

## City of Fort Worth, Texas Job Description

<b>Classification Title</b>	Instrumentation Electrical Technician II		
<b>Job Code:</b>	TC5830	<b>Job Family:</b>	Technical/Para-Professional
<b>Pay Grade</b>	509	<b>Date Reviewed:</b>	7/31/23
<b>FLSA Status</b>	Nonexempt	<b>Date Revised:</b>	

### GENERAL SUMMARY

Performs work related to the configuration, fabrication, installation, maintenance, operation, inspection and testing of a variety of control systems equipment. Performs all aspects of high and low voltage electrical work. Maintains, installs and repairs electrical and instrumentation equipment pertinent to fiber optics and fiber optic networks, closed circuit television cameras, access control systems and water or wastewater plant activities.

### ESSENTIAL DUTIES & RESPONSIBILITIES

*The intent of this job description is to provide a representative summary of the major duties and responsibilities performed by incumbents of this job. Incumbents may be requested to perform job-related tasks other than those specifically presented in this description.*

1. Installs, maintains and repairs digital control systems, pneumatic control systems, programmable logic control systems and related water flow monitoring equipment; installs and maintains digital and analog computer control loops and water process instrumentation.
2. Maintains and repairs electrical instrumentational equipment by using the work maintenance management system.
3. Designs, engineers, orders materials and installs complex instrumentation and electrical systems at water and wastewater plants, pump stations, lift stations and customer city metering sites.
4. Installs multiple layers of interface software with various models of instruments.
5. Installs and maintains digital and analog computer control loops involving variable speed pump drives and modulating valve operations.
6. Analyzes circuitry, interprets test data developing and implements methods for improvement.
7. Discusses layout and assembly problems with service engineers.
8. Evaluates reliability and performance of installed equipment.
9. Tests electrical panels containing instruments such as meters and recorders, variable speed drive units and other highly technical equipment.
10. Performs related duties as required.

11. Adheres to assigned work schedule as outlined in the Department and City attendance policies and procedures; ensures all behaviors comply with the City's Personnel Rules and Regulations.

## **KNOWLEDGE, SKILLS & ABILITIES**

- **Knowledge of:**

- Electronics, instrumentation, installation, maintenance, and repair of computer related water plant equipment.
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- ARC flash protection, LOTO, CPR/First Aid, Fire Protection, cable cleaning, splicing and termination procedures.
- Electronic Theory.
- Programmable logic controllers (PLC), human machine interface (HMI), instrumentation and control systems.
- Reliability Centered Maintenance techniques.
- Methods and techniques of calibration.
- Process instrumentation such as pressure, flow, level and temperature.
- National electric code and electrical schematics, blueprints and drawings.
- Common safety precautions and practices.
- General City and departmental policies and practices.
- Computer network systems.

- **Skill in:**

- Prioritization.
- Troubleshooting.
- Coordination.
- Multitasking.
- Time Management.
- Organization and scheduling.
- Observation.
- Decision making.
- Customer Service.

- **Ability to:**

- Communicate clearly and effectively, both orally and in writing.
- Interpret complex electrical schematics for installation and troubleshooting.
- Test, diagnose, and repair complex motor controls, water process instrumentation, and electrical systems.
- Test and verify calibration and operation through the use of digital process metering equipment, process modules, and comparison tests with certified test instruments.
- Maintain and troubleshoot, repair and replace analytical instrumentation such as Ozone, Chlorine, etc. for process treatment and personal safety.
- Utilize appropriate tools in performing instrumentation repair and installation.
- Read and understand blueprints, drawings and electrical wiring schematics.

- Follow written and verbal instructions.
- Identify and differentiate between color coded electrical components.
- Test and diagnose motor controls, water process instrumentation, and electrical systems.
- Configure instruments to measure water flow, level, and velocity.

## **MINIMUM JOB REQUIREMENTS**

High School Diploma/GED and three years of experience in the instrumentation or electrical fields of construction, motor control maintenance, or process control instrumentation. Possession of electrical apprentice certification or Associate's degree in Instrumentation or Electrical Technology.

## **OTHER REQUIREMENTS**

Valid Texas Driver's License.

## **WORKING CONDITIONS**

*The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.*

Depending on assignment, positions in this class typically require touching, talking, hearing, seeing, grasping, standing, stooping, kneeling, crouching, reaching, walking, repetitive motions, climbing, balancing, pushing, pulling and lifting; depending on assignment. Incumbents may be exposed to moving mechanical parts, odors, dusts, poor ventilation, chemicals, oils, extreme temperatures, inadequate lighting, intense noises, gases, vibrations, chemicals, oils and workspace restrictions.

## **PHYSICAL DEMANDS**

*The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.*

Heavy Work – Depending on assignment, positions in this class typically exert up to 100 pounds of force occasionally, up to 50 pounds of force frequently, and/or up to 20 pounds of force constantly having to move objects.