# Toledo Bend Project Joint Operation Sabine River Authority of Texas Job Posting

Branch:	Operations and Maintenance
Division:	TBPJO
Job Title:	Hydro Technician – Instrumentation Control and Electrician
Salary and Benefits:	Full-time position offering competitive salary, health,
	dental, optical, and retirement benefits

## HYDRO TECHNICIAN - I C & E

## A. JOB QUALIFICATIONS

Under general supervision, with wide latitude for planning or laying out work details, must be able to perform highly complex mechanical and electrical work involved in the inspection, repair, and installation of electrical equipment in Hydro plant generating stations and substations, must be able to assume responsibility for operation of the Hydro plant equipment, and be qualified to do the following and related work as assigned:

- 1. Inspect and maintain Hydro plant mechanical equipment, such as turbines, pumps, fans, compressors, piping systems, heat exchange apparatus, head gates, tail gates, governor system, diesel generator, and appurtenant equipment in accordance with applicable statutory rules and regulations and inspect and maintain all types and classes of meters and instruments, control equipment and regulating devices and electrical equipment, such as electric motors, oil circuit breakers, air circuit breakers, generators, exciters, switchboards, rheostats, relays, voltage regulators, wiring, conduits, cables, lighting fixtures, fuses, transformers, lightning arrestors, busses, disconnecting switches, reactors, telephone equipment, electronic devices, electrical instruments, meters, storage batteries, motor-generators, etc.
- 2. Install and test all types and classes of meters and instruments, control equipment, regulating devices and electrical equipment, including the foundations and supports, such as control and protective apparatus, motors and controls, complete switchboard apparatus, signal and telephone systems, transformers, busses, disconnecting switches, etc.
- 3. Conduct and assist in conducting routine and special tests on performance, capacity and efficiency of Hydro Plant turbine, generators, pumps, heat exchange equipment, and other mechanical equipment in Hydro Plants, and on accuracy of meters, instruments, and controls.
- 4. Diagnose and correct faults in electrical apparatus, such as generators, motors, control and protective equipment, transformers, telephone systems, storage batteries, relays, meters, instruments and other electric equipment and accessories.
- 5. Diagnose troubles of important equipment and apparatus and correct or recommend corrective measures.
- 6. Set up rigging for the installation and maintenance of electrical equipment, foundations, supports, etc.
- 7. Perform operations requiring a high degree of precision with hand, bench and power tools as related to his work.
- 8. Perform work on energized circuits.
- 9. Do laboratory work related to testing.
- 10. Lay out work from prints or verbal instructions.

- 11. Prepare dimensional drawings, estimates and bills of materials, keep operating records, prepare reports.
- 12. Prepare maintenance and other routine reports.
- 13. Direct work of assistants.
- 14. Place in service, or remove from service, and operate in a safe manner, Hydro turbinegenerator and related auxiliary equipment, station service electric circuits, air circuit breakers, oil circuit breakers, disconnect switches, transformers, storage batteries, recording instruments, governor system, generator bearings, turbine bearings, air compressors, heat exchangers, head gates, and tail gates.
- 15. Assist in the daily Hydro plant operation, and routinely perform the Hydro Plant Coordinators duties, pertaining to Hydro plant operation, during absences.
- 16. Perform necessary housekeeping.
- 17. Assist the SRA in the implementation of the Owner's Dam Safety Program including, but not limited to construction, operation, maintenance, surveillance, monitoring, and inspection of Toledo Bend Project Joint Operation facilities.

## **B. EXPERIENCE AND SPECIAL QUALIFICATIONS:**

- 1. Must have worked as an IC&E Technician or have had equivalent experience in power plant operation and maintenance.
- 2. Must have at least three years' experience in power plant or related work.
- 3. Have a thorough knowledge of mechanical work as applied to meters, instruments, automatic controls and regulating devices.
- 4. Be familiar with advanced mechanical principles.
- 5. Be proficient in the use of and nomenclature of tools and equipment ordinarily used.
- 6. Have thorough knowledge of the operation, construction and function of boilers, turbines, pumps, heaters, piping systems, meters, instruments, regulators, and control devices.
- 7. Must have a thorough knowledge of and be able to apply the theory and chemistry of combustion.
- 8. Must have a thorough knowledge and understanding of the elementary chemistry of feedwater treatment.
- 9. Must have a working knowledge of electronics as applied in modern power station instruments and controls.
- 10. Must have a working knowledge of general mathematics, elementary thermodynamics, theory of fluid metering, and ASME power test codes.
- 11. Be able to explain the function, construction, and operation of any regulating device in the power plant and be able to adjust or repair the same.
- 12. Be familiar with the source, collection, calculation and reporting of the operating data included on the station log sheets and reports.
- 13. Be able to compute bills of material for jobs, working for specifications or from oral instructions.
- 14. Be thoroughly familiar with electrical and mechanical tagging rules.
- 15. Have ability to understand and perform semi-routine operations of high complexity and considerable variety where standard methods of procedure are available.
- 16. Know Company's safety rules and be able to administer all approved methods of resuscitation and be able to render practical first aid.
- 17. Know the location of, and be able to operate, all the firefighting equipment. Know what kind of equipment to use on electrical, oil and other fires.

## C. PHYSICAL QUALIFICATIONS:

- 1. Must have full use of mental and physical faculties.
- 2. Have strength and endurance adequate for arduous labor as circumstances may require.

#### **D. PERSONAL QUALIFICATIONS:**

- 1. Be particularly alert in observing hazards and avoiding accidents.
- 2. Be willing to attend and take part in safety meetings.
- 3. Be willing to work in unusual surroundings, as well as the normal working conditions pertaining to this job.
- 4. Be willing to work irregular or extra hours as required.
- 5. Be able to receive and transmit orders and instructions in such a manner as to inspire respect and confidence of both superiors and subordinates.
- 6. Have a temperament suited to jobs where manual dexterity, precision and patience are particularly essential.
- 7. Be capable of assuming supervisory responsibilities.
- 8. Be especially neat, clean, and orderly in work and person.
- 9. Understand the importance of always rendering and maintaining first class, courteous service to all customers.

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