

# **Senior Electrical Energy Modeling Engineer**

## **Job Description**

### **Job Summary:**

This position will be part of a team of engineers that support the design and energy modeling requirements for various clients. Candidate must have a Masters in Electrical Engineering and have at least 2-3 years' experience as a consulting engineer under the direct supervision of a licensed PE. Candidate should be prepared to sit for the Professional Engineering exam (P.E.) within 12 months of hire.

This position must have a good working knowledge of electrical systems including power distribution, lighting, HVAC equipment loads, receptacle loads and demands, power factor corrections and other electrical systems. Must be proficient in Equest, AGI, SKM, REVIT MEP, and AutoCAD. Candidate should be willing to work as part of a team to accomplish common goals.

### **Job Description:**

This position will lead a team of engineers that design energy efficient buildings for various clients of CMTA. The position is responsible for designing high performance buildings including but not limited to:

- Power distribution design
  - Perform electrical demand load calculations
  - Develop power distribution riser diagrams
  - Determine correct wire and feeder sizes for switchboards, transformers and branch panels
  - Develop the design of Emergency and uninterruptible power generation and distribution systems
  - Perform voltage drop calculations
  - Perform fault current calculations and Arc Flash analysis using power analysis software
  - Develop design specifications for power distribution systems
- Solar panels / Photo-voltaic(PV) design
  - Conduct site feasibility studies, solar trajectory, shading, power output calculations
  - Design grid connected PV systems
  - Produce PV module layout plans
  - Develop detailed PV module layout plans to meet all applicable codes.
  - Develop single-line diagrams with required details in accordance with NEC

- Energy efficient building envelope design
  - Develop energy models to analyze building energy use.
  - Determine appropriate design measures for different climate zones to maximize benefits from local climactic conditions, and reduce energy usage
  - Coordinate with Architects/Structural engineers to ensure building systems have appropriate thermal and optical properties to optimize thermal comfort and illumination levels.
- Daylight/lighting control design
  - Design daylight harvesting systems with corresponding automatic controls (open-loop/closed-loop)
  - Develop lighting control details
- Energy efficient lighting design
  - Perform lighting photometric calculations
  - Perform life cycle costs and Return on Investment
  - Select energy efficient lighting and develop lighting layouts.
  - Develop light fixture schedules and specifications

This position will interact with clients on a daily basis to develop project schedules and coordinate system design with owners. This position will also be responsible for training staff in the use of various energy modeling applications.

Additional duties of the position are as follows: Read and interpret blueprints, technical drawings, schematics, and computer-generated reports; confer with other engineers and other personnel to implement operating procedures, resolve system malfunctions, and provide technical information; research and analyze customer design proposals specification, manuals, and other data to evaluate the feasibility, cost, and maintenance requirements of designs or applications; specify system components or direct modification of products to ensure conformance with engineering design and performance specifications; research, design, and evaluate various electrical products, systems, and processes to meet requirements, apply knowledge of engineering principles; provide feedback to design engineers on customer problems and needs; and conduct research that tests and analyzes the feasibility, design, operation, and performance of equipment, components, and systems.

**Reporting Relationship:**

This position reports directly to the Vice President of the Electrical Engineering Department and has a working relationship with all engineers of CMTA.