

As an Industrial Controls Technician I, you will maintain and troubleshoot all airport industrial control systems.

JOB DESCRIPTION

- Industrial Controls Technician I
- This is a developmental level job in the Industrial Controls series.
- Works under the direct supervision of the Industrial Controls Technician Supervisor or Leader; may also receive direction from the Airport Utilities Division Manager.
- Serves in the Utilities Section of the Engineering and Maintenance Department at Ronald Reagan Washington National Airport (DCA).

Inspects, adjusts, calibrates, maintains, troubleshoots, and repairs electric, distributed control systems or pneumatic and electronic direct digital control systems for DCA's Central Heating and Cooling Plant (Plant) and related auxiliary controls, DCA's heating, ventilation, and air-conditioning (HVAC) systems, or DCA's instruments and integrated electrical- and electronic-mechanical systems for utility metering. Helps integrate the Plant's distributed control system (DCS) with other automated systems throughout DCA. Performs related functions.

GENERAL RESPONSIBILITIES

- Monitors the operational performance of the BAS (APOGEE), and Foxboro system making routine and non-routine adjustments as well as recommendations for improvement in availability, system reliability, data processing, etc.
- Aids in adjusting hardware or software configurations or coordinating hardware and software requirements to integrate BAS/DCS and other segments of the DCA's computerized control system, and at the Central Plant to achieve total automation or improve performance/efficiency.
- Maintains the efficient operation of precision instruments and integrated electrical- and electronic-mechanical systems used in the distribution and metering of steam, hot and chilled water, potable water; jockey pumps, reservoir controls; flow meters; sanitary sewer pump house controls; chart recorders; industrial waste lift station electronic and pneumatic controls; and other alarms, sensors, and aerators monitoring existence of gases in confined spaces.
- Enters or oversees entry of information into PROPWORX and/or other systems. Submits for billing through the Office of Finance.
- Evaluates the level and type of emergency and assists with implementing corrective actions to mitigate the problem and limit disruption of services, damage to equipment and the potential for harm to personnel.
- Assists in shutting down BAS/DCS system or equipment in safe and systematic manner during emergencies.
- Programs microprocessors in the Distributed Digital Control (DDC), to control and communicate with all pumps, motors, fans, valves, and other instrumentation.
- Programs all DCA Equipment Controllers (TEC) to control Variable Air Volume boxes (VAV's), fan coils units, etc., and perform programming and setup of all Variable Frequency

Drives (VFD's) for stand-alone and networked DDC used on pumps, air handlers, and air curtains.

- Troubleshoots and repairs VFD's. Designs, updates and adjust animated graphics on the BAS/DCS to enhance and ensure supervisory control and data acquisition capabilities.
- Helps establish schedule for preventative maintenance and calibration of control systems. Advises the Supervisor or Leader on control system changes and requirements, and integrates the BAS/DCS with other automated systems.
- Responds to alarm conditions and/or deviations in the normal system operations; works to restore systems or equipment to normal operations.
- Uses the BAS/DCS and other diagnostic tools, specifications, drawings, vendor data, etc. to identify source malfunctions, formulate solutions, and make software and/or hardware changes, as needed to correct any system problems.
- Provides input to design and construction groups to facilitate integration of new system with existing system.
- May coach other controls personnel and system operators in technical/operational matters.
- Keeps abreast of changes in technology as they pertain to building automation systems and their controls.
- Performs other duties as assigned.

QUALIFICATIONS

- Four years of progressively responsible experience in the maintenance and repair of industrial control systems to include one year specializing in testing, diagnosis, maintenance and repair of a range of electric, pneumatic and electronic direct digital control systems. This qualification requirement includes knowledge of the theories, principles, requirements, and standards of the industrial control trade.

OR

An equivalent combination of four years of education, experience and training in the industrial controls trade, such as, but not limited to, graduation from a program of vocational education or apprenticeship or another program of progressive instruction in the industrial controls trade that is provided or approved by the US military, a State Employment Service or a school-industry partnership and is integrated with or supplemented by on-the-job experience in the trade, plus one (additional) year of post program experience specializing in testing, diagnosis, maintenance and repair of a range of industrial control systems, as specified above.

KNOWLEDGE, SKILLS AND ABILITIES

1. Knowledge of automated, computer-based instrumentation and distributed control systems and the ability to troubleshoot malfunctions, make repairs, and maintain system operations,
2. Knowledge of electric, electronic and pneumatic controls systems and their interaction/interface to maintain, inspect, adjust, calibrate, troubleshoot and repair them.
3. Knowledge of Protocol 2, Ethernet, Transmission Control Protocol/Internet Protocol (TCP/IP) communication protocols for network configuration.

4. Knowledge of programming languages for microprocessors used in the DDC to perform diagnostics, modify displays, and program systems.
 5. Knowledge of the principles practices of heating and cooling systems and of the operating characteristics and other features of high temperature hot water heat exchangers, industrial chillers, pumps, etc. Knowledge of and ability to start, operate and shut down such systems using a BAS or equivalent system.
- Ability to work safely and knowledge of the safety rules, regulations, and procedures needed to do so.
 - Ability to make detailed analyses of data and information (including programming languages, diagrams, and schematics) to perform work.
 - Ability to speak and write effectively.
 - Skill in using a computer and computerized work order and time and attendance systems.

PREFERRED QUALIFICATIONS

- Certification as a Master Electronics Technician from Electronics Technician Association.
- Certification as a Journeyman Electronics Technician.
- Licensed as a Master HVAC Mechanic from the Commonwealth of Virginia Department of Professional and Occupational Regulation Board of Contractors.

EDUCATION

- A high school diploma, a Certificate of General Educational Development (GED), or an equivalent combination of education, experience, and training.

CERTIFICATIONS AND LICENSES REQUIRED

- A state driver's license in good standing.

NECESSARY SPECIAL FACTORS

- Operates vehicle airside and landside (requires AOA permit).
- May bend, stoop, crouch, and work in cramped positions; carries/moves objects weighing up to 50 pounds.
- Is subject to dust, grease, dirt, noise from aircraft, burns, falls, and blown gaskets on high pressures lines. Wears personal protective equipment.
- Subject to hold-over and recall on a 24-hour basis for essential services and emergencies.
- Work is typically reviewed in progress and upon completion for quality, quantity, timeliness, teamwork, customer service, and other factors.