

## **Senior Electrical Engineer - Hydroelectric Department.**

INCA Engineers, a Tetra Tech Company, is a professional consulting engineering firm located in Bellevue, Washington, that provides high-end structural, mechanical, electrical, civil, transportation, and traffic engineering, as well as surveying and mapping throughout the United States. We have an opening for an experienced Senior Electrical Engineer in our Hydroelectric Department.

### **JOB DESCRIPTION SUMMARY:**

The successful candidate will be responsible for investigation, analysis, design and engineering of electrical controls and communication systems and equipment for hydroelectric power stations as assigned, from pre-feasibility level phase through construction closeout. You will work independently on various projects as assigned by the Department Manager. You may oversee the entire design process or evaluation, or assist as a technical expert on a specialized design. You will review progress, evaluate results and recommend major changes and procedures as required by conditions or assigned level of responsibility. Additionally, you will:

Design/evaluate electrical systems and provide recommendations with associated costs estimates for the power stations.

Specifically, you will demonstrate proficiency in design and specifying the following electrical systems, equipment and assemblies for at least two power stations and associated switchyards:

- Generators
- Exciters and voltage regulators
- Transformers
- Motors
- Motor control starters and controls
- Supervisory controls
- Lightning protection system
- Communication systems
- Grounding system
- Cranes and hoists electrical power systems and controls
- Cathodic protection systems
- Conduit and wiring sizing and routing
- Switchgear and controls
- Safety shutdown systems and instrumentation
- Relays
- PLC systems
- HVAC systems
- Block Diagrams
- Logic diagrams
- One-line and three line drawings
- Battery and charger system wiring diagrams
- Powerhouse interior and yard lighting
- Security systems
- Emergency power systems

Prepare technical specifications and electrical drawings for contract documents

Prepare engineering reports

Develop and maintain departmental design standards in consultation with Department Manager

Coordinate electrical system design with other disciplines

Review shop drawings and product submittals for conformance to contract documents requirements  
Visit construction sites and fabrication/manufacturing plants to witness testing of equipment and assemblies, and to inspect work in progress or completed and to provide solutions to construction problems

Address Requests for Information from contractors and suppliers during construction and fabrication of equipment and assemblies

For proposals and budgeting purposes, assess the requirements of a project, break a project into tasks, and work with a Project Manager to determine scope of work, budget and staffing requirements. Write text to be included in proposals and work assignments.

Advise on electrical code requirements and advise design team members of local requirements and act as a resource for code interpretations

Assist in the mentoring, education and development of design staff and act as a resource for design questions

Represent the firm at professional meetings and conventions

### **Job Requirements:**

A Bachelor degree in Electrical Engineering with a minimum of 10 to 12 years related experience, and professional registration. Demonstrated proficiency in electrical system, equipment and assembly design for at least 2 (two) power stations and associated switchyards. An MS Degree in Electrical Engineering is considered a plus! Microsoft Office, and working knowledge of applicable codes.

INCA only accepts resumes through its online application process. Please apply at [www.incainc.com](http://www.incainc.com) or [www.tetrattech.com](http://www.tetrattech.com)

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