

COUNTY OF SOLANO CLASS SPECIFICATION STATIONARY ENGINEER

CLASS SUMMARY:

Under direction, operates, repairs, and maintains heating, cooling, ventilation and refrigeration systems and controls. Employees in this journey level class is responsible for operating, maintaining and repairing building support equipment in assigned County Facilities. Positions may be assigned to work the County Cogeneration Plant.

DISTINGUISHING CHARACTERISTICS:

This class is distinguished from the:

- **Facilities Operations Manager** class which plans, organizes directs and oversees maintenance programs and operations for County facilities, including all building systems and components; custodial and landscape maintenance, construction and remodel projects, building security, energy management, cogeneration power distribution plant operations and maintenance.
- **Facilities Operations Supervisor** class which is a first line supervisory class responsible for the work unit engaged in the operations and maintenance of County owned buildings and support equipment, and which, depending on the unit supervised, may include heating, air conditioning, ventilating, refrigerating, electrical, plumbing, carpentry.
- **Stationary Engineer (Senior)** class which under direction, performs the most difficult and/or specialized technical assignments which require considerable knowledge of trade skills required to, operate, repair, and maintain heating, cooling, ventilation and refrigeration systems and building controls. Employees in this advanced journey level class are responsible for the operation, maintenance, and repair of the County Cogeneration Plant and/or providing lead direction to Stationary Engineers and Building Maintenance Assistants. Positions may be assigned to the County Cogeneration Plant or other County Facilities.
- **Cogeneration Industrial Engine Mechanic** which under general supervision, performs advanced journey work in operating, maintaining, inspecting, diagnosing, troubleshooting, making major and emergency repairs, overhauling, rebuilding, and overseeing contractor installation, etc. of internal combustion natural gas engines/generators and large industrial stationary engines, machinery, pump engines, motors, generators, and related equipment at County's Cogeneration Plant.
- **Building Maintenance Assistant** class which under supervision, assists in performing routine maintenance and minor construction tasks on buildings and building support equipment. Employees in this class assist Building Trades Mechanics in construction, repair, and maintenance of County buildings and building support equipment and, assist Stationary Engineers with heating, cooling, ventilating and refrigeration systems, or may assist other related classes.

SUPERVISION RECEIVED AND EXERCISED:

- Supervision is provided by a Facilities Operations Manager and/or Facilities Operations Supervisor.
- No supervision is exercised over others; however, may provide technical expertise, instruction, consultation and/or advice to colleagues.
- May receive lead direction from a Stationary Engineer (Senior)

ESSENTIAL DUTIES: This class specification represents the core area of responsibilities; specific position assignments will vary depending on the needs of the department.

- Starts, stops, and adjusts automatic and manual low and high voltage, electric, electronic automated and pneumatic controls to operate the heating, cooling, ventilating and refrigeration systems within recommended or prescribed operating ranges.
- Reads meters and gauges or automatic recording devices to verify operating conditions and records data such as temperature of equipment, hours of operation, fuel consumed, temperature or pressure, water levels, analyses of flue gases, and voltage load.
- Adjusts manual controls or overrides automatic controls to bring equipment into recommended or prescribed operating ranges, switch to back up equipment or systems, or shut down equipment.
- Performs visual inspections and preventive maintenance at determined intervals to detect malfunctions and/or the need for repairs.
- Analyzes, trends and maintains equipment by testing, balancing and making adjustments to tightening fittings, repacking bearings and valves, replacing compressors, motors, pumps, valve gaskets, recorders and gauges, and cleaning or replacing burners or other components using hand and power tools; oils and lubricates equipment; makes repairs to all associated equipment related to the HVAC and air distribution systems, including intakes and exhaust.
- Performs water treatment analyses on chilled, condenser and/or hot water and steam to maintain chemical control limits of the water, adds chemical additives, such as water softeners into treatment tank to prevent scale build up and to clean boiler lines.
- Maintains and repairs decorative fountains controls.
- Records operation and maintenance actions taken during particular shift.
- Understand and interpret blueprints and building reference manuals.
- Coordinates with and oversees the work of vendors and contractors.
- Maintains documentation for compliance with CAL/OSHA standards; keeps records of disbursement inventories; and maintains adequate stock of supplies and equipment related to heating and air conditioning repair and maintenance.
- Maintains the cleanliness of air vents in secured facilities that requires the use of a lift.
- Provides technical expertise and/or consultation and advice to colleagues.
- Coordinates work efforts of inter-related building systems with colleagues.
- Performs other duties as assigned.

REQUIRED EDUCATION AND EXPERIENCE:

- **Education:** High School Diploma, GED, or equivalent; **AND**
- **Experience:** Four (4) years experience including three (3) years of apprenticeship training in a program, or under a journey worker in heating, ventilating, air conditioning and/or refrigeration **AND** One (1) year of full-time paid experience at the level of a journey worker in heating, ventilating, air conditioning and/or refrigeration.

- Journey worker certificate as a Stationary Engineer is highly desirable.

LICENSING, CERTIFICATION AND REGISTRATION REQUIREMENTS:

- Applicants are required to possess, or obtain prior to employment, a valid California Driver's License, Class C.
- Applicants are required to possess a current Environmental Protection Agency, Section 608, Universal Certification.

Note: All licenses, certificates and registrations must be kept current while employed in this class.

REQUIRED KNOWLEDGE, SKILLS AND ABILITIES:

Knowledge of:

- Theory and practice of heating, ventilating, air conditioning, electricity, hydraulics, thermal dynamics refrigeration and electronics.
- HVAC operations, maintenance and repair to include minor programming.
- Installation, maintenance, operation, repair, and balancing of environmental systems.
- Drafting and blueprint reading.
- Pneumatic and electronic controls.
- Chemistry, physics, and water treatment practices as they apply to stationary engineering equipment.
- Tools and equipment commonly used in the stationary engineering field.
- Automated controls systems operations and minor programming of equipment commonly found in public buildings.
- Safe shop practices.
- Laws, regulations and policies applicable to work performed.
- Customer service techniques.
- English composition, spelling, grammar, vocabulary, and punctuation for both written and oral communications.
- Basic mathematics to determine amount of materials needed for a job, including but not limited to, square footage of areas to be worked on.
- Modern office equipment to include: computers, smartphones and related software applications.
- Construction safety protocols and regulations.

Skill and/or Ability to:

- Read and interpret building plans, blueprints, instructional mechanical plans, and related schematics.
- Diagnose mechanical operating troubles.
- Maintain accurate records and reports and documents actions taken.
- Comprehend and follow written and verbal instructions.
- Establish and maintain cooperative working relationships.
- Demonstrate tact and diplomacy.

- Determine the appropriate course of action in stressful and/or emergency situations.
- Collect and analyze data to identify needs and evaluate equipment effectiveness, draw logical conclusions and make appropriate recommendations and adjustments.
- Understand and analyze testing procedures and test results.
- Organize and prioritize work assignments.
- Make routine arithmetical calculations and analysis.
- Research regulations, procedures and technical reference materials relating to equipment.
- Use modern office equipment to include computers and related software applications.
- Operate and maintain a variety of tools and forklifts properly and safely.

PHYSICAL REQUIREMENTS:

- **Mobility and Dexterity:** This class typically requires employees to perform the following: (1) balancing, stooping, kneeling, reaching, crawling, fingering, grasping, and repetitive motion; (2) climbing and working safely on ladders and step ladders with a total weight that does not exceed the weight capacity of the ladder or the highest rated capacity of the harnesses and lanyards used for fall protection; and (3) standing or walking during normal work hours on uneven surfaces.
- **Lifting, Carrying, Pushing and Pulling – Heavy work:** This class typically requires employees to perform the following: exerting up to 100 pounds of force occasionally with assistance, and/or up to 50 pounds of force frequently, and /or up to 20 pounds of force constantly to move objects.
- **Vision:** This class requires employees to have close visual acuity, with or without correction, to prepare and analyze data and figures, view a computer terminal, read, and to distinguish between normal and off shade colors and to read gauges and meters in dimly lighted areas etc. Employees are also required to have depth perception and good eye-to-hand coordination in order to operate a motor vehicle and to operate a variety of hand and power tools.
- **Hearing/Talking:** This class requires employees to perceive the nature of sounds at normal speaking levels with or without correction, and have the ability to receive detailed information through oral communication. Employees in this class are also required to be able to communicate to express or exchange ideas. Detailed or important instructions must occasionally be conveyed to others accurately, loudly, and/or quickly.
- **Other:** This class typically requires employees to have sufficient sense of smell, and touch to observe equipment functions for normal and abnormal occurrences.

WORKING CONDITIONS:

- **Outdoor Work:** Employees in this class will often be working outdoors and thus may be subject to exposure to intense noises, fumes, odors, pollens, dust, inadequate lighting, and to unpleasant field conditions including rainy, windy, cold, or hot weather; may be exposed to e.g. insects, rodents, snakes, bees, wasps, spiders, ants, etc.
- **Work in an Industrial Area:** Employees in this class will often be working in an industrial area and thus will be subject to exposure to moving mechanical parts, electrical currents, toxic agents, fuel, oil, gases, smoke, fumes, odors, dust, and vibrations. Employees may be subject to injuries when working with hand and power tools and equipment.

- Traffic Hazards: Employees in this class will be required to operate a vehicle and thus may be subject to traffic hazards while driving.
- Working at Heights: Employees in this class may be required to work at heights of 50-75 feet above the ground on equipment and structures.

OTHER REQUIREMENTS:

- Background Checks, Reference Checks and Physicals: The County will conduct a background check, a reference check and a physical on candidates prior to appointment to a position within this class.
- Independent Travel: Incumbents are required to travel independently, to perform work at other work sites, etc.
- Hours of Work: Incumbents may be required to work weekends, holidays, irregular hours, on-call, and after normal business hours.
- Drug and Alcohol Testing: Candidates applying for positions in this class are subject to, drug and alcohol testing as required under the Federal Omnibus Transportation Employee Testing Act of 1991. Testing of incumbents includes post-accident, as well as random and reasonable suspicion testing as required by law.

CLASS HISTORY AND CLASS INFORMATION:

- Date revision approved by the Civil Service Commission: October, 1986
- Date(s) Revised: December, 2016
- Class Code: 873040