



# Solar Engineer

## Reports To

*Chief Executive Officer*

## Department

*Engineering & Design*

## Summary of Position

*Design and engineer residential and commercial solar energy systems. Create plans for system development, monitoring, and evaluation activities.*

## Duties and Responsibilities

- Create preliminary solar designs for initial customer presentations using Aurora
- Design photovoltaic (PV) systems, including system components, for residential and commercial buildings
  - ◊ Collect data about residential project sites
  - ◊ Conduct non-residential engineering site audits to collect structural, electrical, and related site information for use in design
  - ◊ Review design layouts to find and resolve problems involving compatibility with basic design concept
  - ◊ Prepare energy models and conceptual design deliverables in support of business development and new product/vendor integration
  - ◊ Analyze costs and benefits of proposed designs or projects
  - ◊ Determine design criteria or specifications
  - ◊ Prepare and stamp detailed drawings for fixed tilt, ground-mounted, and carport solar PV systems sufficient for permitting and construction
    - Give consideration to relevant codes, company safety program and OSHA safety requirements for construction and system operation
    - Electrical - 1-line diagrams; 3-Line diagrams; Connection diagrams
    - Mechanical - Plan and elevation drawings; schematics
    - Structural - Drawing packages for existing and new building structures
    - Engineering deliverables in support of solar system design, including calculations, POs, and schedules
- Update customer proposals in Excel with relevant system design information
- Review and revise engineering deliverables prepared by others
- Work with project team to execute projects on time and on budget
- Create procedures / checklists for review/testing/inspection of completed solar installation projects
- Inspect finished products to locate flaws

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## Other Duties and Responsibilities

- Review specifications and recommend engineering or manufacturing changes to achieve solar design objectives
- Support supplier and product qualification, product quality resolution, revision and improvement process
- Recommend technical design or process changes to improve efficiency, quality, or performance
- Provide technical direction or support to installation teams during installation, start-up, testing, system commissioning, or performance monitoring
- Develop standard operation procedures and quality or safety standards for solar installation work
- Perform computer simulation of solar photovoltaic (PV) generation system performance or energy production to optimize efficiency
- Review and analyze test data, field performance data, and prepare necessary reports
- Implement strategies for integration of new tools, new products, new vendors, code changes, and best practices, and disseminate to internal departments as needed
- Other functions as necessary or as assigned

## Qualifications

### Required Skills

- Professional electrical engineer
- Strong mathematical and analytical skills
- Strength in the use of CAD; Microsoft Office Suite; Email; Internet browsers
- Ability to generate accurate, highly-detailed construction drawings
- Experience with industry standard PV systems and energy modeling tools
- Knowledge in control and data acquisition hardware and software, data communication, electrical test equipment, and power systems protective devices.
- Working knowledge of NEC, IEEE, IEC, UL requirements relevant to solar PV installations and equipment
- Ability to perform calculations for wire and conduit sizing is required
- Understanding of commercial building standards
- Organized and detail oriented
- Excellent technical writing / verbal communication skills

### Desired Skills

- Knowledge of construction processes and practices including electrical, structural, and mechanical
- Able to manage multiple project efforts, prioritizing tasks and resources
- Experience with cost/benefit analysis
- Experience with performance monitoring and evaluation of time-series data

## Experience

2 years minimum work experience in design of commercial and residential solar systems

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## **Education**

BS degree in electrical or mechanical engineering; MS degree is preferred

## **Physical Requirements**

Most time will be spent in an office environment, but occasional site visits and surveys may be performed in new construction and existing buildings which typically includes attics, basements, and mechanical/electrical rooms.

Will be on job sites occasionally, on roofs, climbing ladders, etc. Occasional lifting of up to 20 lbs. Significant time spent on the phone and working on computer.

## **Location**

*New Jersey*

## **Travel Requirements**

*Periodic local travel to visit potential and customer job sites*

## **Type of Employment**

*Full-time*

## **Disclaimer**

This job description is a summary of typical functions of the position, not an exhaustive or comprehensive list of all possible job responsibilities, tasks and duties. The responsibilities, tasks and duties of this position might differ from those outlined in the job description and that other duties, as assigned, might be part of the job to meet business or organization needs.

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