

Electrician/Instrument Technician

FLSA Status: Covered
Bargaining Unit: District Council of Trade Unions (DCTU)

General Summary

Positions in this broad class perform a variety of skilled electrical, instrument, and communications work requiring a limited journeyman manufacturing plant license or higher electrical license with documented instrument training; perform general power electrician work as well as instrument technician work including installing, maintaining, repairing, modifying, and developing specifications for precision/process control instrumentation systems, and user interfaces, and to monitor, analyze, control and meter processes, and HVAC and SCADA systems.

Electrician/Instrument Technician, Apprentice - 30000120

Distinguishing Characteristics

The apprentice level of this class must meet the minimum requirement of being a certified Instrument Technician; and assists with and learns to perform the full range of Electrician tasks under the instruction of a journey Electrician and as an active participant in an Apprenticeship Program. Upon obtaining limited journeyman manufacturing plant electrician or higher electrical license and successful completion of the apprenticeship program employees will be eligible for promotion to Electrician/Instrument Technician classification.

Typical Duties/Examples of Work

Performs the duties of an Instrument Technician i.e., install, maintain, repair, modify, and develop specifications for precision control instrumentation, systems, and user interfaces, to monitor, analyze, control and meter processes mechanically, electronically, pneumatically, and hydraulically

Assists in and learns to perform the full range of electrician tasks.

Responds to calls to work during emergencies.

Performs related duties as assigned.

Required Knowledge, Skills and Abilities

Knowledge of: tools, materials, processes and techniques of installing and maintaining precision instruments, and process control equipment and electronics; application of drawing software to draw blueprints and work flow diagrams;

mechanical and process control troubleshooting techniques; methods and techniques of structured IEC programming logic; database principles and concepts; office suite software; application of the National Electrical Code (NEC), and Instrument Society of America (ISA) standards; safe work practices.

Ability to: maintain records; perform layout and sketch designs for process control installations, modifications and repairs; detect, isolate and resolve local control program and system hardware problems; analyze and assess systems needs; create and develop concise technical documents and reports; communicate effectively; establish and maintain effective working relationships with co-workers; work constructively in a team.

Skill in: repairing, troubleshooting, maintaining, modifying, calibrating and installing precision instruments, process control equipment, and other electronic equipment and related electronics and communications devices; operation of specialized equipment; component level electronics troubleshooting and repair.

Special Requirements

Valid state driver's license; certified as an Instrument Technician (certified via one of the following ways: Associate degree in instrumentation or equivalent vocational training; or Certificate of Completion or equivalent). Some positions may require a Commercial Driver's License, other endorsements, licenses or certifications. Meet requirements of the State of Oregon Bureau of Labor and Industries requirements for apprenticeship programs including: 18 years of age or older; High School graduate or equivalent GED certificate; and successful completion of one year of high school mathematics or an equivalent post-high school placement test or course.

Class History:

Adopted: April 18, 2007

June 2009 - Change Job Class number from 1458 to 30000120, due to system change.

Electrician/Instrument Technician - 30000121

Distinguishing Characteristics

The journey level of this class typically performs all class duties. It is distinguished from the Electrician and Instrument Technician class in that it performs the work of both classes.

Typical Duties/Examples of Work

1. Installs, maintains, troubleshoots, and repairs a variety of electrical, communication and instrumentation equipment, and electrical systems, process control systems, sub-systems, circuits, and controls; interprets and

works from plans and/or develops sketches or designs for work, as appropriate.

2. Maintains existing electrical and instrument control equipment and systems and related transmitting equipment and systems to ensure proper operation and service; performs preventive maintenance, service and repairs; inspects and tests equipment and systems.
3. Performs a variety of electrical, instrument, and SCADA construction and structural installation; operates a variety of hand, power and hydraulic tools to perform work, including aerial and crane trucks.
4. Designs, upgrades, installs, connects and tests new and repaired control and monitoring systems; may develop and modify electrical devices, process instrumentation and control systems, including software-based monitoring, process instrumentation and control systems
5. Plans and organizes assigned job; estimates time, materials and equipment; orders and purchases materials; coordinates job activities with other crafts and trades personnel; reviews plans and specifications, and confers with engineers, design professionals and inspectors on suggested changes and modifications.
6. Sets up, installs, calibrates, repairs and performs a variety of diagnosis and analytical tests on various electrical, communications and analytical equipments; installs, maintains and analyzes malfunctions of computerized control devices and instruments; programs logic controls and SCADA systems.
7. Ensures that repairs and installations are safe and operate properly; evaluates safety and operability of systems; reviews designs and the work of contractors to ensure compliance with specifications and standards; assists others with proper operation and care of equipment.
8. Performs a variety of diagnostic and analytical tests, including those involving programmable logic controls, infra-red, power monitoring and ultra-sonic; researches information as necessary to perform duties and maintain currency.
9. Maintains records, supplies and equipment; determines materials needs; maintains and stocks service vehicles as assigned; carries out all required safety procedures.
10. As assigned, directs work of others; trains electrical apprentices, responsible for worker safety, review of work, training and guidance in duties.

11. Responds to failures, disasters and emergencies involving electrical, instrument and SCADA systems and equipment; performs routine and preventative maintenance.

12. Performs related duties as assigned.

Required Knowledge, Skills and Abilities

Knowledge of: tools, materials, processes and techniques of the electrical, instrument and SCADA field; electrical construction; electrical systems, equipment, controls, laws, codes and regulations; precision instruments, process control equipment and electronics; troubleshooting techniques; analog and digital control systems and devices;

Ability to: maintain records; learn and use safe working practices; perform layout and sketch designs for electrical installations and repairs, and process control installations, modifications and repairs; SCADA installations, modifications and repairs; communicate effectively; establish and maintain effective working relationships with co-workers; work constructively in a team; and respond appropriately to question/concerns from other employees and the public;

Skill in: performing electrical repair, troubleshooting, maintenance, modification and installation; electrical construction; operation of specialized equipment; repairing, troubleshooting, maintaining, modifying and installing precision instruments, process control equipment, and other electronic equipment and related electronics and communications devices.

Special Requirements

Valid state driver's license; limited journeyman manufacturing plant electrician or higher electrical license. Some positions may require a Commercial Driver's License, other endorsements, licenses or certifications.

Class History:

Adopted: January 28, 2004

June 2009 - Change Job Class number from 1459 to 30000121, due to system change.

Electrician/Instrument Technician Lead - 30001458

Distinguishing Characteristics

The lead level of this class typically performs all class duties and in addition serves as a lead over other Electrician/Instrument Technicians. It is distinguished from the Electrician/Instrument Technician class by the lead assignment. Note: This is a premium pay class for assignment of lead duties. Employees do not

accrue seniority or obtain status in this class. Employee is assigned from a base class.

Typical Duties/Examples of Work

1. Plans, schedules and coordinates work; determines resource needs of work group; directs work of a crew or work group.
2. Reviews the work of and provides training and guidance to assigned staff.
3. Performs related duties as assigned.

Required Knowledge, Skills and Abilities

Knowledge of: effective principles and practices of leadership

Ability to: schedule and assign the work of others

Skill in: demonstrating techniques to others; providing training to others; providing lead direction to staff, including assigning and reviewing work

Special Requirements

Valid state driver's license; limited journeyman manufacturing plant electrician or higher electrical license. Some positions may require a Commercial Driver's License, other endorsements, licenses or certifications.

Class History:

Adopted: April 21, 2010

Working Conditions

Work in this class is typically performed in a shop or field environment. Incumbent is typically required to lift up to 100 pounds; to work outdoors in all weather conditions; to work in and around traffic; to work at heights or in confined spaces; to wear protective gear; to be exposed to hazardous materials and conditions, including electrical currents; to operate power tools and equipment; to be called back to work during emergencies; required to work overtime and after hours/weekend on call duties.