

Job Title: Instrumentation and Controls Technician**Location:** Surface Water Treatment Plant**Department:** Waste Water Treatment & Compliance**Job Status:** Full-Time**Reports To:** I&C Supervisor**Job Grade:** 502**Pay Status:** Non-Exempt**Date Created/Updated:** 9/5/2023

Position Summary

The Instrumentation and Controls Technician performs tasks related to the installation, calibration, maintenance, repair, and overall reliability of remote instrumentation and sensors, programmable and automated controls, communication and telemetry devices, and network hardware infrastructure located at the water production and wastewater treatment systems throughout the utility. Working under direct supervision, the Instrumentation and Controls Technician will also provide assistance in other design and installation projects when required.

Essential Duties & Responsibilities

INSTRUMENTATION AND CONTROLS MAINTENANCE

- Performs and assists with diagnostics to analyze problems associated with instrumentation and control systems and programmable logic controllers using test equipment such as electronic meters, simulators, and software applications related to configuration and communications protocols for plant control, networking, DCS, and SCADA systems
- Performs and assists with installations, calibrations, diagnostics, repairs, and replacements of instrumentation and control systems equipment and components for water and wastewater facilities, such as treatment plants, pump stations, storage tanks, and liftstations
- Performs and assists installations, calibrations, maintenance, and programming of flow meters, transmitters, controllers, and analytical equipment
- Services hydraulic, electric, pneumatic, and mechanical instruments used for controlling, analyzing, measuring, and recording
- Reads, interprets, modifies, and updates blueprints, schematics, ladder logic and diagrams in order to troubleshoot, repair, or modify equipment, and to accurately reflect current operating systems
- Monitors and makes visual inspections of control and instrumentation equipment to determine operating condition and perform preventative maintenance
- Performs and assists with routine complex equipment modifications in order to implement required design changes
- Maintains accurate inventory and maintenance logs
- Communicates safety issues to personnel

GENERAL RESPONSIBILITIES

- Maintains regular attendance; leave schedule should be managed so as to not interfere with ability to accomplish tasks, including special projects and assignments with deadlines.
- Adheres to NBU safety guidelines and practices at all times and in all situations.
- Maintains a clear and safe work area, office, field site and vehicle as applicable.
- Develops & maintain effective customer service skills for communications with co-workers, customers and the public in general.
- Maintains strict confidentiality of business, employee and customer information in written and oral communications and safeguard sensitive documents.
- Adheres to NBU policies and procedures.
- Exemplifies NBU Core Values of Integrity, Stewardship, Team, Culture, and Safety

- Participate in and support initiatives to reach annual NBU Performance Measures.

Formal Education and Work Experience Requirements

Degree/Diploma Obtained: High School Diploma/GED

More Field of Study: General Studies

Work Experience Time Frame: Three Years or

Other: [Click or tap here to enter text.](#)

Certification and Licensures Requirements

- Apprentice-level Electrical License or Electronic Certification Training
- Vibration Analysis, I.R. Thermography, Oil Analysis, MLT, Ultrasound, Motor Circuit Analysis, UT Metal Thickness, NDT, Electrical Signature Analysis and Motor Circuit Analysis (Minimum of one Level 1 or Level 2 preferred)
- Valid Texas Driver’s License consistent with NBU driving policy
- TCEQ Class C Water or Wastewater License within two years of appointment

Other Minimum Qualifications

- Three years of experience in the repair, installation, maintenance, and calibration of instrumentation and control system equipment, including one year of experience in water/wastewater systems or a similar industrial process control facility
- Must reside within a thirty minute response time of the NBU Surface Water Treatment Plant as measured by a mapping tool.

Knowledge of Computer Software

| | No Knowledge | Beginner | Intermediate | Expert |
|----------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| Arc GIS | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| AutoCAD | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Crystal Reports | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Microsoft Access | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Microsoft Excel | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Microsoft Word | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Microsoft Publisher | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Microsoft PowerPoint | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Other Software Knowledge

Telemetry Programming Software, PLC Programming Software, CMMS

Experience with Machines, Tools, Equipment and Other Work Aids

Multimeters, Hoists, Electrical and Mechanical Hand Tools, Power Tools, Crimping Tools, Ladders, Flowmeters, Pressure Transmitters, Fiber Optics, Radios, Computers, HMIs, Power Supplies, Hart Communicators

Physical Demands

Standing: Constantly

- Making Presentations
- Observing Work Sites
- Observing Work Duties
- Communication with Co-Workers

Fine Dexterity: Frequently

- Computer Keyboard
- Telephone Keypad
- Calculator
- Calibrating Equipment

Walking: Frequently

- To Other Departments/Office/Office Equipment
- Around Worksite

Carrying: Frequently

- Supplies
- Equipment
- Files

Sitting: Occasionally

- Desk Work
- Meetings
- Driving

Reaching: Occasionally

- For Supplies
- For Files

Handling: Occasionally

- Paperwork
- Monies

Kneeling: Occasionally

- Filing in Lower Drawers
- Retrieving Items from Lower Shelves/Ground

Pushing/Pulling: Occasionally

- File Drawers
- Equipment
- Table and Chairs
- Hose

Climbing: Occasionally

- Stairs

- Ladder
- Step Stool
- Onto Equipment

Vision: Constantly

- Reading
- Computer Screen
- Driving
- Observing Worksite

Foot Controls: Rarely

- Driving
- Operating Heavy Equipment
- Dictaphone

Balancing: Occasionally

- On Ladder
- On Equipment
- On Step Stool

Bending: Frequently

- Filing in Lower Drawers
- Retrieving Items from Lower Shelves/Ground
- Making Repairs

Crouching: Occasionally

- Filing in Lower Drawers
- Retrieving Items from Lower Shelves/Ground

Crawling: Rarely

- Under Equipment
- Inside Attics/Pipes/Ditches

Hearing: Constantly

- Communication Via Telephone/Radio/To Co-Workers/Public
- Listening to Equipment

Twisting: Occasionally

- From Computer to Telephone
- Getting Inside Vehicle

Talking: Frequently

- Communication Via Telephone/Radio/To-Co-Workers/Public

Other: Click or tap here to enter text.

Environmental Factors

| | Never | Seasonally | Several Times Per Year | Several Times Per Month | Several Times Per Week | Daily |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| Extreme Temperature (Heat, cold, extreme temp. change) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Wetness and/or humidity (bodily discomfort from moisture) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Respiratory Hazards (Fumes, gases, chemicals, dust, and dirt) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Noise and Vibration (sufficient to cause hearing loss) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Physical Hazards (High voltage, dangerous machinery, aggressive Customers) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Health and Safety Conditions

| | Never (Never Occurs) | Rarely (Less than 1 hour per week) | Occasionally (1/3 or more of the time) | Frequently (From 1/3 to 2/3 of the time) | Constantly (2/3 or more of the time) |
|--------------------------|--------------------------|-------------------------------------|--|--|--------------------------------------|
| Mechanical Hazards | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Chemical Hazards | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Electrical Hazards | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Fire Hazards | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Explosives | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Communicable Diseases | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Physical Danger or Abuse | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Other: Click or tap here to enter text.

Primary Work Environment: Shop

Other: Outdoors / Field, Confined Space Entry

Overall Strength Demands

- Sedentary - Exerting up to 10 pounds occasionally or negligible weight frequently, mostly sitting
- Light - Exerting up to 20 pounds occasionally, 10 pounds frequently, walking or standing often
- Medium - Exerting 20 - 50 pounds occasionally, 10 - 25 pounds frequently, or 10 pounds constantly
- Heavy - Exerting 50 - 100 pounds occasionally, 25 - 50 pounds frequently, or 10 - 20 pounds constantly
- Very Heavy - Exerting 50 pounds constantly

Non-Physical Demands

| | Never | Rarely | Occasionally | Frequently | Constantly |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Time Pressure | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Emergency Situations | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Frequent Change of Task | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Irregular Schedule/Overtime | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Performing Multiple Tasks Simultaneously | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Working Closely with Others as Part of a Team | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Tedious or Exacting Work | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Noisy/Distracting Environment | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Other: [Click or tap here to enter text.](#)

Employee Statement of Understanding

THIS JOB DESCRIPTION DOES NOT CONSTITUTE AN EMPLOYEE AGREEMENT BETWEEN NEW BRAUNFELS UTILITIES (NBU) AND THE EMPLOYEE. Nothing in this position description restricts NBU's ability to assign, reassign or eliminate duties and responsibilities of this job at any time.

I HAVE READ AND RECEIVED A COPY OF THIS JOB DESCRIPTION.

Employee's Signature

Employee's Printed Name

Date