

ENERGY RECOVERY OPERATOR, 5620
ENERGY RECOVERY SUPERVISOR, 5621

Summary of Duties : As a trainee works under close supervision and assists in operating, maintaining, repairing, inspecting, or controlling wastewater solids dehydration and energy recovery equipment involved in a complete wastewater solids centrifuging, drying, combustion, cogeneration, and air pollution control system at a wastewater treatment plant; or as a journey-level worker oversees and participates in the operation of wastewater solids dehydration and energy recovery equipment from a centralized control room or from actual equipment locations; or assigns, reviews and evaluates the work of Energy Recovery Operators engaged in such work; applies supervisory principles and techniques in building and maintaining an effective work force; fulfills affirmative action responsibilities; and performs related duties.

Distinguishing Features : Employees initially employed as Energy Recovery Operators function as trainees and receive extensive on-the-job and classroom training to acquire the knowledges, skills, and abilities required to perform all phases of journey level duties. They initially perform relatively routine work under close supervision and over time learn to perform the more difficult work. Employment is limited to four years during which time the trainees are expected to qualify for promotion to the journey level.

Employees in trainee status differ from employees of journey-level status in this class in that the latter group controls and monitors operations of all energy recovery activities on a shift, functioning as working supervisors over the former group of employees. Energy Recovery Operators differ from Steam Plant Assistants and Steam Plant Operators in that the former group operates a wastewater solids fired reactor and associated equipment in addition to steam and gas turbine electric generating equipment at a wastewater treatment plant.

An Energy Recovery Supervisor supervises the work of energy recovery operating personnel at the Hyperion Treatment Plant. An Energy Recovery Supervisor is responsible for the performance of the full range of supervisory activities including: application of discipline, processing and resolution of grievances, evaluation of performance and approval of time-off requests. These employees also provide training for operating personnel and coordinate the work of the section with that of other major sections of that plant. The scope of the technical knowledge of energy recovery processes and supervisory responsibility is broader and more comprehensive for employees of this class than for subordinate personnel as they must be able to recognize variances

Distinguishing Features (Cont.):

in wastewater solid and digester gas quantity and quality and in exhaust gas emissions, as well as abnormalities in equipment and systems, and to take corrective action.

Employees in these classes may work under unpleasant and potentially hazardous conditions due to the presence of and possible exposure to toxic, corrosive, or volatile substances such as sulfur dioxide, acids, hydrogen sulfide, caustics, methane, nitrogen, formaldehyde, chlorine, carbon monoxide, hydrazine, flue gas, digester gas, low temperature liquid nitrogen, wet and dry sludge, high temperature and pressure steam, vacuums, high speed rotating equipment, and high voltage equipment.

Example of Duties : Trainees in the Energy Recovery Operator class assist journey-level employees in operating, controlling, inspecting, maintaining, and cleaning wastewater solids processing equipment, such as evaporators, heat exchangers, separators, condensers, centrifuges, hydroextractors, filters, transporting equipment, dryers, scrubbers, fluid cycles (main/auxiliary), and associated pumps, fans, and feeders to assure that dry wastewater solids produced contain the required percent of moisture for downstream processing; assist in monitoring the wastewater solids combustion process to ensure that proper balance of wastewater solids derived fuel, heat, and electric power production and proper air emissions levels are being met; assist in monitoring the wastewater solids controlled combustion process to ensure proper equipment functioning; assist in monitoring external controls and conditions such as vibration, heat build-up, and air or gas leaks for proper operating conditions; assist in inspecting temperatures on pyrometers to verify control room readings; assist in inspecting instruments controlling oxygen and temperatures, gas analyzers, protective devices for burners, and oil and wastewater solids injectors for proper functioning; assist in performing equipment maintenance and repairs including clean up on wastewater solids centrifuging, drying, and combustion equipment, compressors, steam boilers, steam turbines, gas turbines, gas purification, air pollution and sludge ash removal and disposal equipment; and assist in controlling wastewater solids burning variables to adjust emission output to meet air emission requirements; maintain equipment operation logs and keep process area clean.

Journey-level employees in the Energy Recovery class operate remote controls for and direct the operation of evaporators, separators, condensers, centrifuges, hydroextractors, filters, dryers, scrubbers, fluid cycles, and associated pumps, fans, feeders, and other equipment to assure proper moisture percentage in dry wastewater solids produced for downstream processes; monitor, control and coordinate the quantity and quality of digester gas and wastewater solids required by the gas turbines and fluidized bed combustors; monitor, control, and coordinate the quantity and quality of the heat required by high pressure boilers to produce electricity and steam; monitor exhaust gas emissions and make necessary adjustments to meet air quality standards; monitor the operation of gas turbine and steam electric generating equipment from a central room or from an operating floor where equipment is situated for proper functioning; detect abnormalities in

operating

Examples of Duties (Cont.):

equipment to determine necessary actions to prevent equipment damage or employee injury; perform maintenance and diagnosis of equipment to ensure proper functioning; prepare and maintain logs and documents on process and equipment operations to determine when to turn service on or off; coordinate maintenance of equipment; provide training on equipment use, repair, and on safety procedures to trainees in the class; and take equipment in and out of service for maintenance.

Energy Recovery Supervisor: Employees in this class supervise the overall operation of wastewater solids processing or energy recovery operations including the air quality control and digester gas purification activities on a given shift; may establish control points for operations; diagnose malfunctions in equipment and operations and seek assistance when necessary; prepare necessary reports; ensure that subordinate personnel have received proper training and perform their assigned tasks; prepare shift schedules; handle employee discipline; conduct employment interviews; and assist in coordinating and scheduling major maintenance work on energy recovery equipment.

An Energy Recovery Supervisor communicates equal employment/affirmative action information to employees; applies job-related criteria in selecting, orienting, assigning, training, counseling, evaluating, and disciplining subordinates; assists employees in preparing for promotion as described in the City's Affirmative Action Program.

Both Classes: May occasionally be assigned other duties for training purposes, or to meet technological changes or emergencies.

Qualifications:

	<u>Energy Recovery Operator</u> Trainee <u>Status</u>	Journey-Level <u>Status</u>	Energy Recovery <u>Supervisor</u>
<u>Knowledges:</u> Principles of combustion, heat transfer, evaporation, dehydration, and electricity as applied to energy recovery systems, and power generation and transmission;	General	Working	Working

<u>Knowledges (Cont.):</u>	<u>Energy Recovery Operator</u>		<u>Energy</u>
	<u>Trainee</u> <u>Status</u>	<u>Journey-Level</u> <u>Status</u>	<u>Recovery</u> <u>Supervisor</u>
Principles, methods, and practices of operating mechanical and electrical equipment used, including process and auxiliary equipment;	General	Working	Working
Principles and methods of operating waste gas-fired boilers and determining and obtaining efficient combustion;	General	Working	Working
Use of tools for maintaining energy recovery equipment;	General	Working	Working
Regulations on Air Quality Standards;	General	Working	Working
Recording instrumentation and pneumatic, electronic, and process control computer systems;	General	Working	Working
Wastewater treatment processes utilizing wastewater solids and digester gas as fuels in an energy recovery system;	General	Working	Good
Necessary safety precautions when working near high temperatures, pressures, and gases, operating machinery, energized electrical equipment, and when handling hazardous materials;	General	Working	Good

**ENERGY RECOVERY OPERATOR, 5620
ENERGY RECOVERY SUPERVISOR, 5621**

<u>Knowledges (Cont.):</u>	<u>Energy Recovery Operator</u>		<u>Energy Recovery Supervisor</u>
	<u>Trainee Status</u>	<u>Journey-Level Status</u>	
Bureau of Sanitation regulations and procedures governing plant operation, process, and the securing of clearances;	General	Working	Good
Supervisory principles and practices including: planning, delegating, and controlling the work of subordinates.			Good
Techniques for training, instructing and evaluating subordinate work performance;			Good
Techniques for counseling, disciplining and motivating subordinate personnel;			Good
Procedures for grievance handling;			Good
Supervisory responsibility for EEO/AA as set forth in the City's Affirmative Action Program;			Good
Safety principles and practices;			Good
Laws and regulations related to equal employment opportunity and affirmative action;			Good
Memoranda of Understanding as they apply to subordinate personnel;			Working
City personnel rules, policies and procedures;			General

ENERGY RECOVERY OPERATOR, 5620
ENERGY RECOVERY SUPERVISOR, 5621

<u>Abilities:</u>	<u>Energy Recovery Operator</u>		<u>Energy Recovery Supervisor</u>
	<u>Trainee Status</u>	<u>Journey-Level Status</u>	
Follow oral and written instructions;	X	X	X
Recognize and report the need for repairs to energy recovery equipment;	X	X	X
Make minor repairs, perform running maintenance and diagnostic tests on operating equipment and associated parts;	X	X	X
Analyze emergency situations and adopt effective, quick, and proper actions;	X	X	X
Take, record, and interpret readings of system instrumentation and controls, and maintain operating logs;	X	X	X
Communicate clearly both orally and in writing;	X	X	X
Prepare accurate and adequate reports;		X	X
Instruct subordinates in the proper performance of duties and in the observance of safety precautions;			X
Plan, coordinate, and review the work of operating personnel;			X

Successful completion of a one-semester course in electricity, electronics, physics, thermodynamics, chemistry, or mechanics; or, One year of experience in the operation, maintenance, or repair of electrical or mechanical equipment is required for Energy Recovery Operator. Experience with large machinery in electric generating plants, in engine rooms on board ships or in oil refineries is preferred.

Three years of journey-level experience controlling, monitoring, and coordinating the operation of gas turbine and steam electric generating facilities from a central control room or from equipment locations is required for Energy Recovery Supervisor.

As designated under Civil Service Rule 5.30 and Charter Section 110 (d), all entry-level positions in the class of Energy Recovery Operator are training positions. Employment in trainee-level positions is limited to four years during which time the trainee is required to qualify for promotion to a regular

journey-level position. Probation in this class begins at the journey level.

License: A valid Unlimited Steam Engineer's License with Turbine Endorsement issued by the Department of Building and Safety of the City of Los Angeles is required prior to appointment to certain positions for Energy Recovery Operator, and for Energy Recovery Supervisor.

A valid California driver's license is required prior to appointment.

Physical Requirements: Both Classes: Strength to perform average lifting up to 25 pounds and occasionally over 50 pounds; arm, hand, and finger dexterity with both hands involved in activities such as reaching, handling, and feeling; good speaking and hearing ability; and good eyesight and color perception.

Based on Cal/OSHA Regulations, Departmental Regulations require the wearing of a Self Contained Breathing Apparatus (SCBA) under hazardous and emergency conditions. Therefore, as a condition of employment, all employees in both of these classes must ensure they are free from certain types of facial hair and medical conditions which would permit a SCBA to be worn safely.

Persons with medical limitations may, with reasonable accommodations, be capable of performing the duties of some of the positions in these classes. Such determination must be made on an individual basis in light of the person's limitations, the requirements of the position, and the appointing authority's ability to effect reasonable accommodations to the person's limitations.

As provided in Civil Service Commission Rule 2.5 and Section 4.55 of the Administrative Code, this specification is descriptive, explanatory and not restrictive. It is not intended to declare what all of the duties and responsibilities of any individual position shall be.