

## POWER PLANT OPERATOR I

*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 general supervision, participates in the generation and distribution of power throughout the treatment plant by operating, monitoring, inspecting, and maintaining methane gas engine generators and auxiliary equipment; troubleshoots, and solves problems; performs routine preventive maintenance on power generation equipment; and performs duties as assigned.

### **SUPERVISION RECEIVED AND EXERCISED**

Receives general supervision from assigned supervisory and/or managerial staff. Exercises no direct supervision of staff.

### **CLASS CHARACTERISTICS**

This classification is the first of three levels within the power plant operations job series. Positions at this level have basic power plant operations experience but are not expected to function with the same amount of knowledge or skill level as positions allocated to the II-level. Positions at this level 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. This class is distinguished from the Power Plant Operator II in that the latter is responsible for the more complex operation, monitoring, inspection, and maintenance of methane gas engine generators and auxiliary equipment.

### **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.*

- Participates in performing assigned power plant rounds, inspecting and monitoring general operations of OC San's power plants to ensure proper working condition.
- 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.
- Operates, monitors, inspects, troubleshoots, and assists in maintaining 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.

- Assists in performing emergency repairs on power generation equipment, as directed; assists other divisions with repairs; operates switchgears and assists in performing isolations, shut-downs, tag outs, and start-ups of power generation equipment before and after testing, maintenance, and emergency repairs.
- Monitors, assists in controlling, and records water, oil, and air pressures, temperatures, flows, gas levels, and test results by reading meters, gauges, charts, and instruments; assists in performing water treatment tests and administering appropriate chemicals as needed per system; completes daily operating logs of routine and unusual operating or maintenance conditions encountered and any repair work performed; recommends initiation of work orders, memos, and requests for maintenance repairs.
- Gathers power and heat data to prepare reports; maintains assigned information systems and databases.
- Operates and maintains a variety of test equipment, hand tools, power tools, and other equipment and vehicles in the performance of assigned duties.
- 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.
- Maintains work area to ensure safety and order.
- Ensures safety and health procedures and precautions are adhered to, corrects unsafe work conditions/practices, and/or reports unsafe work conditions/practices to assigned supervisory or managerial staff.
- Performs duties as assigned.

## **QUALIFICATIONS**

### **Knowledge of:**

- Basic 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.
- Basic methods and techniques of high and low voltage distribution.
- Basic 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.
- Basic operational characteristics of applicable control and monitoring systems.
- Methods, techniques, tools, devices, and materials for performing preventive and corrective maintenance on assigned equipment.
- Basic theories and analytical methods of water chemistry.
- Mathematical principles and calculations.
- Principles and procedures of record keeping.
- Safety principles, practices, and procedures of all facilities, equipment, and materials used in performing maintenance and repair of power systems.
- The structure and content of the English language to effectively perform the work.
- Current equipment and communication tools used for business functions and program, project, and task coordination, including computers and software programs relevant to work performed.

### **Ability to:**

- Perform troubleshooting, preventative and corrective maintenance, and repair duties on electrical power generation equipment and systems.
- Assist in overseeing the generation and distribution of 12,000-volt power.
- Inspect, troubleshoot, diagnose, and assist in repairing electrical malfunctions.

- Safely and effectively use and operate test equipment, hand tools, power tools, and related equipment required for the work.
- Learn to operate, repair, and maintain new equipment and systems as technology changes.
- Read, interpret, and understand plans, schematics, diagrams, blueprints, and drawings.
- Identify maintenance problems and recommend action required for repair.
- Make accurate arithmetic calculations.
- Record data and maintain accurate logs, records and basic written records of work performed.
- Learn, understand, interpret, and apply all pertinent laws, codes, regulations, policies and procedures, and standards relevant to work performed.
- Organize work, set priorities, meet critical deadlines, and follow-up on assignments.
- Operate a motor vehicle to travel to various OC San sites, projects, and/or meetings.
- Use tact, initiative, and prudence within general policy and legal guidelines.
- Comply with safe work practices and procedures in the workplace.
- Provide a high level of customer service by effectively dealing with the public, vendors, contractors, and OC San staff.
- Effectively use computer systems, software applications relevant to work performed, and modern business equipment to perform a variety of work tasks.
- Communicate clearly and concisely, both orally and in writing, using appropriate English.
- 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 OC San.

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:**

- Must possess a 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.

#### **PHYSICAL DEMANDS**

- Mobility to work in the plant; to sit, stand, and walk on level, uneven, or slippery surfaces; frequently reach, twist, turn, kneel, bend, stoop, squat, crouch, grasp, and make repetitive hand movement in the performance of daily duties; to climb and descend ladders, to operate varied hand and power tools and equipment, and to operate a motor vehicle and visit various OC San sites, projects, and/or meetings.
- Perform moderate to heavy physical work; to lift, carry, push, and pull materials and objects up to a weight of 51 pounds and occasionally heavier weights, in all cases with the use of proper equipment and/or assistance from other staff.
- Work requires entry into confined spaces and the use of confined entry equipment and protective safety equipment.
- Vision to inspect and operate equipment.
- Field work requiring frequent walking in operational areas to identify problems or hazards.

- Finger dexterity to operate tools and equipment.

### **ENVIRONMENTAL ELEMENTS**

- Field work in and around facilities with exposure to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, confining workspace, heights, chemicals, mechanical and/or electrical hazards, hazardous physical substances and fumes, dust, and air contaminants.
- Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.

### **OTHER REQUIREMENTS**

- May be required to work extended hours, including nights, weekends, and holidays when necessary.
- 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.
- Probationary Period: All OC San employees, except classifications considered “at-will”, are subject to the probationary period provisions as specified in the applicable Memorandum of Understanding, policies, and/or resolutions. Employees who have not yet successfully completed their initial probationary period serve “at-will” and may be released from employment without cause or recourse to any appeal or grievance procedures.
- Pre-Employment: All employment offers are contingent upon successful completion of OC San’s pre-employment process, which includes a background investigation, a physical examination, and a drug screen.
- Work Location Assignment: Employees will be assigned to a work location based on business needs which may be located at any/all of OC San locations; this work location may be changed at any time.