

**Position Description**  
**Power Plant Operator Senior**  
**Working Title: Hill Farms Systems Operator**  
**November, 2014**

**Position Number: 011791**

**Position Summary:**

The Power Plant Operator – Senior position operates and maintains the plant and equipment at the Hill Farms Heating Plant. The Hill Farms Plant provides steam to the Department of Transportation and several other state owned office buildings. It also uses gas/oil fired high pressure boilers, but does not provide other services to the buildings.

This position will work under the general supervision of the Power Plant Superintendents. Duties include performing assigned maintenance duties related to power plant equipment and functioning as plant operator, as needed, and assisting maintenance personnel and craft workers in major and minor repairs of equipment. Other duties include painting plant equipment and work areas, performing operational support tasks, maintaining the grounds outside of the plant, and custodial work. This position also operates a fork lift to unload delivery trucks and is expected to perform other miscellaneous tasks as assigned.

This position is part of the 24/7 plant coverage and may be assigned to various shifts including a rotating schedule that includes days, nights, afternoons and most weekends and holidays.

**Goals and work activities:**

**25% A. Monitor equipment control systems. Adjust equipment controls to provide for optimum operating levels and conditions. Record and report all action concerning operation of equipment during all shifts.**

A1. Within the first fifteen minutes of taking over a shift, assure that the plant and its equipment are in a Stable condition. Stabilize any and all abnormal operation prior to performing normal routine duties.

A2. Read and review the plant log at the start of each shift. Request clarification from the previous operator, if required. Obtain accurate readings from instrumentation of operating equipment and log onto operating logs at designated times. From logged data, determine if equipment is operating within desired limits and take appropriate action if it is not. Note all entries in a consistent manner with other operator's entries.

A3. Remain on shift until properly relieved by the next scheduled operator. When taking over a shift be assured that you are informed as to all circumstances effecting operation of the plant. When turning a shift over to your relief, inform the next operator on shift of all circumstances effecting operations.

A4. Under the direction of the plant superintendent or the plant control room operator, assist with equipment start-up, operation, and shut-down.

A5. Work with operators to blow down and test water level alarms, sight glasses, and columns. The following glasses and alarm columns shall be blown down and tested within the first hour of a shift: all boilers, DA, condensate Storage tank and condensate return tank.

A6. Keep brine tank at the designated brine and salt levels for softener regeneration. Check the salt and brine levels and the brine concentration once each shift and prior to regeneration.

A7. Perform elution studies on softeners to track and troubleshoot performance of units.

A8. Visually and physically check each piece of operating equipment each hour and determine if it is operating correctly, (no excess vibration, heat from bearings, excess noise, or oil leaks). If a piece of equipment is suspected to have a malfunction, troubleshoot the malfunction, take appropriate action and report the malfunction.

A9. Accept direction from plant superintendent willingly.

**25% B. Monitor and adjust, when necessary, boiler pressure, temperature, steam flow, air flow, water level, etc., to maintain optimal operations.**

B1. Observe changes in boiler pressure, temperature, steam flow, air flow, water level, etc., and take necessary corrective action. Adjust controls of water and fuel feed systems, blowers, and igniters to start or shut down boilers. Adjust boiler controls to provide steam at specified temperature and pressure for turbine loads according to power demands.

B2. Perform water sampling, testing of, and appropriate chemical additions to, boilers, condensate, and soft waters shall be performed the first hour of each shift.

B3. Maintain boiler water levels at optimal operating level all times. Check boiler water level sight glasses within the first 10 minutes of taking over a shift.

B4. Utilize standard operating practices when cooling down a piece of equipment or a pressure vessel. Ensure equipment cool down will not exceed a rate of 100 degrees per hour and a pressure vessel will always be vented when the pressure reaches 30 psig. Operate the TES system at designed temperatures and flow rates to achieve optimum efficiency.

B5. Replace plant lighting lamps, sight glass lamps; take up on valve packings, keep debris picked up around boilers, and aisle ways free.

**20% C. Perform routine maintenance tasks as assigned through the CMMS work order system.**

C1. Assist with the maintenance and repair on the high-pressure steam boilers, and plant auxiliary equipment as assigned by the plant superintendent or lead maintenance personnel.

C2. Work with maintenance personnel to clean and prepare boilers for annual inspections, according to plant policies and industry standards.

C3. Assist with the routine maintenance of emergency electrical generator sets to ensure reliable service.

C4. Assist in the maintenance and repair of the plants auxiliary equipment including but not limited to air handling units, cooling towers, pumps, air compressors, air dryers, heat exchangers, automatic valves, transducers, motors, R.O. systems, filters, softeners, chemical feed systems, condensers, and evaporators.

C5. Repair and replace non-asbestos pipe covering.

C6. Perform all other work orders and tasks as assigned by the superintendents including but not limited to: fire extinguishers, piping, valve maintenance, painting, insulating, welding and fabrication.

C7. Perform light plumbing on copper, steel, PVC, and plastic piping systems.

**25% D. Perform custodial and operational tasks in and around the plant.**

D1. Perform all cleaning tasks as directed by the plant superintendents. Sweep and mop all floors, handrails, stairwells, equipment, offices and all other rooms throughout the plant as assigned. Wash down walls, windows, and equipment as assigned. Clean all bathrooms and plumbing fixtures as assigned. Remove trash and clutter from all areas of the plant as assigned.

D2. Keep all eyewash and emergency showers clean and tested weekly on the day shift, and report any malfunctions.

D3. Receive materials and supplies, verify amounts are correct and confirm that it is ours to receive. Accept and unload deliveries. Do not accept shipments that you do not know belong to the plant. Turn packing slips into the plant superintendent.

D4. Perform painting tasks as assigned by plant superintendents.

D5. Perform grounds keeping duties as assigned. Mow grass areas around the plant. Remove snow from plant walkways and parking areas needed. Keep the sidewalk in front of the plant free of snow and ice.

**5% E. Maintain plant area safety and security and perform other duties as assigned.**

E1. Assist DOA craft workers with a variety of tasks throughout the plant as directed by the plant superintendents.

E2. Assist with operational tasks during emergencies and as needed to insure the safe and proper operation of the plant. All situations that are deemed "emergency" by the plant operator or the plant superintendent shall be rectified to assure life safety services to the buildings are not interrupted prior to any routine duties being performed.

E3. Adhere to all operating, lock out tag out, procedures, safety & work rules, DOA policies, OSHA regulations and memorandums

E4. Maintain plant security by checking the proper operation of cameras, assuring all plant exit doors remain closed and locked, and all overhead doors remain closed on all shifts. If a discrepancy or intruder is discovered, notify the Capitol Police and the plant superintendent immediately.

E5. Communicate effectively verbally and in writing and conduct oneself in a professional manner with co-workers and all DOA staff.

E6. All other tasks as assigned verbally or in writing by the plant superintendent.

**Knowledges, Skills, and Abilities:**

- Skill in making repairs and adjustments on all power plant equipment.
- Skill in the operation of various power tools, hand tools, and testing equipment used in the mechanical and electrical maintenance field.
- Knowledge of procedures for lockout-tag out, of the safe operation and maintenance of gas and oil fired steam boilers, of steam flow meters, water meters, pressure gauges, temperature gauges, automatic boiler controls, and their related equipment.
- Knowledge of the operation of computer steam flow meters, water meters, pressure gauges, temperature gauges, automatic controls, water pumps, chemical pumps, and related equipment, of the safe operation and maintenance of mechanical refrigeration units (chillers) and their related equipment.
- Knowledge of the operation and use of safety devices.
- Knowledge of feed water heaters, feed water pumps, condensate pumps and forced draft fans, of generating equipment and of water testing and water softening.
- Ability to learn and properly apply methods and techniques for the correct and safe performance of fairly complex physical and mechanical tasks and materials handling operations.
- Ability to assist with record keeping tasks in a neat and accurate manner, such as fuel inventory, maintenance records, etc.
- Ability to communicate clearly verbally, in writing, and in telephone communications, and clearly understand written and verbal direction.
- Ability to carry out assignments with general direction and supervision.
- Ability to work in confined spaces, both within and outside of the plant.
- Skill in operating forklifts, tractors, end loaders, and/or similar equipment.