

SENIOR INSTRUMENT TECHNICIAN
(Niagara Falls Water Board)

DISTINGUISHING FEATURES OF THE CLASS: This is highly skilled instrumentation shop and field work performed for the Niagara Falls Water Board. The work involves performing and directing other Technicians in disassembly, trouble shooting, re-assembly, cleaning, adjusting, repairing, testing and calibrating electrical, hydraulic, electronic, pneumatic and mechanical precision measuring gauges, indicating, recording and control devices. The work also involves the fabrication and changing of special parts, instruments and experimental apparatus, working with basic computer (PLC (programmable logic controller), data logger, SCADA (supervisory control and data acquisition) and personal computer) operations, trouble shooting hardware/software systems, and communicating with computer maintenance engineers. General supervision is received from a Superior and supervision is exercised over assigned instrument Technicians and/or related assigned personnel. The Senior Instrument Technician performs related work as required.

TYPICAL WORK ACTIVITIES:

Performs or directs the performance of the following:

Installation, repair, maintenance and adjustment of indicating, recording, telemetering, and controlling instruments used to measure and control variables such as flow, temperature, pressure, motion, force and chemical addition using hand tools and precision instruments;

Disassembling of malfunctioning instruments, and examining and testing mechanisms and circuitry for defects;

Trouble shooting equipment in or out of control systems and replacing or repairing defective parts;

Reassembling instruments and tests assembly for conformance with specifications using instruments such as potentiometer, resistance bridge, manometer, and pressure gauge;

Inspecting instruments periodically and making minor calibration adjustments to assure functioning within specified standards;

Installing and carrying out preventative maintenance of computer equipment and peripheral equipment including, but not limited to: Analog to Digital Converters, Digital to Analog Converters, Programmable Logic Controllers, System Printers, Input/Output Devices, CRT Monitors; power supplies, LAN (local area network) equipment;

Running diagnostic maintenance programs through computer and isolating problem area; communicating results of diagnosis to computer manufacturer's engineer; participating in the solution to the problem under the direction of computer manufacturer's engineer;

Installation/repair of personal computers, monitors, printers and additional hardware devices; Corrective and preventive repairs of Wastewater Treatment Plant chlorinators, evaporators, chlorine residual analyzers and chlorine leak detection system;

Works from blue prints, wiring diagrams, sketches, ladder logic diagrams or oral or written directions; fabricating parts and devices as required.

(over)

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(continued)

FULL PERFORMANCE KNOWLEDGES, SKILLS, ABILITIES AND PERSONAL CHARACTERISTICS:

Comprehensive knowledge of the principles upon which electric, electronic, pneumatic, hydraulic, mechanical, and other types of instruments/control devices and computer systems operate (and the function of their component parts); thorough knowledge of the tools, methods, materials, and techniques used in the repairing, adjusting and testing of various electric and non-electric precision instruments, together with skill in their application, including use of voltmeters, ammeters, watt meters, galvanometers, signal generator, oscilloscope, potentiometer, resistance bridges and other precision recording and indicating instruments; ability to supervise others; good judgment; physical condition commensurate with the demands of the position.

MINIMUM QUALIFICATIONS: EITHER

(A) Four (4) years of full-time paid experience as an Instrument or Electronic Technician or Repairman;

OR

(B) Successfully completed years or full-time appropriate instrumentation or electronic training in a recognized technical institute or factory training center may be substituted for the required experience on the basis of one (1) full year of training for one (1) year of the required experience as indicated in (A).