

ELECTRICIAN

TOMPKINS COUNTY

Department Public Works, TC3, Town of Newfield
Classification NC for all civil divisions
Labor Grade M (13); TC-3 K
Approved 01/01/69
Revised 12/86; 1/91; 11/95; 03/02; 12/04
By HH, Commissioner of Personnel

DISTINGUISHING FEATURES OF THE CLASS:

This is a highly skilled technical service position in which the incumbent applies the techniques of the electrical trade, in accordance with specifications and codes, to the planning, installation, maintenance, troubleshooting, and repair of electrical wiring, electrical fixtures, apparatus, control equipment, lighting, emergency power, fire alarm, data and telecommunications, security, access control, and all other building systems associated with the electrical trade. Employees of this class work on minor or major repairs, installations and maintenance projects. The work is performed under the general supervision of the Assistant Facilities Manager with considerable leeway allowed for independent judgment and decision-making. Direct supervision may be exercised over the work of maintenance personnel, cleaning personnel, laborers, contractors, or others in the accomplishment of electrical projects or activities. The incumbent will also perform maintenance related work as required.

TYPICAL WORK ACTIVITIES:

Tests continuity of circuits to ensure electrical compatibility and safety of components using such instruments as ohmmeters, oscilloscopes, voltmeters, continuity testers and test lamps;
Observes the functioning of newly installed equipment or systems to detect hazards and needs for adjustment or replacement;
Observes the functioning of established equipment or systems to detect electrical malfunctions using test instruments such as ammeters, volt meters, ohmmeters, continuity testers, and test lamps;
Draws sketches which illustrate location and sequence of wiring and ancillary equipment or follows diagnosis on blueprints drawn by engineers, architects, or contractors;
Installs, repairs, maintains, and/or troubleshoots wiring, conduit, raceway, power, lighting, fire alarm, emergency power & lighting, security, access control, and panic alarm systems;
Installs, repairs, and maintains feeder and branch circuit raceways and conductors;
Installs, repairs, and maintains control and distribution apparatus, transformers and other electrical system components;
Installs, repairs, maintains, and troubleshoots motors, motor controllers and associated electrical HVAC control devices;
Installs, repairs and maintains telecommunication equipment, phone sets, cable, raceways, and conduits for telecommunication and data systems within and between buildings;
Troubleshoots generator set transfer switches and control wiring;
Inspects work performed by outside electrical contractors and participates in the development of deficiency list (punch lists);
Assists in identifying, developing, and implementing ongoing energy conservation and demand reduction measures;
Assists in planning and scheduling major preventive maintenance projects and repairs for building electrical, lighting, fire alarm, emergency power, security, data and telecommunications, access control, and all other building systems and equipment associated with the electrical trade;

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ELECTRICIAN (CONTINUED)

TYPICAL WORK ACTIVITIES (CONTINUED):

Assists in planning, coordinating, or supervising the work of maintenance or cleaning personnel, electrical contractors, or other trades when required in the completion of projects under the employee's charge;

Assists in supervising and training apprentices when required;

Assists in conducting, and/or oversees training activities concerning preventive maintenance, lock-out tag-out, troubleshooting, and electrical equipment operation & maintenance;

Assists in conducting periodic inspection of the condition of building electrical, lighting, fire alarm, emergency power, security, data and telecommunications, access control, and all other building systems and equipment associated with the electrical trade to ascertain maintenance needs and make recommendations for capital improvement projects or major repair, replacement, or renovation projects;

Assists in the preparation of work schedules and estimates of cost, material, equipment, and resources for minor and major installation, maintenance, and repair projects for approval by Assistant Manager;

Assists in providing information on maintenance work to be performed and may assist in the preparation of an annual budget for maintenance activities related to electrical systems;

Commissions electrical, lighting, fire alarm, emergency power, security, data and telecommunications, access control, and all other building systems associated with the electrical trade prior to occupancy;

Helps assure safe electrical working practices are being adhered to by maintenance personnel, contractors, and other trades in the completion of projects under the employee's charge;

Works with outside vendors to order parts or request assistance with repairs;

Updates and/or develops as-built electrical drawings for County buildings;

Updates electrical panel directories;

Updates, and maintains computerized maintenance management system (CMMS) for all electrical systems and equipment under the employee's charge;

Maintains appropriate records, reports, operating logs, and documents for all electrical equipment and systems under the employee's charge;

Maintains shop, tools, and parts inventory and makes needs known to appropriate staff;

Maintains hand tools and other diagnostic equipment needed to perform job duties;

Maintains good working relationship with building coordinators and departments;

Acquires and maintains licenses and or special knowledge to maintain specialized equipment as required;

Performs on-call duties as needed, responding to system emergencies after hours and on weekends;

Required to access crawl spaces, attics, mechanical rooms, tunnels, pits, sub basements, and confined and isolated areas;

May operate equipment for snow removal and grounds maintenance;

Performs other duties and responsibilities as assigned.

FULL PERFORMANCE KNOWLEDGE, SKILLS, ABILITIES AND PERSONAL CHARACTERISTICS:

Thorough knowledge of the installation, maintenance, and repair of electrical systems;

Thorough knowledge of the principles, practices, terminology, occupational hazards, and safety precautions of the electrical trade;

Thorough knowledge of methods, materials, and diagnostic tools and equipment used in electrical work;

Good knowledge of the principles and theories of electricity;

Good knowledge of the practices, tools, and terminology of the carpentry, and painting trades;

Working knowledge of code, life safety, and indoor air quality issues as it relates to electrical work;

Skill in making electrical installations, repairs and adjustments;

Skill in the use of tools and equipment used in the electrical trade (i.e., motorized conduit benders, electrical meters, circuit tracers, pentascanners, receptacle testers, drills, etc.);

Mechanical aptitude for equipment repair and maintenance.

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ELECTRICIAN (CONTINUED)

FULL PERFORMANCE KNOWLEDGE, SKILLS, ABILITIES AND PERSONAL CHARACTERISTICS (CONTINUED)

Ability to analyze, diagnose, troubleshoot, and problem solve complex technical problems, and develop solutions to problems as they arise;

Ability to effectively service multiple sites and projects concurrently;

Ability to plan, coordinate, and supervise the work of others;

Ability to re-prioritize workload to accommodate schedules and other emergencies;

Ability to understand and carry out oral and written directions;

Ability to read and interpret technical manuals, wiring schematics, electrical and architectural plans, and specifications;

Visual ability to inspect circuit boards, miniature electronics and differentiate color-coding of wiring and electronic components;

Ability to work cooperatively and effectively with management and staff of the various county departments, contractors, service providers, vendors, and to deal with service requests courteously, tactfully, and professionally;

Ability to use video display terminals to manage and update building electrical operating systems (i.e., BAS);

Ability to develop and maintain cost, inventory, maintenance, equipment, and work order records using computer programs (i.e., Excel, Datastream MP2);

Ability to work under adverse conditions - risk exposure to asbestos, toxic vapors, heat, cold, heights, and accumulated dust;

Ability to lift 70 pounds and position heavy equipment and materials;

Ability to ascend and descend heights (i.e., climb stairs and ladders, personnel lifts, etc.) and have agility and freedom of movement;

Ability to move easily in confined spaces. Must be able to wear a respirator;

Ability to add, subtract, multiply, and divide as used in mathematical formulas;

Dependability, initiative, resourcefulness, and good judgment are required;

Willingness to respond to emergencies;

Possess strong customer service skills;

Possess a working knowledge of computers;

MINIMUM QUALIFICATIONS:

- a) Graduation from a regionally accredited or New York State registered two-year college, university, or technical school with an Associate's Degree or certificate in electrical technology, occupational studies (Construction/Maintenance Electrician), or a closely related field **AND** five (5) years of full-time paid experience in the installation, maintenance, repair, and troubleshooting of complex commercial, industrial, and/or institutional electrical, lighting, emergency power, fire alarm, data and telecommunications cabling, security, and access control systems, six months of which must have been in a supervisory capacity; **OR**
- b) Graduation from high school or possession of a high school equivalency diploma plus completion of an apprenticeship program and possession of journeyman certification, **AND** a minimum of seven (7) years of full-time paid experience in the installation, maintenance, repair, and troubleshooting of complex commercial, industrial, and/or institutional electrical, lighting, emergency power, fire alarm, data and telecommunications cabling, security, and access control systems, six months of which must have been in a supervisory capacity; **OR**
- c) Any combination of training and experience equal to or greater than that described in (a) and (b) above as determined by the Commissioner of Personnel.

SPECIAL REQUIREMENT:

Possession of a valid NYS Driver's License with a good driving record at the time of appointment and maintenance of such license for the duration of employment.

NOTE: Five years of hands-on experience in the electrical field will be considered equivalent to the journey level of experience specified in (b) above. This means that an applicant who does not have Journey level certification must have at least 12 years of experience in the field, with at least six months of the experience being supervisory.