well as the responsibilities of employees in this classification. The job functions described are not to be interpreted as being all-inclusive to any specific employee.

DEFINITION

Under direct or general supervision or direction, generates and distributes power throughout the treatment plant by operating, monitoring, inspecting and maintaining methane gas engine generators and auxiliary equipment; identifies, troubleshoots and solves complex problems; and performs routine, preventive maintenance on power generation equipment.

SUPERVISION RECEIVED AND EXERCISED

Receives direct or general supervision or direction from the assigned supervisory and/or managerial staff. Exercises no direct supervision of staff. May receive task direction, review and training from a Lead Power Plant Operator.

CLASS CHARACTERISTICS

Power Plant Operator I – This classification is the first of three (3) levels within the power plant operations job series. Initially under close supervision, incumbents with basic power plant operations experience learn the District's generation equipment and facilities, use of tools and equipment, and a wide variety of practices and procedures. As experience is gained, assignments become more varied and are performed with greater independence. Positions at this level usually perform most of the duties required of the positions at the II level but are not expected to function at the same skill level and usually exercise less independent judgment in matters related to work procedures and methods. Work is usually supervised while in progress and fits an established structure or pattern. Exceptions or changes in procedures are explained in detail as they arise. Advancement to the II level is based on demonstrated proficiency in performing the assigned functions and is at the discretion of higher level supervisory or management staff.

Power Plant Operator II – This classification is the second of three (3) levels within the power plant operations job series. Incumbents perform the full range of duties required to ensure that the District's generation equipment and facilities are operated and maintained in a safe and effective working condition and provide the full range of duties, working independently, and exercising judgment and initiative. Responsibilities include inspecting and attending to assigned areas in a timely manner and performing a wide variety of tasks in the operations and maintenance of assigned facilities and systems. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit. Work is normally reviewed only on completion and for overall results. This class is distinguished from Lead Power Plant Operator in that the latter is responsible for functional direction over and provides training of lower-level staff and is capable of performing the most complex duties assigned to the division.

EXAMPLES OF ESSENTIAL JOB FUNCTIONS (Illustrative Only)

The following essential job functions are typical for this classification. Incumbents may not perform all of the listed job functions and/or may be required to perform additional or different job functions from those set forth below to address business needs and changing business practices.

- Performs assigned power plant rounds, inspecting and monitoring general operations of the District's power plants to ensure proper working condition; identifies complex problems as necessary.
- Ensures established safety precautions are adhered to, corrects unsafe work conditions/practices, and/or reports unsafe work conditions / practices to assigned supervisory or managerial staff.
- Oversees the generation and distribution of 12,000-volt power, operates, monitors, inspects, maintains and troubleshoots internal combustion engines, steam turbine generators, chiller refrigeration, energy steam systems and auxiliary support and safety equipment such as pumps, compressors, fans, valves, filters, equipment drives and motors.
- Monitors and controls electrical switchgear up to 12,000-volt power as needed to maintain reliable power supply to the wastewater treatment facility by either operating high voltage switchgear, making manual adjustments to equipment, or by operating computer control systems designed to monitor trends and start and stop engines; monitors a variety of computer systems including applicable software program designed to control and monitor the electrical system.
- Performs routine, preventive maintenance on power generation equipment such as cleaning or changing air filters, cleaning strainers, aligning pumps, changing belts and sheaves, performing boiler inspections, adjusting packings, scheduling repairs and monitoring vibrations, chemicals and oil.
- Performs emergency repairs on power generation equipment, as directed; coordinates and assists other divisions with repairs; operates switchgears and performs isolations, shut-downs, tag outs and start-ups of power generation equipment before and after testing, maintenance and emergency repairs.
- Monitors, controls, and records water, oil and air pressures, temperatures, flows, gas levels and test results by reading meters, gauges, charts and, instruments; performs water treatment tests and administers appropriate chemicals as needed per system; completes daily operating logs of routine and unusual operating or maintenance conditions encountered and any repair work performed.
- Initiates work orders, memos and requests for maintenance repairs; gathers power and heat data for Monthly Summary of Operations and prepares special reports as required; inputs necessary data into the computer system.
- Maintains work area to ensure safety and order; collaborates with wastewater operations staff as required; monitors facility for work that needs to be addressed by other departments and generates a service request to inform appropriate personnel.
- Picks up, receives, stores and inventories supplies; may operate electric crane to lift equipment and supplies.
- Performs related duties as assigned.

QUALIFICATIONS

Knowledge of:

- Operational characteristics of electrical power generation equipment and components such as steam turbine, absorption steam chillers, boilers and feedwater systems, engine controls, and emissions control and monitoring systems.
- Methods and techniques of high and low voltage distribution.
- Operating characteristics and application of test equipment such as computer combustion analyzer, computer vibration analyzer, dial indicator, flow balance indicator, and laser pump alignment unit.
- Operational characteristics of applicable control and monitoring systems.
- Water chemistry analysis, boiler maintenance, and theory background.
- Preventive and corrective maintenance techniques.
- Operational characteristics of basic hand tools.

- Mathematical principles and calculations.
- Basic principles and practices of cost estimate preparation.
- Principles and procedures of record keeping.
- NFPA-70E (National Fire Protection Association).
- Occupational hazards and standard safety practices.
- Applicable Federal, State, and local laws, regulatory codes, ordinances, and procedures relevant to assigned area of responsibility.
- Modern office practices, methods, and computer equipment and applications related to the work, including word processing, maintenance management, database, and spreadsheet applications.
- English usage, grammar, spelling, vocabulary, and punctuation.
- Techniques for effectively representing the District in contacts with governmental agencies, community groups, various business, professional, educational, and regulatory organizations, and with property owners, developers, contractors, and the public.
- Principles and practices of customer service and techniques for effectively communicating with the public, vendors, contractors, and District staff.

Ability to:

- Perform a variety of repair and maintenance duties on electrical power generation equipment and systems.
- Inspect, troubleshoot, diagnose, and repair electrical malfunctions.
- Operate a variety of electrical repair and maintenance equipment in a safe and effective manner.
- Use and care for a variety of test equipment including computer combustion analyzer, computer vibration analyzer, dial indicator, flow balance indicator, and laser pump alignment unit.
- Learn to operate, repair and maintain new equipment and systems as technology changes.
- Record data regarding power generation performance.
- Read, interpret, and understand plans, schematics, diagrams, blueprints and drawings.
- Troubleshoot maintenance problems and determine action required for repair.
- Make accurate arithmetic calculations.
- Safely and effectively use and operate hand tools, mechanical equipment, power tools, and equipment required for the work.
- Maintain accurate logs, records and basic written records of work performed.
- Understand and follow oral and written instructions.
- Apply and ensure compliance with Federal, State, and local policies, procedures, laws, rules, and regulations.
- Work independently in the absence of supervision.
- Work extended hours, including nights, weekends and holidays when necessary.
- Adhere to safe work practices and procedures in the workplace.
- Operate a motor vehicle to travel to various District sites, projects and/or meetings.
- Make sound decisions within established policy and procedural guidelines.
- Effectively communicate in person, over the telephone, and in writing.
- Utilize a computer, relevant software applications and/or other equipment.
- Use tact, initiative, prudence, and independent judgment within general policy and legal guidelines.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Employment Standards:

Any combination of education and experience that provides the required knowledge, skills, and abilities may be qualifying as determined by OCSD.

Power Plant Operator I

1. High school diploma or G.E.D., supplemented by specialized training or coursework in electrical or electrical power generation technology, or a related field; AND
2. Two (2) years of experience in the operation and maintenance of electrical power generation equipment such as gas engines, pumps, compressors, and steam turbines and boilers.

Licenses and/or Certifications:

- Valid California Class C Driver's License.

Power Plant Operator II

1. High school diploma or G.E.D., supplemented by specialized training or coursework in electrical or electrical power generation technology, or a related field; AND
2. Three (3) years of experience in the operation and maintenance of electrical power generation equipment such as gas engines, pumps, compressors, and steam turbines and boilers.

Licenses and/or Certifications:

- Valid California Class C Driver's License.

Disaster Service Workers:

All Orange County Sanitation District employees are designated Disaster Service Workers through state law (California Government Code Section 3100-3109). Employment with the Orange County Sanitation District requires the affirmation of a loyalty oath to this effect. Employees are required to complete all related training as assigned, and to return to work as ordered in the event of an emergency.

Standby and Call Back:

Employees in this classification may be required to participate in standby duty and are subject to call back, which may include nights, weekends and 24-hour emergency call out with little or no notice. Any employee designated to serve on standby, or report to an emergency, and refuses to do such, shall be subject to disciplinary action up to and including termination.

PHYSICAL DEMANDS

Must possess mobility to work in the plant; ability to travel to various District sites, projects and/or meetings; strength, stamina and mobility to perform moderate to heavy physical work, to work in confined spaces, around machines and to climb and descend ladders, and operate varied hand and power tools and construction equipment. Vision to read printed materials and a computer screen; and hearing and speech to communicate in person and over the telephone or radio. The job involves fieldwork requiring frequent walking in operational areas to identify problems or hazards. Finger dexterity is needed to access, enter and retrieve data using a computer keyboard or calculator and to operate above-mentioned tools and equipment. Positions in this classification bend, stoop, kneel, reach and climb to perform work and inspect work sites. Employees must possess the ability to lift, carry, push, and pull materials and objects weighing up to 40 pounds, or heavier weights with the use of proper equipment.

ENVIRONMENTAL ELEMENTS

Employees work in the field and are exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, confining workspace, chemicals, mechanical and/or electrical hazards, and hazardous physical substances and fumes. Employees may interact with upset staff and/or public and private representatives, and contractors in interpreting and enforcing departmental policies and procedures.