NEW BRAUNFELS UTILITIES

JOB DESCRIPTION

Job Title: Substation Electrician Apprentice III

Job Status: Full-Time

Department: Electric Substation

Job Grade: 903

Reports To: Substation Supervisor

Work Setting: On-Site

Pay Status: Non-Exempt

Date Created/Updated: 11/8/2024

Location: Service Center

Position Summary

The Substation Electrician Apprentice III, under general supervision, will perform experienced level tasks in construction, operations, and maintenance of electric substation and transmission facilities to include distribution breakers and apparatus, transmission breakers and apparatus, power transformers, control systems, structures, substation properties, and transmission rights of way. Responds during and after normal business hours to all trouble calls relating to Substations in all weather conditions. Demonstrates safe driving habits and maintains a clean driving record. Expected to demonstrate independent critical thinking, sound judgment, and responsible decision making in order to execute both routine and abnormal work activities safely and efficiently. The Substation Electrician Apprentice III develops skills and knowledge contributing to the overall team's capability. Performs delegated duties normally assigned to senior team members in their absence. The Substation Electrician Apprentice III is expected to complete the training and demonstrate competency in the skills established within Level III of NBU's Substation Apprenticeship Program after 12 months, but within no more than 18 months. Minimum qualifications are non-negotiable.

Essential Duties & Responsibilities

SUBSTATION AND TRANSMISSION OPERATIONS

- Responsible for maintaining clean and organized work areas, such as:
  - Service Trucks
  - Control Houses
  - Storerooms and work stations
- Assist Substation Supervisor with project administration tasks
- Plan, coordinate, and execute 12.5 kV and 138 kV switching operations
- Investigate on behalf of consultants and assist them on-site with information gathering activities
- Support NBU staff with tasks related to or collocated with substations and transmission rights of way
- Review proposed plan sets and technical specifications for operational validity and correctness
- Schedule, plan, and successfully complete the training courses and competency demonstrations detailed in Level III of the NBU Substation Apprenticeship program
- Know the general layout of NBU’s electrical systems, including substations, transmission lines, and distribution feeders.
- Assist with testing, calibration, and troubleshooting of substations' electrical systems using electric test equipment (i.e., Transformer Turns Ratio (TTR) tester, Breaker tester, Multi-Range Voltage Detector (MRVD), Phasing sticks, rotation meters, digital multi-meters (DMM), and clamp-on amp meters).
- Operate high-voltage transmission, substation, and distribution switching devices and equipment, using proper Personal Protective Equipment (PPE) and Personal Protective Devices (PPD), to energize, de-energize, and isolate circuits.
- Assist with purchasing, storing, receiving, retrieving, and distributing equipment, tools, and supplies.

SUBSTATION AND TRANSMISSION MAINTENANCE

- Perform periodic site and equipment inspections, report findings, and resolve routine maintenance items to ensure proper operation, such as:
    - Change compressed gas cylinders
    - Equipment maintenance as prescribed by the manufacturer
    - Replace, adjust, and modify equipment and components
    - Conduct infrared camera inspections and address areas of concern
    - Power and control wiring repairs
    - AC and DC power systems and equipment
- Perform periodic and reactive inspections of transmission lines and rights of way, and report findings

SUBSTATION AND TRANSMISSION CONSTRUCTION

- Build, modify, and enhance substation and transmission facilities
- Ensure safety and quality of construction and capital improvement activities performed on and around NBU facilities by others, such as:
    - Contractors and consultants
    - NBU staff
    - LCRA and other utility Personnel
- Construction Project Management duties, such as the following, as delegated by the Substation Supervisor:
    - Review and develop construction project contracts, design drawings, and specifications
    - Supervise contractors and consultants and inspect their work products
    - Resolve requests for information and change orders
    - Resolve material procurements
    - Review project after completion and report successes, lessons learned, and opportunities for improvement

GENERAL RESPONSIBILITIES

- Ability to learn new skills, perform those skills consistently, and recall those skills for application after time passes.
- Must develop an understanding of operations concepts in order to repeat similar tasks in differing circumstances and environments.
- Ability to work
    - on and near equipment energized at hazardous voltage levels
    - in confined spaces and at hazardous heights
- Ability to read, write, and understand verbal and written communications in English
- Ability to understand design plan sets and technical specifications
- Ability to lift and carry tools, equipment, and materials in hazardous environments and across uneven ground
- Ability to distinguish colors accurately
- Maintain regular attendance; leave schedule should be managed so as not to interfere with the ability to accomplish tasks, including special projects and assignments with deadlines
- Adhere to NBU safety and administrative policies, procedures, and practices always and in all situations
- Ensure NBU staff, contracted staff, and visitors adhere to NBU safety and security standards
- Develop & maintain effective customer service skills for communications with co-workers, customers, and the public in general
- Maintain strict confidentiality of business, employee, and customer information in written and oral

communications and safeguard sensitive documents
- Exemplifies NBU Core Values
- Participate in and support initiatives to reach annual NBU Performance Measures

Other duties as assigned

Formal Education and Work Experience Requirements

Degree/Diploma Obtained: High School Diploma/GED Field of Study: General Studies

Work Experience Time Frame: Two Years or More Other: Click or tap here to enter text.

Certification and Licensures Requirements

- Class 'C' Driver's License must be maintained as a condition of employment

Other Minimum Qualifications

- Verified as meeting the minimum qualifications of the NBU Substation Electrician Apprentice II
- Successful completion of Level II of NBU's Substation Apprenticeship program.
- Verified previous Apprenticeship Program experience (NBU or other programs) and appropriate levels of field experience may qualify an individual to be placed within NBU's Substation Apprenticeship Program – the individual may be required to demonstrate knowledge and competency through field and/or classroom testing for appropriate placement
- Successful completion of OSHA 2
- Demonstrated ability to operate autonomously on call duty while maintaining the highest standards of safety and integrity
- Demonstrate mastery of electrical fundamentals, including:
  - Safe electrical worker practices
  - Alternating Current (AC) systems
  - Major substation equipment such as switches, conductors, breakers, and transformers
- Comprehension of and ability to utilize live line tools, equipment, and grounding methods safely
- Ability to perform 12.5 kV and 138 kV switching operations autonomously
- Comprehension of and ability to identify different types of relays and their functions.
- Comprehension of and ability to perform Transformer Turns Ratio and Winding Resistance maintenance testing
- Ability to read electrical plans, blueprints, distribution system, and substation drawings with ANSI standard symbology.
- Must reside within a forty-five-minute response time of the NBU Service Center as measured by an internet mapping tool.
- Strong mechanical aptitude & safe work habits
- Positive technical and behavioral performance history
- Flexibility in work schedule, including emergency response, holiday, weekends, and after-hours as required.
- On-call duty (24 hours per day, 7 days per week, typically for two weeks at a time) is required on a periodic basis.
- Ability to use basic computer software programs such as Microsoft Excel, Microsoft Word, and Outlook.

Knowledge of Computer Software

	No Knowledge	Beginner	Intermediate	Expert

ArcGIS	☒	☐	☐	☐
AutoCAD	☒	☐	☐	☐
Crystal Reports	☒	☐	☐	☐
Microsoft Access	☒	☐	☐	☐
Microsoft Excel	☐	☒	☐	☐
Microsoft Word	☐	☒	☐	☐
Microsoft Publisher	☒	☐	☐	☐
Microsoft PowerPoint	☒	☐	☐	☐

Other Software Knowledge

Outlook email and calendar, Schweitzer Engineering Laboratories AcSELerator Quickset and Synchrowave Event

Experience with Machines, Tools, Equipment and Other Work Aids

Hand tools, power tools, meters, high & low voltage tools, crane truck, trucks, OTDR, infrared imaging devices, aerial lift devices, pipe heating, pipe threading, pumps, insulated tools, multimeters, grounding cables, soldering equipment, computer, printer, cameras, SCADA system.

Physical Demands

Standing: FrequentlyFrequently
☒Making Presentations
☒ Observing Work Sites
☒ Observing Work Duties
☒ Communication with Co-Workers

Fine Dexterity: FrequentlyFrequently
☒ Computer Keyboard
☒ Telephone Keypad
☒ Calculator
☒ Calibrating Equipment

Walking: FrequentlyFrequently
☒ To Other Departments/Office/Office Equipment
☒ Around Worksite

Lifting: OccasionallyOccasionally
☒ Supplies
☒ Equipment
☒ Files

Carrying: OccasionallyOccasionally
☒ Supplies
☒ Equipment
☒ Files

Sitting: OccasionallyOccasionallyRarely
☒ Desk Work
☒ Meetings
☒ Driving

Reaching: OccasionallyOccasionally
☒ For Supplies
☒ For Files

Handling: RarelyRarely
☒ Paperwork
☐ Monies

Kneeling: OccasionallyOccasionally
☒ Filing in Lower Drawers
☒ Retrieving Items from Lower Shelves/Ground

Pushing/Pulling: OccasionallyOccasionally
☒ File Drawers
☒ Equipment
☒ Table and Chairs
☒ Hose

Climbing: OccasionallyOccasionally
☒ Stairs
☒ Ladder

☒ Step Stool
☒ Onto Equipment

Vision: ConstantlyConstantly
☒ Reading
☒ Computer Screen
☒ Driving
☒ Observing Worksite

Foot Controls: OccasionallyOccasionally
☒ Driving
☒ Operating Heavy Equipment
☐ Dictaphone

Balancing: OccasionallyOccasionally
☒ On Ladder
☒ On Equipment
☒ On Step Stool

Bending: OccasionallyOccasionally
☒ Filing in Lower Drawers

Other: Click or tap here to enter text.

☒ Retrieving Items from Lower Shelves/Ground
☒ Making Repairs

Crouching: OccasionallyOccasionally
☒ Filing in Lower Drawers
☒ Retrieving Items from Lower Shelves/Ground

Crawling: RarelyRarely
☒ Under Equipment
☐ Inside Attics/Pipes/Ditches

Hearing: ConstantlyConstantly
☒ Communication Via Telephone/Radio/To Co-Workers/Public
☒ Listening to Equipment

Twisting: OccasionallyOccasionally
☐ From Computer to Telephone
☒ Getting Inside Vehicle

Talking: ConstantlyConstantly
☒ Communication Via Telephone/Radio/To-Co-Workers/Public

Environmental Factors

	Never	Seasonally	Several Times Per Year	Several Times Per Month	Several Times Per Week	Daily
Extreme Temperature (Heat, cold, extreme temp. change)	☐	☒	☐	☐	☐	☐
Wetness and/or humidity (bodily discomfort from moisture)	☐	☒	☐	☐	☐	☐
Respiratory Hazards (Fumes, gases, chemicals, dust, and dirt)	☐	☐	☒	☐	☐	☐
Noise and Vibration (sufficient to cause hearing loss)	☐	☐	☐	☒	☐	☐
Physical Hazards (High voltage, dangerous machinery, aggressive	☐	☐	☐	☐	☐	☒

Customers)						

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	☐	☐	☐	☒	☐
Chemical Hazards	☐	☒	☐	☐	☐
Electrical Hazards	☐	☐	☐	☐	☒
Fire Hazards	☐	☐	☐	☒	☐
Explosives	☒	☐	☐	☐	☐
Communicable Diseases	☐	☐	☒	☐	☐
Physical Danger or Abuse	☒	☐	☐	☐	☐

Other: Click or tap here to enter text.

Primary Work Environment: Outdoors/Field

Other: Boots, Fire Retardant clothes, glasses, hard hat, gloves, high and low voltage gloves, ear plugs.

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	☐	☐	☐	☒	☐
Emergency Situations	☐	☐	☒	☐	☐
Frequent Change of Task	☐	☐	☐	☒	☐
Irregular Schedule/Overtime	☐	☐	☐	☒	☐
Performing Multiple Tasks Simultaneously	☐	☐	☒	☐	☐
Working Closely with Others as Part of a Team	☐	☐	☐	☐	☒
Tedious or Exacting Work	☐	☐	☐	☒	☐
Noisy/Distracting Environment	☐	☐	☒	☐	☐

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 is 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