INSTRUMENT MECHANIC, 3843
INSTRUMENT MECHANIC SUPERVISOR, 3844

Summary of Duties : Performs highly skilled field and shop work in inspecting, adjusting, calibrating, servicing, maintaining, overhauling, repairing, and testing various automatic controls and indicating and recording instruments and devices; analyzes instrumentation malfunctions to determine necessary repair; analyzes problems and makes necessary repairs on instrumentation and controls required to interface with process control computers; or assigns, reviews and evaluates the work of Instrument Mechanics engaged in such work; applies supervisory principles and techniques in building and maintaining an effective work force; fulfills affirmative action responsibilities; and performs related work.

Distinguishing Features : An Instrument Mechanic performs skilled field and shop work on a wide variety of electrical, mechanical, pneumatic, electronic, and hydraulic instruments and devices. An employee of this class occasionally removes instruments needing major repairs and works on them in the shop, but the preponderance of the work is in the field. Instrument Mechanics work in proximity to energized circuits, high pressure air, hot water and steam lines, hazardous chemicals, and rotating equipment and must observe standard safety practices to assure personnel safety;

An Instrument Mechanic Supervisor has complete responsibility for the work performed in the field and shop by Instrument Mechanics. Assignments normally are received in the form of work orders or "trouble reports" from operating personnel. Supervision is exercised by inspecting the work and instructing subordinates in methods and practices;

Incumbents in the class of Instrument Mechanic Supervisors, as bona fide supervisors, are distinguished from lead workers in that they are 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 classes are distinguished from the classes of Instrument Repairer and Instrument Repair Supervisor by the fact that their work involves analysis of instrument systems, control systems, and instrumentation interface with process control computers, the use of computer keyboard and display screens in analyzing process control problems, and the performance of field inspection, maintenance, adjustment, and running repairs at operating locations, while the latter are primarily involvedin the fabrication, adjustment, and repair of such devices and instruments at a bench in a repair shop.

Examples of Duties : Instrument Mechanic : Inspects, tests, services, cleans, adjusts, calibrates, and repairs steam plant, freshwater, wastewater, and refrigeration instruments and automation control

devices such as pressure gauges, temperature gauges, pressure regulators, control valves, controllers, pneumatic positioners, analog, digital, and microprocessor systems and devices, remote electrical and pneumatic transmitters and receivers, industrial type close circuit television systems and monitors, and electronic boiler safety controls while in operation; analyzes instrument and control system malfunctions to determine necessary repairs and if they are functioning in a manner which assures continuous automatic operation; removes instruments needing major overhaul and repairs; reinstalls and tests instruments upon completion of repairs; installs, analyzes, calibrates or repairs analog and digital unit process controllers for freshwater and wastewater treatment processes; inspects, tests, repairs, and certifies computerized fire/life safety and energy management equipment and related field devices;

Works from blueprints, sketches, and oral or written directions; may perform major overhaul work in a shop; modifies and fabricates parts for electronic circuits, mechanical, pneumatic, and hydraulic instruments and controllers using hand and power tools and precision measuring instruments; works with bronze, steel, brass, fiber, bakelite, silver, wood, plastic, and other materials in fabricating and repairing parts; prepares and maintains records of work performed and enters instrument readings on the appropriate logs and calibration sheets; performs mathematical computations for calibrating instruments, fabricating parts, and determining operating efficiencies; may act as a lead person; may photograph instruments and machinery for pictorial records; operates computer to obtain and maintain system information related to inventory and other control systems; works with process control computer hardware and software specialists in maintaining and repairing process instrumentation and process control computers; works with vendors in the creation, modification, and installation of software used in building energy management equipment;

Instrument Mechanic Supervisor : Supervises journey-level workers and helpers engaged in inspection, testing, calibration, adjustment, maintanence, repair, and certification of mechanical, electrical, electronic, pneumatic, and hydraulic instruments, devices, and automatic controls associated with steam electric generating machinery and equipment, freshwater and wastewater treatment plants, computerized fire/life safety and energy management equipment, and related field devices; plans, schedules, assigns, and reviews work of subordinate employees after reviewing and interpreting specifications, blueprints, and job orders; reviews methods and procedures for instrument and control maintenance, service, and adjustment for conformity with factory standards and develops new and revised methods and procedures; analyzes and develops solutions to special work problems; works with operating and engineering personnel in making and evaluating performance and efficiency tests on various machinery and equipment; keeps time records and records of instrument and control calibrations and settings; confers with vendors, technical consultants and manufacturer's representatives in order to discuss specifications,

new and existing installations, deliveries, process parameters, and ordering of materials and tools; maintains inventory control records on parts, tools, and test equipment; works with operating and engineering personnel in the testing and maintenance of analog and digital unit process control systems for freshwater and wastewater processing; works with operating, engineering, process control, and energy management software and hardware specialists in designing, testing and maintaining instrumentation interface with process control computer; reviews records of maintenance, major repairs, and overhauls of equipment, scheduled long-range work projects, major construction projects, and project plans for budget requests to meet staffing and equipment needs; prepares standard reports related to job progress; inspects worksite to ensure that appropriate safety regulations are followed; 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 to other duties for training purposes or to meet technological changes or unexpected emergencies;

Qualifications :

Knowledges :	Instrument Mechanic	Instrument Mechanic Supervisor
Principles upon which electric, electronic, pneumatic, hydraulic, mechanical and other types of instruments and control devices operate, and the function of their component parts;	Good	Good
Tools, methods, materials, and techniques used in repairing, adjusting, testing, and calibrating various electric and nonelectric instruments;	Good	Good
High-pressure steam plant, building, heat, refrigeration, freshwater and wastewater treatment, energy management, and fire/life safety equipment;	Good	Good
Safety precautions necessary in working near energized circuits, high pressure air lines, hot water and steam lines, hazardous		

Qualifications :

Knowledges (cont) :	Instrument Mechanic	Instrument Mechanic Supervisor
chemicals, and rotating equipment, including applicable sections of; CAL/OSHA Regulations, National Electrical Code, Department Safety Orders, Pressure Vessel Code, Title 8, and NFPA;	Good	Good
Supervisory principles and practices including: planning, delegating, and controlling the work of subordinates;		Good
Techniques of 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
Effective safety principles and practices;	Working	Good
Principles governing the performance of flow measuring devices;	Working	Good
Analog and digital unit process control systems required for energy management control, freshwater, and wastewater processing; analog and digital type instrumentation as used for interface with process control computer;	Working	Good
Interface instrumentation between analog and digital unit process control systems;	Working	Good
Memoranda of understanding as they apply to subordinate personnel;		Working

Qualifications :

Knowledges (cont) :	Instrument Mechanic	Instrument Mechanic Supervisor
City Personnel rules, policies and procedures;	General	General
Physics, chemistry, and mathematics relating to devices used to measure pressure, temperature, flow, pH, dissolved oxygen, chlorine, hydrogen sulfide, conductivity, and other related uses;	General	General
Skills :		
Use of light machine and hand tools;	X	X
Abilities :		
Fabricate and fashion accurate parts on lathes and other light machine tools from rough sketches, written, oral or directions;	X	X
Read, interpret, and work from blueprints, diagrams, and sketches;	X	X
Deal tactfully and effectively with other employees;	X	X
Keep work records and maintenance charts.	X	X
Supervise a group of journey level worker Instrument Mechanics and helpers;		X
Establish work schedules;		X
Determine practical methods and procedures for instrument and control maintenance, service, and adjustment;		X
Establish and maintain a work environment to enhance both employee morale and productivity;		X
Apply supervisory principles and techniques;		X

Qualifications :

Abilities (cont) :	Instrument Mechanic	Instrument Mechanic Supervisor
Fulfill supervisory affirmative action responsibilities as indicated in the City's Affirmative Action Program;		X

Three years of full-time paid experience as a Steam Plant Assistant, in the operation and maintenance of equipment in a 30,000 kw or higher steam electric generating plant, one year of which experience shall be as a controls mechanic or plant equipment operator; or two years of full-time paid experience in a class at the level of Building Operator Engineer which provides experience in the operation and maintenance of equipment in a high temperature boilers or refrigeration equipment with a total capacity of 3,000 tons or more; or two years of full-time paid experience as an Electrical Tester with the City of Los Angeles; or two years of full-time paid journey-level instrument mechanic experience inspecting, adjusting, repairing and testing electronic and/or pneumatic control systems, including transmitting, indicating and recording instruments and controllers at oil refineries, chemical plants, water utility, or wastewater treatment facilities; or three years of full-time paid experience as a Craft Trainee adjusting, servicing, maintaining, repairing, or testing various automatic controls and instruments in a plant facility is required for Instrument Mechanic. Completion of four semesters of course work or automated instrumentation and controls from a recognized college may be substituted for one year of the required experience.

Four years full-time paid experience as a Instrument Mechanic or in a class which is at least at that level performing highly skilled field work in adjusting, repairing, and testing automatic controls and precision instruments is required for Instrument Mechanic Supervisor.

License : Both Classes : A valid California driver's license and a good driving record are required.

Physical Requirement : Instrument Mechanic : Strength to perform average lifting up to 35 pounds and occasionally over 70 pounds; arm, hand and finger dexterity with both hands involved in activities such as reading, handling, and assembling small parts; good hearing ability; and good eyesight.

Instrument Mechanic Supervisor : Strength to perform average lifting up to 15 pounds and occasionally over 25 pounds; arm, hand, and finger dexterity with both hands involved in activities such as reaching, handling,and assembling small parts; good hearing ability, and good eyesight.

Persons with medical limitations may, with reasonable accommodations, be capable of performing the duties of some of the positions in this class. 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 reasonabl e 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 the duties and responsibilities of any position shall be.