

Nothing in this job description restricts management's right to assign or reassign duties and responsibilities to this job at any time.

DUTIES Serves as an Electrician Apprentice in the Engineering and Maintenance Department (Department) at Ronald Reagan Washington National Airport (DCA) or Washington Dulles International Airport (IAD), Metropolitan Washington Airports Authority (Airports Authority). Participates in the formal, state-approved Trades Apprentice Employment Program of the Airports Authority to develop the knowledge, skills, and abilities necessary to become a licensed, journey level Electrician. Receives on-the-job technical training and attends formal classroom technical training to build electrical knowledge and skills and to help Electricians perform planned repairs and preventive maintenance on airport electrical systems and equipment. Learns and performs progressively complex and responsible (elementary to semi-skilled to fully skilled) electrical work as knowledge, skills and abilities in the trade increase. Performs related functions.

Learns how to use, and gains full proficiency in using, manuals, technical guides, wiring/operation diagrams and schematics, the various hand and power tools of the trade such as hammers, screwdrivers, pliers, wire cutters, conduit benders, wire strippers, meggers, volt meters, drills, etc.) and kinds/sizes of supplies (such as conduit, junction boxes, wires and screws), to install, maintain, and repair equipment.

Helps higher grade Electricians in their work by assembling and transporting tools and materials to the job site, supplying requested tools and parts as work is performed, lifting and holding the work object(s), and cleaning up. Performs other tasks requiring elementary to fully proficient levels of electrical knowledge and skill consistent with the Trades Apprentice Employment Program.

As directed and guided by a higher grade Electrician, builds knowledge and skills in the trade consistent with the apprenticeship program:

Troubleshoots, repairs, and performs preventive maintenance on various airfield lighting systems, including runway edge, centerline, and touchdown zone lights; repairs include locating and repairing or replacing faulty transformers, cables, splices, and fixtures, as needed, while working on an active airfield around large operating aircraft. Rebuilds airfield fixtures by dismantling, sand blasting, drilling, tapping, and replacing necessary components to assure fixtures maintain water tight integrity and proper lighting levels.

Operates, maintains, troubleshoots, and repairs portable light plants and electrical portions of stationary and portable generators. Bends and installs conduits, junction boxes, panel boards, control schemes, and other devices associated with electrical systems. Monitors electrical systems by reading and recording gauges, meters, dials, and protective relays within the distribution center switchgear. Locates and isolates faults in cables, switchgear units, control systems, etc., caused by lightning, failures, and/or construction activities using insulation resistance test base line information.

Interprets, troubleshoots and repairs faulty electric and electronic components such as

circuit boards, programmable logic controllers (PLCs) and digital, electromechanical, electronic and pneumatic relays. Maintains, troubleshoots, and replaces electrical motors and kWh meters; maintains and records readings on electric revenue meters for tenant billing purposes. Programs, sets timing, and installs systems for traffic signal controls, including detections system, conflict monitors, and twelve ring National Electrical Manufacturers Association (NEMA) controllers. Programs, installs, repairs, and calibrates vehicle security gates.

Uses scaffolds, elevated platforms, bucket trucks, ladders, scissor lifts, or other equipment to access hard-to-reach areas such as ceilings, high walls, or structures inside terminals or exterior items such as tall lamp posts, to perform maintenance and repairs.

Gains and applies knowledge of building, fire, Federal Aviation Administration airport lighting, and other codes and regulations pertinent to the trade in general and in an airport environment.

Assists in preparing and maintaining records of work orders, trouble calls and preventive maintenance; enters data into the Airports Authority's Computerized Maintenance Management System [CMMS].

Drives a pick-up truck or similar vehicle on the airport complex, landside and airside, and in various locales for various assignments. In the Exterior Electrical Section, may drive a large bucket truck, as assigned.

Communicates and interacts effectively with internal and external business contacts including, but not limited to, other members of the unit/team, other Airports Authority employees, vendors/suppliers/service contractors/tenants, and occasionally the general public.

Uses a computer and (a) modern office suite software (such as MS Office) to plan, schedule, communicate, word process (light word processing only), prepare and develop reports, and perform research (Internet use, as in searching for trades practices, electrical codes and regulations); (b) enterprise systems/software for requisitioning, time and attendance reporting, and other functions; and (c) special systems/software to process work orders and perform other functions.

Performs other duties as assigned.

Critical features of this job are described under the headings below. They may be subject to change through reasonable accommodation or otherwise.

MINIMUM QUALIFICATIONS (MQs)

To be rated qualified for this job, an applicant must meet the MQs listed below at the time of vacancy announcement closure.

See Job Announcement.

KNOWLEDGE, SKILLS, ABILITIES, AND OTHER FACTORS (KSAOs)

The following KSAOs are required for successful performance of this job and are a basis for rating and ranking applicants who are found to meet the MQs. *Local, Federal, airport industry or Airports Authority specific bodies of knowledge listed below may be acquired on the job, typically; ability to rapidly acquire them is required at application/placement.*

1. Ability to learn bodies of knowledge and gain skills in the Electrician trade consistent with the schedule for progression as an Apprentice in the Trades Apprentice Employment Program of the Airports Authority; this includes, but is not limited to, ability to acquire and apply (a) knowledge of electrical principles, terminology and accepted trade practices to progress from elementary and helper level work to full journey level work, (b) skill in using tools such as screwdrivers, pliers, wire cutters, strippers, drills, soldering irons and manual or power conduit benders and test equipment such as meggers, test lamps and ammeters, (c) skill in problem solving to select, organize, and logically process relevant information (verbal, numerical or abstract) to solve problems in the trade (using schematics/other references, troubleshooting techniques, etc.), (d) knowledge of building, fire and other codes and regulations pertinent to the trade in general and in an airport environment, and (e) knowledge of, and skill in, working safely in the trade in general and in an airport environment
2. Skill in oral communication to understand verbal information (instructions, descriptions, and ideas) and to express such information verbally so that others will understand. Examples include exchanging information with a Supervisor, Leader, or higher grade Electrician about trouble calls, procedures, and tools or parts needed.
3. Skill in written communication to understand written information (including instructions, descriptions, and ideas) and to express such information in writing so that others will understand. Examples include reading technical-operational materials (such as technical manuals, maintenance schedules, and work orders) and administrative-programmatic materials (such as Airports Authority supply procedures), and writing briefly about similar types of matters, such as closing out work orders.
4. Skill in using a computer and (a) modern office suite software (such as MS Office) to plan, schedule, communicate, word process (light word processing only), prepare and develop reports, and perform research (Internet use, as in searching for trades practices, building codes and regulations relevant to electrical work); (b) enterprise systems/software for requisitioning, time and attendance, and other functions; and (c) special systems/software used in the Department to process work orders and perform other functions.
5. Interpersonal skills to interact effectively with business contacts in a businesslike, customer

service-oriented manner.

RESPONSIBILITY Is responsible for progressing in the Electrician trade consistent with the Trades Apprentice Employment Program of the Airports Authority; this includes, but is not limited to, building knowledge and skills in the trade and performing progressively complex and responsible (elementary to semi-skilled to fully skilled) electrical work as knowledge and skills in the trade increase. Reports to a Supervisor in the trade. Typically, a higher grade Electrician, Leader or Supervisor makes specific assignments, but some assignments may be generated by work order given to the incumbent consistent with progress in the trade. The incumbent follows accepted trade practices in selecting the methods, tools or materials to use consistent with progress in the trade. A higher grade electrical employee is available for advice and assistance on new work; work that has been mastered may be performed on own. The work may be monitored in progress, but it is typically reviewed upon completion to ensure it complies with instructions, accepted trade practices, timeliness, teamwork, customer service and other types of requirements and standards.

EFFORT Work is sedentary (in certain classroom situations) and physically demanding. Incumbent moves about to service, troubleshoot and repair equipment. May stay in one position for long periods when working on electrical equipment. Frequently encounters hard-to-reach places which require maneuvering body (such as, bending, stooping, crouching or otherwise positioning self). Ascends/descends straight extension and fixed vertical ladders; occasionally works on overhead equipment from a bucket truck. Regularly lifts and carries or otherwise transports up to 45 pounds. Detects potential problems by warmth of overheated cables and equipment. Obtains information about the operational status of systems and equipment from dials and gauges. Distinguishes color-coded wiring. In driving, operates vehicle using judgment in consideration of weather, traffic and other factors. Regularly communicates by two-way radio. Responds to audio-visual beepers/alarms.

WORKING CONDITIONS Depending upon area of assignment works mostly inside in an environment which is adequately lighted, ventilated and temperature controlled, or works mostly outside in all types of weather. Is exposed to dust, dirt, dampness, and various risks and hazards: potentially hazardous materials such as asbestos and PCB, and possible electrical shocks, burns and falls. May work in close quarters, including confined spaces. Exercises care, follows established safety precautions and procedures, and uses such personal protective equipment as hard hat, goggles, high-voltage gloves, high-voltage meter, hot stick, hearing protection, steel-toed shoes, and other safety equipment (such as gas/oxygen detector, safety-recovery harness with tripod and confined space monitor), as appropriate and required. May be subject to time pressures of restoring operations of equipment or systems essential to Airport functions.

OTHER SIGNIFICANT JOB ASPECTS Is subject to hold-over or recall on a 24-hour basis for essential services and emergencies such as snow removal.