



Process Controls Engineer

Type: Full-time

Status: Exempt

Location: Manchester, NH

Overview:

Patriot Hydro is seeking an experienced Process Controls Engineer who can join our Electrical & Controls team. This position requires the ability to work with Managers, Supervisors, Hydro Technicians, contractors, and equipment suppliers. In this role, you will analyze our current controls systems, contractors, and equipment, then recommend and implement solutions, as well as manage third party contractors. You will work with the Senior Process Control Engineer as well as site Operations Management to develop a schedule to update/replace HMI's, PLC's, and other critical control equipment.

Responsibilities:

- Develop technical knowledge on hydro-electric power generation equipment and processes.
- Assist/direct Hydro Technicians as needed on high level issues.
- Respond to and troubleshoot critical outages of control equipment to restore production.
- Participate in root cause analysis investigations and manage resolution of major equipment breakdowns and quality issues.
- Review all Process Control Contractors Service Reports, especially other observations.
- Assure proper documentation of all control changes and proposed, including rationale for the change.
- Properly update, document, and maintain all PLC, HMI, etc. backup programs, and drawings
- Meet with Managers and Supervisors to develop new processes.
- Develop work scopes for all process control projects.
- Manage and monitor contractors providing upgrades to systems, review all scope of work documents, step-by-step commissioning plans, test reports, and analyze results.
- Work with Site Supervisor and contractor on equipment designs, modifications, installations, including project management of all equipment upgrades, modifications, and new installations.
- Work safely and ensure the safety of all team members.
- Maintain an inventory of fleet asset, along with warranty dates.
- When conditions dictate, overtime will be required (with little or no prior notification)
- Position reports to the Senior Process Control Engineer

Required Qualifications:

- Minimum 5-10 years process controls experience required.
- Technical degree in Engineering; Discipline preferably Electrical, Computer, Mechanical or License Electrician with 10 years proven work experience with; PLC and/or SCADA controls programming and design, Protection Relaying troubleshooting and repair, and Power Generation Automation background with focus in Hydro Electric Automation.
- Ability to read and troubleshoot from schematics, drawings, and blueprints especially one- and three-line diagrams, elementary diagrams, interconnection diagrams, and logic diagrams.



- Extensive knowledge in troubleshooting and repairing; process control equipment, complex electrical circuits, signal loops, and other systems.
- Experience in the technical analysis and troubleshooting of hydro-electric generation operational and design issues.
- Ability to manage all aspects of a project, both technical and business, including preparing project charter, stakeholder list and analysis, project scope of work, project schedule, project cost analysis, project risk analysis, project work breakdown structure, etc.
- Ability to effectively work on several projects simultaneously ensuring compliance with company and departmental quality and safety standards, local/state/national codes, local/state/national regulatory (including NERC, FERC, Fish and Wildlife, etc.), and other company departments.
- Experience in coordinating and managing outside resources (vendors, consultants) to accomplish work scope objectives.
- Extensive knowledge of process engineering software systems
- Ability to convert physical relay logic to PLC logic.
- Must be proficient in PLC, HMI, and SCADA troubleshooting, programming, and design with a focus in the following:
 - GE Cimplicity and Historian
 - Emerson/GE 90-30 series, RX3i, RSTi, and VersaMax PLC systems
 - ABB Scada
 - Kepware Servers
 - RTUs including SEL RTAC and Novatech OrionLX
 - Communication Protocols including Modbus, Modbus TCP, and DNP3
 - Systems network architecture including copper and fiber systems.

Other Preferred/Desired Skills and Abilities

- Proficiency with Microsoft Office Suite with a focus in Outlook, Word, Excel, Teams, and PowerPoint
- Experience with the following systems and software preferred:
 - DirectLOGIC 200 series PLCs
 - OSI PI software
 - Rockwell Allen-Bradley PLC5 and MicroLogix
 - Infinilink HMI
 - AutomationDirect Productivity PLCs
 - Remote Support software (such as Bomgar) over VPN connections
 - RedLion serial Modbus to ethernet converters
 - Electric Generator Excitation control systems
 - Electric Generator Synchronization systems
 - Electric Generator Protection systems (both mechanical relay and digital relay)
- Proficiency with AutoCAD
- Demonstrated ability to work within all levels of the organization.