

Principal Mechanical Engineer

Location: Arlington, VA

About Fluence

Fluence, a Siemens and AES company, is the leading global energy storage technology solutions and services company that combines the agility of a fast-growing technology company with the expertise, vision, and financial backing of two industry powerhouses. Building on the pioneering work of AES Energy Storage and Siemens energy storage, Fluence's goal is to create a more sustainable future by transforming the way we power our world. The company offers proven energy storage technology solutions designed to address the diverse needs and challenges of customers in a rapidly transforming energy landscape, providing design, delivery, and integration in over 160 countries. Fluence works closely with customers throughout their journey and provides advisory, financing, and project lifecycle services.

Job Description

The role will primarily engage in the ongoing development of Fluence's energy storage products, focusing on the mechanical design. Fluence deploys lithium ion batteries in utility scale projects, typically inside of metal enclosures. The bulk of the mechanical engineering work for these systems is related to the structural design of the enclosures; internal equipment layout for ease of manufacturing, installation, and maintenance; cooling and fire suppression system design; and design to meet various published technical standards and codes. Fluence is looking for a highly experienced mechanical engineer who can tackle difficult technical problems and perform design work while also providing guidance to junior mechanical engineers. The ideal candidate will have a broad mechanical engineering background as well as strong proficiency in 3D CAD and finite element analysis. Experience with cooling systems, both air cooling and liquid cooling, is also beneficial.

Responsibilities

- Develop mechanical design of Fluence battery system products from conceptual stage to final design, testing, and manufacturing while meeting difficult requirements for size, environmental conditions, maintainability, reliability, long lifetime, and cost.
- Use solid model software packages such as SolidWorks to develop 3D CAD models of equipment enclosure structures and internal component layouts. Perform FEA analysis to determine compliance to seismic requirements, shipping standards, and other mechanical requirements (i.e. wind loading, lifting by crane, snow loading, etc.)
- Perform CFD analysis, fluid flow analysis, and thermal heat transfer analysis for air cooling and/or liquid cooling systems for the batteries.
- Provide technical mentorship to junior engineers in all of the above.
- Manage external resources such as consultants or test labs in testing various aspects of the product such as environmental testing, seismic testing, and arc flash testing.
- Review quality assurance processes of contract manufacturers and provide mechanical engineering expertise to Procurement team in identifying new suppliers.
- Collaborate with other teams including Electrical Engineering, Software Development, Logistics, Procurement, Project Engineering, and Sales on ensuring successful deployments of Fluence products in large-scale energy storage projects.

Qualifications

The candidate must be highly experienced in the mechanical engineering field and meet the following qualifications:

- 14+ years experience
- Experience with developing products from the concept stage through prototyping, final design, and manufacturing
- Highly experienced with solid model design software (preferably including SolidWorks), including performing structural FEA analysis
- Takes individual initiative and works with minimal supervision while being a collaborative team player. Possesses sound business judgment.
- Has excellent English verbal and writing skills.

The additional qualifications below are preferred but not required:

- Experience performing mechanical design of electrical power equipment, such as electrical panels, power converters, or control panels.
- Experience with design of air and liquid cooling systems, including fan sizing, CFD analysis, pump sizing, pressure drop analysis, and component selection.
- Experience with seismic analysis and familiarity with IEEE693 and/or ASCE 7-16 requirements
- Experience with utility scale battery energy storage systems
- Proficiency in Korean or Chinese is a plus
- Travel: 20-30%, willingness and ability to travel is required.

Qualified candidates are requested to submit a resume and cover letter at careers@fluenceenergy.com for consideration.

Fluence IS AN EQUAL OPPORTUNITY EMPLOYER and fully subscribes to the principles of Equal Employment Opportunity, to ensure that all applicants and employees are considered for hire, promotion, and job status without regard to race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, marital or familial status.