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Northern Water
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Job Description

Electronic Instrumentation Technician

Division/Department: Environmental Services Division/Field Services Department

Reports To: Field Services Department Manager

Type of Position: Full-time Part-time

Hours: 40/week

Status: Exempt Nonexempt

General Statement

This position installs, operates and maintains electronic data monitoring and telemetry equipment for the purpose of collecting time series data to support water resources and water quality programs.

Duties and Responsibilities

- Installs and mounts instrumentation systems including dataloggers, telemetry, water quality sondes, environmental sensors and a variety of other systems. Inspects installed systems to assure proper operation.
- Installs, operates, and maintains the data collection networks.
- Fabricates, mounts and wires systems and devices.
- Designs and repairs instrumentation systems, equipment and components, both in the field and in the shop.
- Diagnoses, troubleshoots, updates and repairs malfunctioning systems and equipment, calibration problems and other measuring, recording and transmitting device failures.
- Calibrates sensors in the field and/or on the bench according to prescribed procedures.
- Cleans, lubricates and changes component parts.
- Assists in development and implementation of improved procedures, methods, and technologies.
- Maintains a safe work space and environment in all areas, including assigned vehicles, shops, storage areas, office, work sites etc.
- Develops, writes and updates standard operating procedures (SOP) for department operations.
- Researches new technology, tests and recommends improvements to proficiently maintain an up-to-date network/operation.
- Maintains inventory, spare parts, location of service and maintenance records for all associated equipment.
- Operates power equipment such as cranes/hoists, soil augers, manlifts, skid loaders, forklifts, pickup trailer combinations etc.
- Coordinates activities with other departments and partner agencies.
- Uses required safety/protective devices provided by Northern Water in the performance of all duties. Examples of equipment that may be worn includes hard hats, safety glasses, safety belts, steel-toed boots, hearing protection, air monitors for confined space entry, etc.
- Cross-trains as necessary in other department positions within the Field Services Department in order to accommodate schedules.

- Other duties as assigned.

Training, Experience and Education Requirements

Experience

- A minimum of one-year practical work experience in the fields of electronics, instrumentation, and data telemetry. Experience in water measurement, water quality monitoring and weather stations is desired. One year of additional college studies in electronics may be substituted for an equal time of required work experience.

Education

- An associate degree at an accredited College of Applied Electronics or related field. Emphasis in instrumentation and/or data telemetry desired.
- Three to five years of education, training or related experience in data collection related to water resources, water quality and weather data may be substituted for education requirement.

Knowledge, Skills, and Abilities Requirements

Knowledge

- Proficient knowledge of electronics, including the maintenance, programming, calibration, and repair of electronic equipment and instruments.
- Good working knowledge of cellular and radio transmission technology for data.
- Competent with weather and environmental sensors (temperature, relative humidity, rainfall, precipitation, wind speed/direction, solar radiation, etc.), water level sensors (pressure transducers, shaft encoders, load cells, sonic transducers, etc.) as well as water quality sensors (pH, temperature, conductivity, dissolve oxygen, turbidity, etc.).
- Good working knowledge of machines and tools, including their designs, uses, repair and maintenance.

Skills and Abilities

- Works well both independently and as a team player, maintaining open and accurate communications with coworkers and supervisor.
- Troubleshoots and maintains equipment and tools
- Installs equipment, machines, wiring or programs to meet specifications.
- Repairs machines or systems using required tools.
- Performs routine maintenance on equipment and determining when and what kind of maintenance is needed.
- Determines the kind of tools and equipment needed to do a job.
- Identifies and analyzes problems in order to develop alternatives and make recommendations.
- Safely drives vehicles and equipment in snow-packed, muddy, and slippery conditions. Ability to back vehicles and turn equipment around in confined areas, including towed vehicles and trailers.
- Legible penmanship.
- Prioritize, organize, and coordinate work activities to efficiently accomplish assigned duties.
- Initiative, discretion, and use of independent judgment in accomplishing day-to-day activities within established guidelines and at supervisor's direction.
- Maintains a positive attitude, good work ethic, conscientious job efforts, and dependability.

- Maintains high level of accuracy in work assignments with great attention to detail.
- Operates equipment such as pickup-trailer combinations, tractors, boats and construction equipment in a safe manner.
- Practices good housekeeping habits in all work areas, including assigned vehicles, shops, storage areas, office, etc. Keeps tools, equipment, supplies, etc., organized, in good repair, and properly stored.

Physical Requirements

- Endure extended periods of driving, sitting, standing, walking, stooping, kneeling, bending, lifting, climbing, etc. Safely lift and carry items weighing 50 lbs.
- Accurately and productively work for extended time periods at a computer workstation and/or an electronics workbench. Activities may include repetitive data entry, instrument testing, production of specialty equipment, etc.
- Perform duties outdoors, exposed to temperature extremes, intense sunlight, rain/snow, high winds, rough terrain, unstable footing, dust, pollen, bees/wasps/spiders/ants/mosquitoes, snakes, cactus, loud noise, etc.
- Accomplish assigned work safely and to quality standards despite adverse conditions.
- Safely install, service, and remove instrumentation from elevated locations (masts/towers), flowing water (streams, rivers, and ditches/canals) and other locations. Use of manlifts, ladders, safety lines, etc.
- Work/wade safely in, on and around waterways including flowing water.
- Meet the physical requirements of a post job offer physical examination.

Reasonable accommodations will be made to enable qualified individuals with disabilities to perform the essential functions.

License, Certificate, or Credential Requirements

- Valid driver's license.
- Current certification for operation of overhead cranes, forklifts, and manlifts.
- Ability to obtain a Commercial Driver's License (CDL), Class A, if required.

Other Requirements

- Maintains a personal appearance appropriate for job position and image of Northern Water.

This job description in no way states or implies that these are the only duties to be performed by this employee.

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