



JOB DESCRIPTION

Design Engineer

Cube Hydro Carolinas is currently seeking bright and talented individuals to join our organization to help us manage the present and create a better future. We want people who believe in maintaining the highest standards of business and professional conduct. We look for people who share our values of safety first, exemplary integrity, embrace of diversity, and innovation always. The Design Engineer will provide services in four primary areas.

Research:

- Creation of new systems, practices, and machines for the improvement of the fleet. This may include mechanical devices, electrical systems, control methods, operational practices, or business strategies.
- Support of intellectual property development including assisting in the patent, trademark, and copyright processes, as well as seeking and implementing ideas for the creation of intellectual property.
- Review and implementation of advanced and nascent technologies, from machine learning systems to LIDAR.
- Presentation and study of novel ideas to corporate and regulatory leaders to show proof-of-concept.

Design:

- Design of mechanical and electrical systems and components from the ground up. Designs may include 3D CAD modeling, material selection, wiring diagrams, control schematics, and fabrication method selection.
- Selection of system components for plant upgrades and various projects. Includes the development, review, and issuance of bid packages, as well as bid review and selection.
- Evaluate and create repairs for plant maintenance and improvement. Design components for repairs.
- Coordinate and review design work with operations staff to ensure peak functionality and optimal selection.
- Design and specify control systems and instruments including writing code for, testing, and commissioning PLCs (Programmable Logic Controllers).

Construction:

- Oversee contract manufacturing of designed or selected components. Provide design support for fabrication and visit partners to guide production according to Cube design and specification.
- Walk down systems with contractors and construction staff to guide installation of equipment.
- Support field installation of upgrades, repairs, and new systems. Assist in field routing and placement of equipment, piping, and wiring. Select, direct, and manage contractors as necessary.
- Review and write documentation including purchase orders, change orders, and RFIs (requests for information).

Analysis:

- Analyze plant performance for reporting on current portfolio as well as for due diligence on possible acquisitions. Write code to automate analysis of plants and review results for operational insights.
- Implement advanced optimization algorithms for scheduling and dispatch of plants and generation.
- Complete analysis of implemented designs to study performance and guide operation or additional installations.



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Although her responsibilities will stretch across these four areas, the position is listed as Design Engineer as a design perspective is critical to her work. In all he does, the engineer will bring an ability to 'see-beyond,' that is the capacity to see beyond what is, to what could be. This is the key qualification for this position. The Design Engineer will be responsible for creating new systems, designs, and components that build the future at Cube. These systems will ensure personnel safety, regulatory compliance, and operational excellence. Oftentimes, this work will take the Engineer beyond the realm of what they know to learn new technologies, methods, and products. The Design Engineer must be eager and willing to learn new components, approaches, and fields. Innovation never happens in a vacuum, so the Design Engineer must be comfortable working with end users, company leadership, and contractors. Finally, creating new things is fun so the Design Engineer will be passionate about building what hasn't been built before and ready to work hard to bring her, and Cube's, dreams to fruition.

Necessary Skills and Experience:

- Hunger to create what hasn't been built before
- Eagerness to learn new technologies and approaches
- Excitement about cooperating with field staff, corporate leadership, and contractors
- Passion for the role that brings with it enthusiasm and a real work ethic

Preferred Skills and Experience:

- Engineering degree in mechanical engineering or similar field.
- Experience operating in technical environment, be that an engineering position or an automotive shop
- Familiarity with numerical analysis using Excel, MATLAB, Python, or other software.
- Comfort with 3D CAD Modeling software such as Inventor, Solidworks, or other.

Bonus Skills and Experience:

- Control systems experience and PLC programming ability
- Electrical engineering experience or interest
- Numerical computing
- Project management
- IP Creation and protection