

A photograph of a large solar farm at sunrise. The sun is low on the horizon, casting a warm glow over the rows of solar panels. The panels are arranged in neat, parallel lines that recede into the distance.

CLEAN ENERGY CAREER PATHWAYS CATALOG

Solar Energy

A series of stylized, rounded rectangular shapes in various shades of yellow and orange, arranged in a pattern that suggests the rays of a sun. These shapes are scattered across the right side of the page, with a larger, semi-transparent yellow circle at the bottom right corner.

CAREER
MAP

CAREER
LIST

Over 300 job descriptions for technical and specialty jobs in clean energy

Created for job-seekers, hiring managers, the existing workforce, and the public, ACP's **Clean Energy Career Pathways Catalog** presents over 300 job descriptions for technical and specialty jobs within the clean energy industry.

This catalog shows the upward mobility and opportunities that exist within the industry, alongside highlighting the skills and requirements necessary to work in these positions. The aim is to provide a better understanding of how existing transferrable skills could be applied to clean energy jobs or what a career progression within the workforce could look like.

This massive effort is meant to provide workers in other energy industries, veterans, and workers in underrepresented communities a better idea of the jobs available in clean energy, as well as support the industry with recruiting and retention.

Solar Energy Career Pathways Catalog

This sector-specific catalog presents job descriptions in the Solar Energy sector. For jobs within all sectors, [download the full PDF](#).

If you have questions about the catalog, please email workforcedev@cleanpower.org.



Clean Energy Occupations can be looked at across Clean Energy Sectors, Industry Segments, Industry Sub Segments, and Occupational Groups & Job Families. The catalog is organized by the hierarchy and groups represented here:

Clean Energy Sectors

- Solar
- Wind Onshore
- Offshore Wind
- Storage
- Transmission

LEVEL 1

Industry Segments

- Project Development (System Design)
- Operations & Maintenance
- Manufacturing
- Construction / Installation
- Research & Training

LEVEL 2

Industry Sub Segments

- Safety
- Engineering
- Management
- Maintenance & Repair
- Installation
- Services General
- Material Handling, Supply & Processing
- Fabricating/Forging/Manufacturing
- Construction Management
- Foundation Contractor
- General Contractor
- Heavy Equipment Supplier/Operator
- Transportation
- Logistics
- Operations
- Development & Planning
- Business Development / Sales
- Purchasing
- Education / Training

LEVEL 3

Occupational Groups/Job Families

[Groups may also include supervisor & manager roles]

- Inspectors & QC
- Technicians
- Project Managers & Construction Managers
- Electricians, Wires & Installers, including Repairers
- Equipment Operators
- General Laborers & Groundmen
- Maintenance
- Engineers
- Meteorology Specialists
- Remote Control Operators / Dispatchers
- Safety and Incident Investigations
- Assembly, Fabricating & Manufacturing Laborers
- Surveyors
- Logisticians & Warehouse
- Analysts / Specialists
- Buyers / Procurement
- Tradeworkers – Ironworker, Welder, CNC operator, Machinist
- Site Managers
- Truck Drivers
- Business Developers
- Planners
- Asset Managers
- Operations / Facility Managers
- Trainers
- Schedulers

LEVEL 4



Explanation of Career Maps

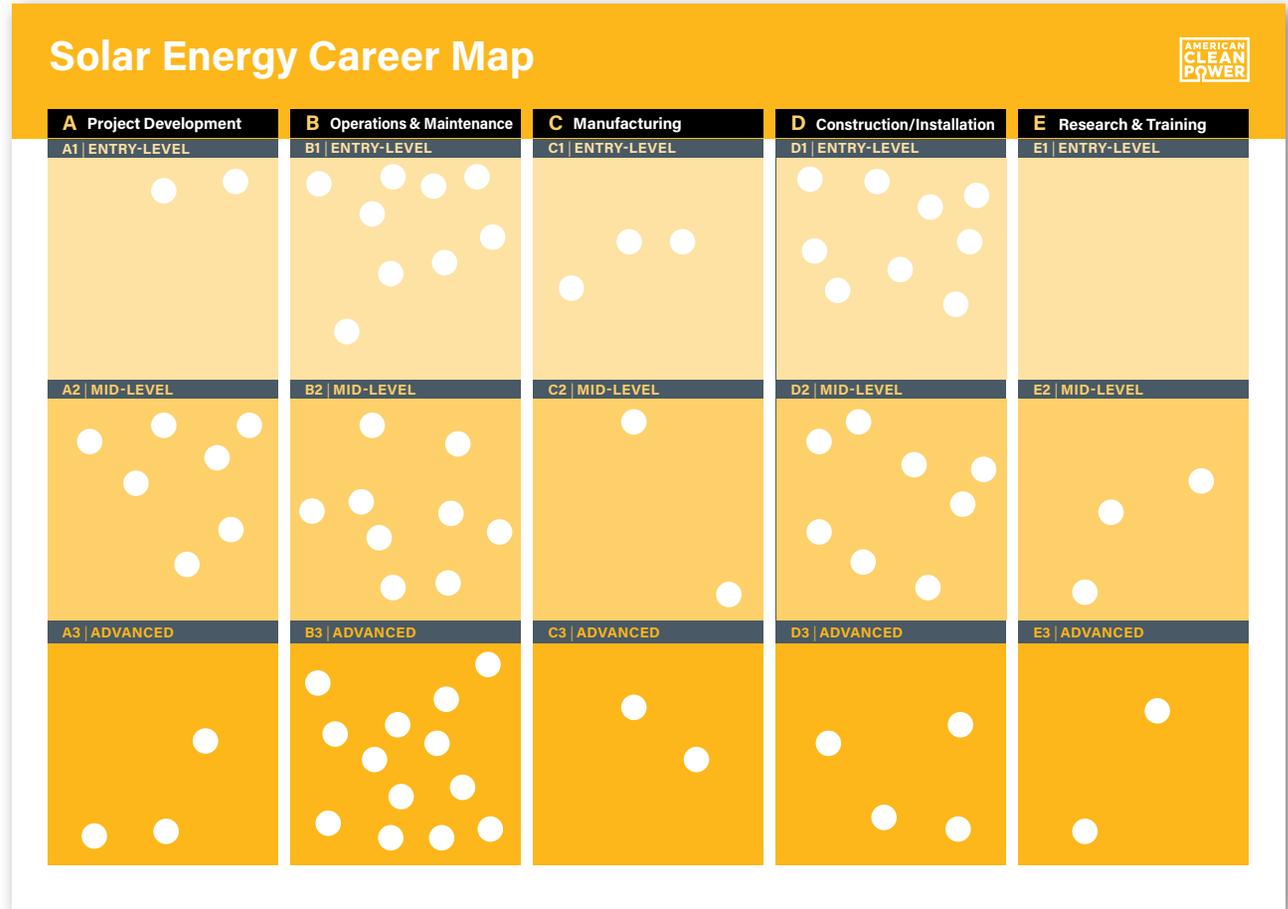
Each catalog includes an interactive Career Map that illustrates potential pathways for career growth within the Sector and within five specific Industry Segments.

On the Career Map, each occupation is represented by a clickable dot. Each sector's Career Map contains three Career Levels:

- Entry Level
- Mid-Level
- Advanced

Dots placed in vertical lines or nearby spaces up through the career levels represent the career progression in a particular field or Industry segment.

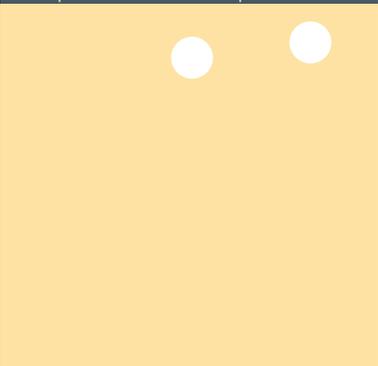
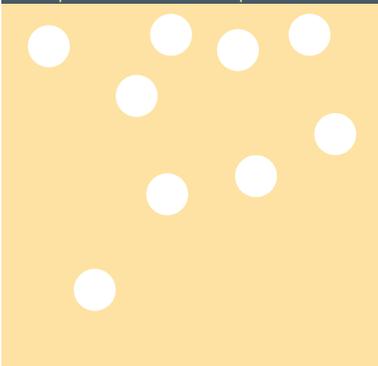
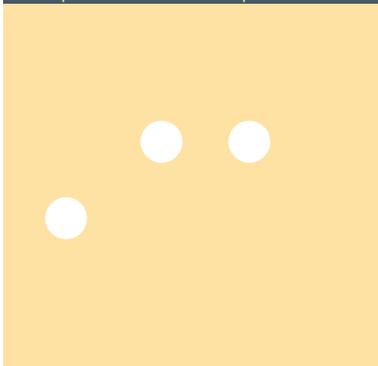
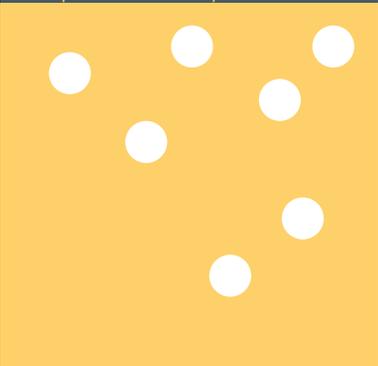
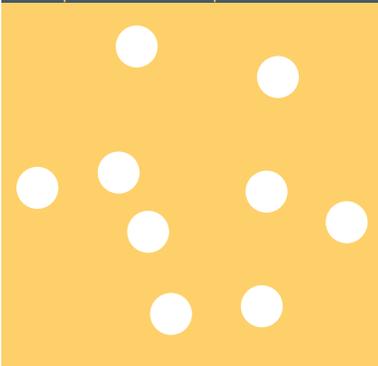
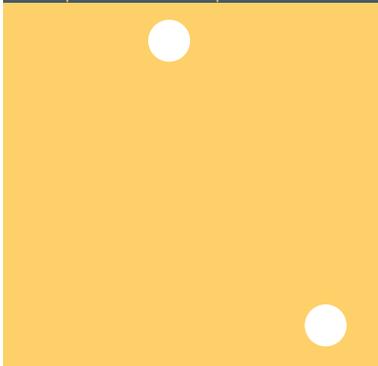
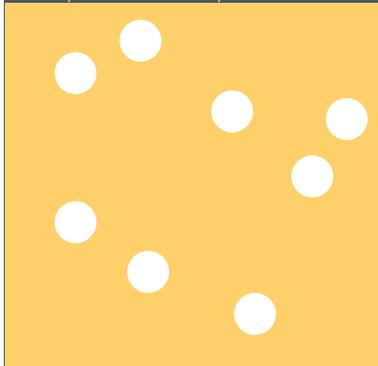
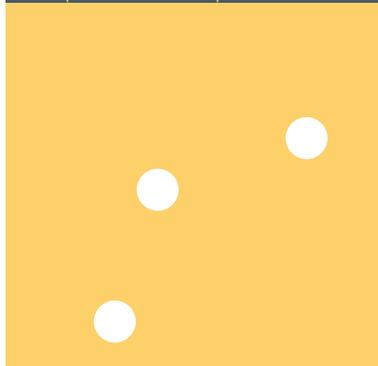
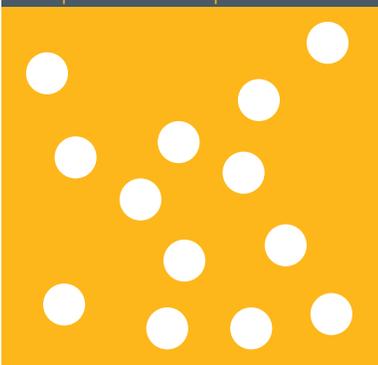
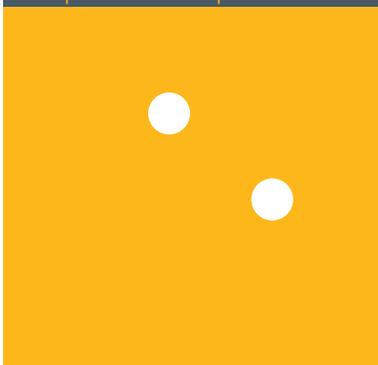
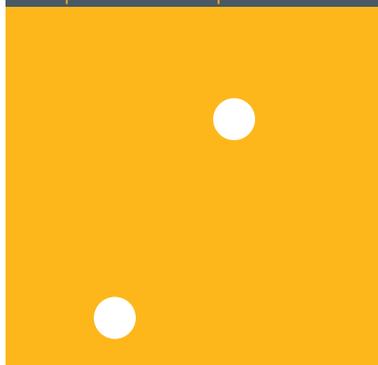
Note: The vertical paths are not the only potential career options from any given occupation, since those who acquire further education and experience may also make cross-industry segment and sector moves. The more typical career moves from each occupation are outlined on each Occupation Description page.



Click on a career level in an industry segment and you will be taken to that section.

Solar Energy Career Map



A Project Development	B Operations & Maintenance	C Manufacturing	D Construction/Installation	E Research & Training
A1 ENTRY-LEVEL PAGE 7-8 	B1 ENTRY-LEVEL PAGE 19-27 	C1 ENTRY-LEVEL PAGE 50-52 	D1 ENTRY-LEVEL PAGE 57-65 	E1 ENTRY-LEVEL 
A2 MID-LEVEL PAGE 9-15 	B2 MID-LEVEL PAGE 28-36 	C2 MID-LEVEL PAGE 53-54 	D2 MID-LEVEL PAGE 66-73 	E2 MID-LEVEL PAGE 78-80 
A3 ADVANCED PAGE 16-18 	B3 ADVANCED PAGE 37-49 	C3 ADVANCED PAGE 55-56 	D3 ADVANCED PAGE 74-77 	E3 ADVANCED PAGE 81-82 

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Solar Energy Career List

A Project Development

A1 ENTRY-LEVEL PAGE 7-8

- Business Development Specialist
- Site Acquisition Specialist, Land Acquisition Specialist, Land Agent, Land Acquisition Associate

A2 MID-LEVEL PAGE 9-15

- Business Development Manager
- Civil Engineer, Structural Engineer
- Mechanical Engineer, Design Engineer, Product Engineer, Equipment Engineer
- Project Developer; Pre-Construction Manager
- PV System Designer, Solar Systems Designer, Solar Design Engineer
- Site Acquisition Manager, Land Acquisition Manager
- Strategic Procurement Manager

A3 ADVANCED PAGE 16-18

- Electrical Systems Engineer, Power Systems Engineer, Electrical Interconnection Engineer, Electrical Design Engineer
- Interconnection Engineer
- Planner—Renewable Energy

B Operations & Maintenance

B1 ENTRY-LEVEL PAGE 19-27

- Cable Splicer & Terminator
- Control Center Operator or Controller or Remote Access Operator
- Groundsman
- Instrumentation & Electrical Technician—Entry
- Meteorologist—Entry
- Operations Specialist I
- Safety Manager I
- Solar Technician I, Solar Field Technician I, Field Service Tech I, Technician Trainee, Associate Technician
- Solar Technician II, Solar Field Technician II, Field Service Tech II

B2 MID-LEVEL PAGE 28-36

- Assistant Facility Manager
- Instrumentation & Electrical Technician—Intermediate
- Maintenance Supervisor, Technician Supervisor
- Meteorologist—Intermediate
- Operations Specialist II
- Reliability Engineer
- Safety Manager II
- Solar Technician III, Senior Solar Field Technician, Field Service Tech III
- Solar Technician Lead, Solar Technician IV, Field Service Tech IV

B3 ADVANCED PAGE 37-49

- Asset Manager
- Director, Meteorology
- Director, Operations & Maintenance, Director O&M
- Director, Quality & Operations Support
- Engineering Manager
- Environmental Engineer, Regulatory Compliance Manager
- Instrumentation & Electrical Technician—Senior
- Maintenance Manager)
- Meteorologist—Senior
- Operations Manager, O&M Manager, Site Manager, Facility Manager—Solar
- Reliability Engineering Manager
- Safety Manager III
- Senior Financial Analyst & Planner

C Manufacturing

C1 ENTRY-LEVEL PAGE 50-52

- Advanced Manufacturing Technician, Production Technician, Manufacturing Maintenance Technician
- Assembler / Fabricator
- CNC Operator

C2 MID-LEVEL PAGE 53-54

- Industrial Engineer / Manufacturing Engineer
- Inspector & Quality Control

C3 ADVANCED PAGE 55-56

- Fleet Manager, O&M Manager
- Industrial Engineering Manager, Manufacturing Engineering Manager

D Construction/Installation

D1 ENTRY-LEVEL PAGE 57-65

- Commissioning Technician
- Concrete Worker
- Crane Operator
- Equipment Operator—Light
- Laborer, General Laborer
- Site Surveyor
- Solar Assembler / Basic (Entry) Installer
- Truck Driver
- Warehouse Assistant, Warehouse Support

D2 MID-LEVEL PAGE 66-73

- Buyer, Procurement Specialist, Procurement Associate
- Construction Manager
- Equipment Operator—Heavy, Equipment Operator
- Equipment Operator—Medium
- Journeyman Electrician
- PV Site Inspector, QA Inspector, Inspector & Quality Control Coordinator, Site Assessor
- Solar Installer, Photovoltaic (PV) Installer
- Solar PV Crew Chief, Solar Foreman

D3 ADVANCED PAGE 74-77

- Commissioning Manager
- Construction Manager II
- Construction Manager III
- Project Manager

E Research & Training

E1 ENTRY-LEVEL

- N/A

E2 MID-LEVEL PAGE 78-80

- Analyst / Researcher
- Research Engineer, Research and Development Engineer
- Technical Trainer, Technical Instructor

E3 ADVANCED PAGE 81-82

- Materials Scientist, Research & Development Engineer
- Training & Development Manager

Click on a career level in an industry segment and you will be taken to that section.



Business Development Specialist

DESCRIPTION

Respond to contact from customers and assess needs and potential for sale (qualify leads). Educate customers about features and benefits of products and services. Develop understanding of client business and their goals and needs. Track leads and results and maintain contacts & opportunities database. Develop an understanding of the client's goals, needs and concerns and clearly communicate this to Director of Business Development. Assist in establishing marketing goals to ensure market share and profitability of products and/or services. Develop surveys and other marketing tools.

KNOWLEDGE/SKILLS

Strong communication, presentation & negotiation skills, computer skills. Multi-tasking. Reading, analyzing and interpreting common scientific and technical journals, financial reports and legal documents. Calculating figures and amounts.

REQUIREMENTS

Education/Training

Bachelor's degree in marketing, construction management or business field required.

Experience

1-3 years in direct marketing/sales of construction-related services preferred.

Credentialing Required/Optional

PV Technical Sales certification (NABCEP) desirable.

POSITION REPORTS TO

Business Development Manager

CAREER PATH MOVES FROM THIS ROLE

Business Development Manager



Site Acquisition Specialist

Land Acquisition Specialist, Land Agent, Land Acquisition Associate

DESCRIPTION

Assist in obtaining land for solar energy projects. Administer land after it has been purchased or leased. Work with various engineers, scientists, attorneys, developers, permitting specialists, landowners, local governments and community organizations to ensure solar project is constructed and operational. Design and implement land acquisition strategies and plans for development of new sites. Assist developers/owners in projects by providing land options. Conduct research on county building codes and landowner information. Coordinate meetings, develop relationships, and negotiate purchase or lease contracts with owners.

KNOWLEDGE/SKILLS

Permitting process. Real estate, tax and accounting rules. Working with people to accomplish goals. Designing and implementing land acquisition strategies and plans for development of new sites. Conducting research. Developing relationships.

REQUIREMENTS

Education/Training

Bachelor's degree required; Graduate degree preferred. Business, real estate law, engineering or related.

Experience

Real estate or land acquisition experience required.

Credentialing Required/Optional

Real estate license preferable.
Notary license desirable.

POSITION REPORTS TO

Purchasing Manager

CAREER PATH MOVES FROM THIS ROLE

Purchasing Manager, Asset Manager



Business Development Manager

DESCRIPTION

Develop new business contacts to manage and maintain existing customer relations, contacts and sales. Identify, develop and lead sales opportunities through industry research, calls to clients, media, etc. Work closely with senior leaders in developing business leads and with business development director to establish company budget and sales goals. Develop understanding of client business and their goals and needs. Establish and execute marketing strategies. Track leads and results and maintain contacts & opportunities database.

KNOWLEDGE/SKILLS

Strong communication, presentation & negotiation skills, computer skills. Multi-tasking. Reading, analyzing and interpreting common scientific and technical journals, financial reports and legal documents. Calculating figures and amounts.

REQUIREMENTS

Education/Training

Bachelor's degree in marketing, construction management or business field required.

Experience

3 years in direct marketing/sales of construction-related services preferred.

Credentialing Required/Optional

PV Technical Sales certification (NABCEP) desirable.

POSITION REPORTS TO

Business Development Director

CAREER PATH MOVES FROM THIS ROLE

Business Development Director



Civil Engineer

Structural Engineer

DESCRIPTION

Provide civil engineering expertise. Evaluate structural loads and limits for solar structures and buildings. Complete structural analysis on solar projects—commercial and utility scale. Provide expertise to project managers and others regarding structural loads and limits. Inspect and lead others through inspections and troubleshooting including authorities, code officers, and contractors. Complete drawings, calculations and rationale for approvals and permitting.

KNOWLEDGE/SKILLS

Technology design, construction, structural design, operations analysis, advanced computer skills, systems analysis. Quality control, reliability engineering, and operation monitoring. Leadership/management. Inspecting. Sciences and math.

REQUIREMENTS

Education/Training

BS degree in engineering; some reliability engineering credits helpful.

Experience

5+ years' Experience in commercial construction and structural assessment of buildings.

Credentialing Required/Optional

PE (Professional Engineer) License may be required.

POSITION REPORTS TO

Head of Engineering, Engineering Manager

CAREER PATH MOVES FROM THIS ROLE

Engineering Manager, Project Manager



Mechanical Engineer

Design Engineer, Product Engineer, Equipment Engineer

DESCRIPTION

Design, develop, analyze and test solar equipment and products including panels and racking systems etc. Design mechanical and electromechanical systems and components for solar projects. Develop technical engineering drawings and models. Verify and check project layouts and drawings. Outline materials needed based on engineering and quality standards. Create new and improve upon existing solar designs to improve efficiency and reliability, and to reduce costs.

KNOWLEDGE/SKILLS

Project management, design for manufacturability (DFM) principles, mechanical and electromechanical assemblies & mechanisms, solar energy, solar racking design and analysis, 3D cad modeling and drawing creation using SolidWorks software, product design, quality control.

REQUIREMENTS

Education/Training

BS in Engineering or higher degree from an accredited university.

Experience

3-4 years' experience with design of mechanical or electromechanical solar assemblies and mechanisms. Ideally racking systems, 3D cad modeling and variety of software.

Credentialing Required/Optional

May require engineering license.

POSITION REPORTS TO

Engineering Manager or Director

CAREER PATH MOVES FROM THIS ROLE

Engineering Manager or Director,
Materials Scientist



Project Developer

Pre-Construction Manager

DESCRIPTION

Manage and oversee all of the Pre-Construction aspects of utility-scale renewable energy. Complete cost and budgetary estimates for the engineering, procurement and construction of the renewable generation facilities. Manage the preliminary engineering for projects. Responsible for managing and developing Request for Proposal's (RFP's) that will be issued to potential Contractors for the competitive bidding process.

KNOWLEDGE/SKILLS

Basic engineering concepts associated with renewable energy facilities (geotechnical, civil, structural, electrical). Engineering and cost estimating of medium voltage and high voltage, including, but not limited to collections systems, substations and transmission lines. MS Office software, and Microsoft Project or Primavera.

REQUIREMENTS

Education/Training

Minimum Bachelor of Science degree with preference in engineering and/or construction management.

Experience

2-5 years progressive responsible experience in the renewable power industry with significant wind and/or solar energy experience. Direct experience with project and engineering management for wind and/or solar is preferred. Field and estimating experience are a plus.

POSITION REPORTS TO

Director of Solar Projects, Project Manager

CAREER PATH MOVES FROM THIS ROLE

Construction Manager, Director of Engineering, Director of Solar Projects



PV System Designer

Solar Systems Designer, Solar Design Engineer

DESCRIPTION

Analyze site for commercial or utility scale solar projects. Design solar / photovoltaic (PV) systems. Recommend engineering or manufacturing changes based on project objectives and in response to project issues. Develop project specifications and procedures for safe installation of systems and successful solar power system start-up and operation. Using computer design software, develop diagrams for solar systems. Develop methodologies and specifications that allow for optimum efficiency and system performance. Provide technical direction and support to construction / installation teams during installation, start-up, testing, system commissioning, and performance monitoring.

KNOWLEDGE/SKILLS

System design, mathematics and science, Proficiency in advanced computer design software, Managing people and projects, Equipment selection, sizing and configuring. Systems evaluation, operation, and monitoring. Current evolving solar technology markets.

REQUIREMENTS

Education/Training

Minimum bachelor's degree in engineering or science field required. Master's degree preferred.

Experience

5+ years' experience in the solar industry.

Credentialing Required/Optional

PV Design Specialist or PV Installation Professional certification (NABCEP) may be desired. Also "Renewable Energy Professional" from Association of Energy Engineers (aeecenter.org).

POSITION REPORTS TO

Solar Systems Director, Engineering Director, Project Developer

CAREER PATH MOVES FROM THIS ROLE

Project Developer, Other Engineering role or supervisory role



Site Acquisition Manager

Land Acquisition Manager

DESCRIPTION

This is the more senior level of Site Acquisition Specialist. Secure optimal sites for solar energy projects. Identify, structure, negotiate and execute real estate transactions with a wide range of property owners and third parties for the development of solar energy assets. Conduct landowner outreach and establish relationships with a list of targeted landowners. Negotiate terms on all facets of site acquisition, including letters of intent, options, leases, purchase agreements, and easements. Draft real estate documents. Work with outside consultants land agents, counsel, and specialists. Manage & coordinate multiple projects. Educate landowners on solar energy business. Manage land/site acquisition specialists.

KNOWLEDGE/SKILLS

Real estate transactions and title matters, renewable energy, land use, land (ALTA) surveys, GIS and mapping software.

REQUIREMENTS

Education/Training

BA/BS degree in energy or real estate; Master's degree a plus.

Experience

3+ years' experience of real estate acquisition and / or development experience, ideally with renewable energy experience.

Credentialing Required/Optional

Real estate credentials helpful.

POSITION REPORTS TO

Director, Solar; Director of Development, or VP, Solar

CAREER PATH MOVES FROM THIS ROLE

Solar Project Manager, Operations Director



Strategic Procurement Manager

DESCRIPTION

Lead and support the development of strategy for and the procurement of the key components that comprise projects and products, including Solar energy solutions, tracking systems and other key technologies with a focus on solar energy. Perform technology evaluation that considers potential customers, financial structures, and strategic advantages; build specifications with the engineering teams; collaborate on project development and implementation. Maintain supplier relationships; conduct assessments of suppliers, maintain pricing roadmaps. Procure key components and create contracts with suppliers. Lead competitive RFP processes and manage contracting process. Interface with legal, development, engineering and construction on scope, specifications, testing, etc. Support projects and ongoing supplier management.

KNOWLEDGE/SKILLS

Knowledge of renewable energy industry, negotiations, contracting, quantitative and qualitative analysis.

REQUIREMENTS

Education/Training

Bachelor's degree. MBA or MS degree preferred.

Experience

At least 3 years experience in the energy field; experience in negotiations and analysis.

POSITION REPORTS TO

Director, Solar Energy

CAREER PATH MOVES FROM THIS ROLE

Director of Solar Operations or Engineering or Construction or Project Manager on other green energy systems (i.e. Solar)



Electrical Systems Engineer

Power Systems Engineer, Electrical Interconnection Engineer, Electrical Design Engineer

DESCRIPTION

Provide power system expertise, electrical theory, research and analysis for renewable energy company to connect to power grid. Prepare and study specs of electrical systems and technical drawings. Develop construction, installation and manufacturing specifications. Develop and direct/implement commercial and utility scale solar power projects. Assess effectiveness and safety of solar power systems. Work with engineers and manufacturing regarding testing and evaluating equipment.

KNOWLEDGE/SKILLS

Transmission, generation and distribution of electrical power, monitoring of operations, design, quality control, critical thinking and troubleshooting, engineering and math. Electrical design processes and related computer software: ETAP or similar; use of PSSE/PSLF.

REQUIREMENTS

Education/Training

Bachelor's degree in electrical or power engineering. Familiarity with IEEE electrical standards and NESC. Knowledge of power system design.

Experience

5+ years

Credentialing Required/Optional

PE (Professional Engineer) license required. Certification in specific systems may be required.

POSITION REPORTS TO

Power Systems or Energy Systems Manager or Director

CAREER PATH MOVES FROM THIS ROLE

Solar Energy Systems Designer



Interconnection Engineer

DESCRIPTION

Manage interconnection of power generation equipment (for renewable energy sources) to the electric grid. Use technical, design, evaluation and problem solving expertise. Manage various projects from site selection through power generation. Manage resource planning and design quality. Assess capabilities and complete due diligence for interconnection. Complete the following as part of projects: concept designs, site evaluations, budgets, diagrams, and equipment specifications.

KNOWLEDGE/SKILLS

Operations analysis, problem solving, medium and high voltage design, computer skills, project management, technology design, sciences and math.

REQUIREMENTS

Education/Training

BS degree preferred. Associate's degree required.

Experience

5+ years

Credentialing Required/Optional

PE (Professional Engineer) License may be required.

POSITION REPORTS TO

Power Systems or Energy Systems Manager
or Director

CAREER PATH MOVES FROM THIS ROLE

Power Systems Engineer, Energy Systems
Designer



Planner—Renewable Energy

DESCRIPTION

Responsible for assessment and permitting of renewable energy facilities and associated storage and transmission infrastructure. Prepare proposals and provide direction for the development of environmental impact analysis documents, related technical studies, mitigation monitoring, exemptions/exclusions, and discretionary permit applications. Manage projects. Provide leadership for staff. Review field surveys and reports, cultural resources and geotechnical surveys and reports, air quality reports, wetland delineations (where applicable). Oversee preparation of environmental permit applications with various federal, state, and local agencies for a variety of project types/sizes.

KNOWLEDGE/SKILLS

NEPA practices and regulations. Environmental planning. Analysis of data/information, synthesis, and conclusion development. Writing various reports and documents. Constraint analysis. Developing mitigation measures. Reading and interpreting complex documents. Communication with varied groups, including leading meetings and presentations. Proficiency with MS Office suite (e.g., Microsoft Word, Microsoft Teams, Microsoft Project, Adobe Acrobat, Excel). Federal, state, and county permitting processes and applications. Federal and state habitat conservation planning programs.

REQUIREMENTS

Education/Training

Bachelor's degree in environmental science or related field required. Masters degree preferred. Training / education in a technical field such as air quality, cultural resources, hazardous materials, biological resources, or environmental law a plus.

Experience

Minimum of 7 years of applicable professional experience, 5 years of demonstrated project lead experience, and 3 years in renewable or traditional energy. Experience with environmental permitting for large, utility-scale solar, wind energy or storage or transmission projects.

Credentialing Required/Optional

Industry-specific training (specialized field surveys methods, NEPA courses), certifications (e.g., PWS, CWB®, AICP, HAZWOPER), or species-specific handling permits a plus.

POSITION REPORTS TO

Director Environmental Assessment,
Permitting & Compliance

CAREER PATH MOVES FROM THIS ROLE

Director Environmental Assessment,
Permitting & Compliance



Cable Splicer & Terminator

DESCRIPTION

Perform cable splicing, terminations of cables, and electrical testing along cable line and on junction boxes and transformers. Perform new construction, maintenance or repair of energized and de-energized cable work (above & below ground). Operate safely, following all safety procedures and taking care of self and others on the work site. Switch and splice cable, terminate cable, and phase out lines.

KNOWLEDGE/SKILLS

Hand tools, testing (PD or VLF), general electrical safety, excavation & trenching, lockout/tagout & grounding.

REQUIREMENTS

Education/Training

Apprenticeship in electrical. High School diploma. Also, completion of cable manufacturer's cable splicing and termination training.

Experience

3 years cable splicing & termination.

Credentialing Required/Optional

Training per manufacturer's cable (qualified on that cable). Certification. May require journeyman level electrical.

POSITION REPORTS TO

Head or Senior Electrician or Manager

CAREER PATH MOVES FROM THIS ROLE

Head or Senior Electrician



Control Center Operator

Power System Operator, Electrical System Operator

DESCRIPTION

Direct, monitor and coordinate the operation of solar energy assets from an Operations Control Center. Use SCADA and other monitoring and control systems. The Control Center Operator ensures that the operations of solar farms comply with all applicable North American Electric Reliability Corporation (NERC) standards and practices. The Control Center Operator works independently with guidance only in complex situations.

KNOWLEDGE/SKILLS

Multiple OEM SCADA applications. NERC standards. Microsoft Office. Job aids and procedures. Electrical theory and power flow. Analytical and problem-solving skills. Strong written and verbal communication skills.

REQUIREMENTS

Education/Training

Associate's Degree in Electrical Engineering or an equivalent combination of training and experience.

Experience

0-2 years in power system operations, power production, control center or related energy operations.

Credentialing Required/Optional

PJM or other ISO Certifications, as required, or ability to obtain within 6 months. NERC Certification preferred.

POSITION REPORTS TO

Control Center Manager

CAREER PATH MOVES FROM THIS ROLE

Senior Controller, Control Center Manager



Groundsman

DESCRIPTION

Responsible for vegetation maintenance and abatement at solar site. Ensure upkeep and appearance of outdoor environments, including grounds and landscaping at solar sites. Take care not to damage solar equipment while maintaining grounds.

KNOWLEDGE/SKILLS

Operating and maintaining various types of grounds maintenance equipment (mowers, trimmers, etc.). Knowledge of various types of vegetation. Mechanical skills.

REQUIREMENTS

Education/Training

High School diploma or GED.
General mechanical aptitude.

Experience

1 year work experience

POSITION REPORTS TO

Solar Site Supervisor

CAREER PATH MOVES FROM THIS ROLE

Maintenance Supervisor, Light or Medium
Equipment Operator (with training / apprenticeship)



Instrumentation & Electrical Technician—Entry

DESCRIPTION

Under close supervision, perform maintenance, calibrate, install, and repair instrumentation including controls and electrical equipment at a solar energy facility. Maintain drawings, logs, and other project records. Carry out approved switching orders and perform high voltage switching. Troubleshoot and repair automated control systems, maintain and repair meteorological, fiber optic and electrical equipment, as well as instrumentation and SCADA systems. Work with voltages up to 230kV. Assist with high voltage system maintenance and repair and in inspecting renewable energy equipment. Interact with customers as directed by manager and ensure customer safety. Assist in all areas of site operations. Follow all health and safety and operating procedures.

KNOWLEDGE/SKILLS

Troubleshooting and maintaining equipment. Maintenance, calibration, installation and repair of instrumentation and controls for solar energy equipment. SCADA systems. Customer service. Ability to work with high voltages.

REQUIREMENTS

Education/Training

High school diploma or GED with completion of an apprentice program or equivalent experience. An Associate's degree from a technical school is common.

Experience

Completion of an apprentice program or equivalent experience. One to two years of experience troubleshooting and maintaining equipment.

Credentialing Required/Optional

ISA CCST certification to Level II is common.

POSITION REPORTS TO

Solar Instrumentation and Electrical Technician Lead or Senior, Solar Instrumentation and Electrical Technician Supervisor, Solar Farm Site Manager, Manager Renewable Energy

CAREER PATH MOVES FROM THIS ROLE

Solar Instrumentation and Electrical Technician—Intermediate



Meteorologist—Entry

DESCRIPTION

Monitor and manage data from meteorological towers to prepare reports and presentations to internal and external stakeholders. Assess site suitability and perform micro-siting for development stage projects to optimize solar farm design. Assist in developing the layout for solar farms based on available meteorological data using advanced mapping software. Analyze performance of operating projects to minimize energy losses. Provide analytical support and model capabilities to both finance and development from project conception through project operations. Supervised position.

KNOWLEDGE/SKILLS

Meteorology, atmospheric science, solar energy forecasting, solar farm design, analyses, modeling.

REQUIREMENTS

Education/Training

Bachelor's and/or Master's degree in Meteorology, Atmospheric Science or a related science.

Experience

One to two years' of related meteorological experience.

POSITION REPORTS TO

Meteorologist—Senior, Director, Meteorology

CAREER PATH MOVES FROM THIS ROLE

Meteorologist—Intermediate



Operations Specialist I

DESCRIPTION

Support day to day Reporting, Performance, and Monitoring (RPM) of Center Solar activities, acting as the on-shift Operations Specialist for assets in the portfolio. Involved in monitoring of plant and system processes. Operate electrical and SCADA systems. Monitor critical elements in a complex and regulated system. Implement real-time actions to ensure the stable and reliable operation. Comply with applicable NERC Reliability Standards and regional rules and tariffs. Monitor and analyze available market information to identify dispatching and trading opportunities. Analyze and evaluate energy transactions.

KNOWLEDGE/SKILLS

Solar technician knowledge. Plant and system processes, Operation of electrical and SCADA systems, Functional systems interactions.

REQUIREMENTS

Education/Training

Bachelor's degree or formal operations apprenticeship training or equivalent preferred.

Experience

Two years' experience in Operations or in a Solar Technician Role is preferred. Competent technical knowledge of plant and system processes, and experience in operating electrical and SCADA systems.

Credentialing Required/Optional

Must obtain NERC RC certification within 12-months.

POSITION REPORTS TO

Operations Manager or Project Manager

CAREER PATH MOVES FROM THIS ROLE

Operations Specialist II



Safety Manager I

DESCRIPTION

Participate in planning, organizing and implementing safety programs for construction projects while ensuring compliance with federal, state and corporate environmental, health and safety regulations. Develop project specific HSE programs and procedures through interface and teamwork with Project / Operations management/supervisory personnel. Maintain Accountability Programs on all projects for safety-related issues and work with supervision to ensure uniform application of safety related discipline. Serve as a mentor to other HSE professionals. May be the lead safety manager on a small project. Coordinate and present safety training to support the company and client requirements. Participate in EHS project risk assessments. Assist with conducting accident, near miss, and damage investigations with Root Cause Analysis. With oversight, develop and monitor EHS performance, progress, preventive and corrective action plans.

KNOWLEDGE/SKILLS

MSHA/OSHA regulations and hazard recognition, record keeping and injury management. Environmental, Health & Safety policies and procedures. Managing safety of work sites, mitigating identified safety hazards. Managing people, including contractors. Reviewing technical and EHS training reports. Developing and implementing safety training, and safety alerts. Auditing work sites for EHS program effectiveness. Supporting injured workers. Case management. Developing, implementing and maintaining an effective site-specific safety/EHS plan.

REQUIREMENTS

Education/Training

High school diploma or GED.

Experience

Minimum of 1 year of construction safety management experience. Demonstrated ability to provide a high level of safety leadership to both management and technicians.

Credentialing Required/Optional

Certified Hygiene Safety Technician (CHST) preferred. CPR/First Aid certification.

POSITION REPORTS TO

EHS Senior Leadership or a Group/
Senior Safety Manager

CAREER PATH MOVES FROM THIS ROLE

Senior Safety Manager, Safety Manager II



Solar Technician I

Solar Field Technician I, Field Service Tech I, Technician Trainee, Associate Technician

DESCRIPTION

Lay-out, assemble, install, or maintain utility level solar photovoltaic (PV) systems, models and panels in compliance with site assessment and schematics. When needed, measure, assemble and bolt structural framing and solar modules / panels. Assist with the on-site operations, corrective and preventive maintenance, repairs, and replacement. Comply with and follow all safety, LOTO, company, and operations policies and procedures. Work with other technicians and laborers. Use appropriate hand tools and power tools to perform a variety of functions. Use materials, equipment, and installation sequences necessary to maximize installation efficiency. Assist with activating and testing PV systems. Lift and carry building materials, tools, and supplies. Mix, pour and spread concrete, asphalt, gravel and other materials. Perform cleaning, compacting, grading, painting, sanding or stripping operations. Maintain records of system operation, performance, and maintenance. Coordinate work with other crafts and co-workers. Observe functioning of installed equipment systems to determine need for adjustments, relocation, or replacement.

KNOWLEDGE/SKILLS

Basic knowledge to assist with Solar Photovoltaic construction craft and the assembly, installation, or maintenance of solar photovoltaic (PV) systems. Reading plans and specifications. Basic Electricity, Mechanical, and Environmental, Health and Safety Fundamentals. Microsoft Office software, SQL Server software, facility management and reporting systems, and computerized diagnostic and troubleshooting tools. Maintenance and electronic testing equipment. Heavy equipment required for facility maintenance. Safe work practices and LOTO.

REQUIREMENTS

Education/Training

A high school diploma or GED is required. 2-year technical degree or equivalent Journeyman certification preferred. Valid driver's license.

Experience

Ideally minimum of 1 year solar energy industry or related experience. Field electrician experience with Instrumentation & Electrical, Instrumentation & Control will be considered in lieu of applicable solar experience. Ideally, some experience with power operations and maintenance, substations, solar operations and varying solar technology.

Credentialing Required/Optional

Journeyman level certification preferred. PV Installer Specialist certification desirable (NABCEP).

POSITION REPORTS TO

Solar Technician Lead or Senior, Solar Technician Supervisor, Solar Site Manager, Manager Renewable Energy

CAREER PATH MOVES FROM THIS ROLE

Solar Technician II (Associate),
Solar Technician III (Senior)



Solar Technician II

Solar Field Technician II, Field Service Tech II

DESCRIPTION

Lay-out, assemble, install, or maintain utility level solar photovoltaic (PV) systems, models and panels in compliance with site assessment and schematics. Measure, assemble and bolt structural framing and solar modules / panels. Perform corrective, preventive, and emergency maintenance and operations. Responsible for the on-site operations; corrective, preventive, and emergency maintenance, repairs, and replacement. Comply with and follow all safety, LOTO, company, and operations policies and procedures. Train and mentor new technicians, helpers and laborers. Use appropriate hand tools and power tools to perform a variety of functions. Determine materials, equipment, and installation sequences necessary to maximize installation efficiency. Activate and test PV systems. Lift and carry building materials, tools, and supplies. Mix, pour and spread concrete, asphalt, gravel and other materials. Install power whips and harnesses. Perform cleaning, compacting, grading, painting, sanding or stripping operations. Compile or maintain records of system operation, performance, and maintenance. Coordinate work with other crafts and co-workers on the job. Observe functioning of installed equipment or systems to determine hazards and need for adjustments, relocation, or replacement.

KNOWLEDGE/SKILLS

Solar Photovoltaic construction craft and the assembly, installation, or maintenance of solar photovoltaic (PV) systems, reading plans and specifications. Basic Electricity, Mechanical, and Environmental, Health and Safety Fundamentals. Microsoft Office software, SQL Server software, facility management and reporting systems, and computerized diagnostic and troubleshooting tools. Maintenance and electronic testing equipment. Heavy equipment required for facility maintenance, including working knowledge of crane rigging requirements. Safe work practices and LOTO. Leading people and interacting with customers.

REQUIREMENTS

Education/Training

A high school diploma or GED is required. 2-year technical degree or equivalent Journeyman certification preferred. Valid driver's license.

Experience

1-2 years' relevant experience in solar energy or a related industry (with required education & training) or 2+ years of field electrician experience with Instrumentation & Electrical, Instrumentation & Control will be considered in lieu of applicable solar experience. Experience with power operations and maintenance, substations, solar operations, high-voltage switching, and post-operational repair and maintenance of solar field components preferred. Experience with multiple solar equipment supplier technology. Solar installer and/or construction experience helpful.

Credentialing Required/Optional

Journeyman level certification preferred. PV Installer Specialist certification or PV Installation Professional certification desirable (NABCEP).

POSITION REPORTS TO

Solar Technician Lead or Senior, Solar Technician Supervisor, Solar Site Manager, Manager Renewable Energy

CAREER PATH MOVES FROM THIS ROLE

Solar Technician III (Senior) or Lead





Assistant Facility Manager

DESCRIPTION

Support the Facility Manager in all areas of the operating site. Ensure a positive working environment by maintaining morale and employee relations. Lead the use of maintenance documentation, reporting tools and performance systems necessary for reporting and performance improvement. Provide hands-on technical support and supervision for generation equipment and power delivery systems, as well as with other facility civil work, building maintenance, and upkeep.

KNOWLEDGE/SKILLS

Computer skills, mechanical and electrical troubleshooting and maintenance. Leadership and supervisory skills.

REQUIREMENTS

Education/Training

BA/BS degree in electrical engineering or experience equivalent.

Experience

Supervision and technical experience in the power generation industry or related fields. Experience using computers and with mechanical and electrical troubleshooting and maintenance.

POSITION REPORTS TO

Facility Manager, Operations Manager

CAREER PATH MOVES FROM THIS ROLE

Facility Manager, Operations Manager



Instrumentation & Electrical Technician—Intermediate

DESCRIPTION

Perform maintenance, calibrate, install, and repair instrumentation including controls and electrical equipment at a solar energy facility. Maintain drawings, logs, and other project records. Carry out approved switching orders and perform high voltage switching. Troubleshoot and repair automated control systems, maintain and repair meteorological, fiber optic and electrical equipment, as well as instrumentation and SCADA systems. Work with voltages up to 230kV. Assist with high voltage system maintenance, repair and in inspecting renewable energy equipment. Interact with customers as directed by manager and ensure customer safety. Assist in all areas of site operations. Follow all health and safety and operating procedures.

KNOWLEDGE/SKILLS

Troubleshooting and maintaining equipment. Maintenance, calibration, installation and repair of instrumentation and controls for solar energy equipment. SCADA systems. Customer service. Ability to work with high voltages.

REQUIREMENTS

Education/Training

High school diploma or GED with completion of an apprentice program or equivalent experience. An Associate's degree from a technical school is common.

Experience

Completion of an apprentice program or equivalent experience. Minimum three years of experience troubleshooting and maintaining equipment.

Credentialing Required/Optional

ISA CCST certification to Level II is common.

POSITION REPORTS TO

Solar Farm Site Manager

CAREER PATH MOVES FROM THIS ROLE

Solar Instrumentation and Electrical Technician Lead or Supervisor, Engineer (with degree), Project Manager



Maintenance Supervisor

Technician Supervisor

DESCRIPTION

Supervise and perform corrective, preventive, and emergency maintenance and operations for solar PV systems and associated equipment. Support the site / facility manager in operating the site. May provide first line of supervision for technicians. Oversee safe operation and performance of mechanical, electrical and hydraulic maintenance activities. Schedule all maintenance, replacement and inspection. Ensure the troubleshooting of failures, faults, and problems; interpret fault reports, and implement corrective actions. Write reports. Read blueprints and schematics. Assist with high-voltage system maintenance and repair. Develop strategy for improved maintenance diagnostics and operation. Lead and train more junior maintenance personnel. Interact with customers. Ensure all health and safety and operating procedures are followed.

KNOWLEDGE/SKILLS

Diagnosing equipment problems . Electricity, Mechanical, Hydraulics, and Environmental, Health and Safety Fundamentals. Mechanical and electronic testing equipment. Use of power and hydraulic tools. Working around low, medium and high voltage. Reading and interpreting operating and maintenance instructions, and procedure manuals. Writing routine reports and correspondence. Developing strategy. Troubleshooting involving complex variables. Leading and training crews. Supervision of others and site management. Customer service, public relations.

REQUIREMENTS

Education/Training

Technical School Diploma preferred or equivalent combination of education and experience. High school diploma or GED required.

Experience

3 years' experience in the operation of commercial solar plants or 5 years' equivalent experience in instrumentation & controls, MV/ HV (medium voltage/high voltage) electrical work. Qualified to perform all routine and emergency operations at an electric generation facility and HV Switchyard. Experience working with plant systems and computerized maintenance management systems.

Credentialing Required/Optional

Journeyman electrician preferred.

POSITION REPORTS TO

Maintenance Manager or Project Manager

CAREER PATH MOVES FROM THIS ROLE

Maintenance Manager



Meteorologist—Intermediate

DESCRIPTION

Monitor and manage data from meteorological towers to prepare reports and presentations to internal and external stakeholders. Assess site suitability and perform micro-siting for development stage projects to optimize solar farm design. Assist in developing the layout for solar farms based on available meteorological data using advanced mapping software. Analyze performance of operating projects to minimize energy losses. Provide analytical support and model capabilities to both finance and development from project conception through project operations. Mentor less-experienced team members.

KNOWLEDGE/SKILLS

Meteorology, atmospheric science, solar energy forecasting, solar farm design, analyses, modeling.

REQUIREMENTS

Education/Training

Bachelor's and/or Master's degree in Meteorology, Atmospheric Science or a related science.

Experience

Three to five years' of related meteorological experience.

POSITION REPORTS TO

Meteorologist—Senior, Director, Meteorology

CAREER PATH MOVES FROM THIS ROLE

Meteorologist—Senior



Operations Specialist II

DESCRIPTION

Support day to day Reporting, Performance, and Monitoring (RPM) for Center Solar activities, acting as the on-shift Operations Specialist for assets in the portfolio. Involved in monitoring of plant and system processes. Operate electrical and SCADA systems. Monitor critical elements in a complex and regulated system. Implement real-time actions to ensure the stable and reliable operation. Comply with applicable NERC Reliability Standards and regional rules and tariffs. Monitor and analyze available market information to identify dispatching and trading opportunities. Analyze and evaluate energy transactions.

KNOWLEDGE/SKILLS

Solar technician knowledge. Plant and system processes, Operation of electrical and SCADA systems, Functional systems interactions.

REQUIREMENTS

Education/Training

Bachelor's degree or formal operations apprenticeship training or equivalent preferred.

Experience

3-4 years' experience in Operations or in a Solar Technician Role is preferred. Competent technical knowledge of plant and system processes, and experience in operating electrical and SCADA systems.

Credentialing Required/Optional

Must obtain NERC RC certification within 12 months.

POSITION REPORTS TO

Operations Manager or RPM Manager

CAREER PATH MOVES FROM THIS ROLE

Operations Manager or RPM Manager



Reliability Engineer

DESCRIPTION

Assess solar technical performance and reliability. Identify opportunities for improvement, and recommend remediation actions for operations. Conduct failure mode and effect analysis, root cause assessments, equipment troubleshooting, and system impact studies. Support field operations by performing studies in response to major component and systemic equipment failures. Use information / data to evaluate the future risk to solar structures and performance.

KNOWLEDGE/SKILLS

Rotational, generational, and power converter equipment knowledge. Reading and understanding plans, specifications, drawings, and technical documents. Assessing performance and reliability. Conducting failure mode and effect analysis, root cause assessments, equipment troubleshooting, and system impact studies. Analyzing and synthesizing data.

REQUIREMENTS

Education/Training

Bachelor's degree in mechanical, civil, or electrical engineering, OR demonstration of equivalent work experience is required as a minimum.

Experience

2-3 years' experience in reliability or design engineering. Solar power operations or Electric Utility operations preferred.

POSITION REPORTS TO

Engineering Manager

CAREER PATH MOVES FROM THIS ROLE

Engineering Manager, Project Manager



Safety Manager II

DESCRIPTION

Plan, organize and implement the company safety programs. Demonstrate management skills and the ability to manage all aspects of a project safety program. Develop project specific HSE programs and procedures through interface and teamwork with Project / Operations management/supervisory personnel. Maintain Accountability Programs on all projects for safety-related issues and work with supervision to ensure uniform application of safety related discipline. Be the lead safety manager on a project. Serve as a mentor and manage other direct report safety/EHS managers. Demonstrate skills of a Safety Manager III by progressively increasing responsibility and authority. Develop and facilitate EHS project risk assessments. Lead and conduct accident, near miss, and damage investigations with Root Cause Analysis. Develop and monitor EHS performance, progress, preventive and corrective action plans.

KNOWLEDGE/SKILLS

MSHA/OSHA regulations and hazard recognition, record keeping and injury management. Environmental, Health & Safety policies and procedures. Managing safety of work sites, mitigating identified safety hazards. Managing people, including contractors. Reviewing technical and EHS training reports. Developing and implementing safety training, and safety alerts. Auditing work sites for EHS program effectiveness. Supporting injured workers. Case management. Developing, implementing and maintaining an effective site-specific safety/EHS plan.

REQUIREMENTS

Education/Training

Associates / Bachelor's degree

Experience

Minimum of 3 years of construction experience managing safety. Demonstrated ability to provide a high level of safety leadership to both management and technicians.

Credentialing Required/Optional

Certified Hygiene Safety Technician (CHST) preferred. Or other BCSP certification preferred. Certification as an OSHA, MSHA. CPR/First Aid instructor preferred.

POSITION REPORTS TO

EHS Senior Leadership or a Group/
Senior Safety Manager

CAREER PATH MOVES FROM THIS ROLE

Senior Safety Manager, Safety Manager III



Solar Technician III

Senior Solar Field Technician, Field Service Tech III

DESCRIPTION

Lay-out, assemble, install, or maintain utility level solar photovoltaic (PV) systems, models and panels in compliance with site assessment and schematics. Measure, assemble and bolt structural framing and solar modules / panels. Responsible for the on-site operations; corrective, preventive, and emergency maintenance, repairs, and replacement. Comply with and follow all safety, LOTO, company, and operations policies and procedures. Train and mentor new technicians, helpers and laborers. Use appropriate hand tools and power tools to perform a variety of functions. Determine materials, equipment, and installation sequences necessary to maximize installation efficiency. Activate and test PV systems. Lift and carry building materials, tools, and supplies. Mix, pour and spread concrete, asphalt, gravel and other materials. Install power whips and harnesses. Perform cleaning, compacting, grading, painting, sanding or stripping operations. Compile or maintain records of system operation, performance, and maintenance. Coordinate work with other crafts and co-workers on the job. Observe functioning of installed equipment or systems to determine hazards and need for adjustments, relocation, or replacement.

KNOWLEDGE/SKILLS

Solar Photovoltaic construction craft and the assembly, installation, or maintenance of solar photovoltaic (PV) systems, reading plans and specifications. Basic Electricity, Mechanical, and Environmental, Health and Safety Fundamentals. Microsoft Office software, SQL Server software, facility management and reporting systems, and computerized diagnostic and troubleshooting tools. Maintenance and electronic testing equipment. Heavy equipment required for facility maintenance, including working knowledge of crane rigging requirements. Safe work practices and LOTO. Leading people and interacting with customers.

REQUIREMENTS

Education/Training

Minimum one-year technical college, trade school or associate's degree. Preference for bachelor's degree in technical field or equivalent experience. Advanced electrical and mechanical courses. Valid driver's license.

Experience

3-4 years' relevant experience in solar energy or a related industry (with required education & training) or 3+ years of field electrician experience with Instrumentation & Electrical, Instrumentation & Control will be considered in lieu of applicable solar experience. Solar installer and/or construction experience helpful. Experience leading or training others.

Credentialing Required/Optional

Journeyman level certification preferred. PV Installer Specialist certification or PV Installation Professional certification desirable (NABCEP).

POSITION REPORTS TO

Solar Technician Lead, Solar Technician Supervisor, Solar Site Manager, Manager Renewable Energy

CAREER PATH MOVES FROM THIS ROLE

Solar Technician Lead or Supervisor, Engineer (with degree), Project Manager





Solar Technician Lead

Solar Technician IV, Field Service Tech IV

DESCRIPTION

Lay-out, assemble, install, or maintain utility level solar photovoltaic (PV) systems, models and panels in compliance with site assessment and schematics. Measure, assemble and bolt structural framing and solar modules / panels. Responsible for the on-site operations; corrective, preventive, and emergency maintenance, repairs, and replacement. Comply with and follow all safety, LOTO, company, and operations policies and procedures. Train and mentor new technicians, helpers and laborers. Determine materials, equipment, and installation sequences necessary to maximize installation efficiency. Activate and test PV systems. Perform cleaning, compacting, grading, painting, sanding or stripping operations. Compile or maintain records of system operation, performance, and maintenance. Coordinate work with other crafts and co-workers. Observe functioning of installed equipment or systems to determine need for adjustments, relocation, or replacement. Serve as the person in charge for work team—temporarily assume Technician Supervisor or Site Assistant Manager role as needed. Interact with customers as directed by manager and ensure customer safety. Balance and support facility public relations and community interactions. Ensure all health and safety and operating procedures are followed.

KNOWLEDGE/SKILLS

Solar Photovoltaic construction craft and the assembly, installation, or maintenance of solar photovoltaic (PV) systems, reading plans and specifications. Electricity, Mechanical, and Environmental, Microsoft Office software, SQL Server software, and reporting systems, and computerized diagnostic and troubleshooting tools. Maintenance and electronic testing equipment. Heavy equipment required for facility maintenance. Leading and training other technicians. Site management / operations. Customer service.

REQUIREMENTS

Education/Training

Minimum of Associates degree (electrical or technical) and 2+ years solar experience. Preference for bachelor's degree in technical field or equivalent experience. (5+ years solar experience). Valid driver's license.

Experience

5-7 years' relevant experience in solar energy or a related industry (with required education & training) or 5+ years of field electrician experience with Instrumentation & Electrical, Instrumentation & Control will be considered in lieu of applicable solar experience. High voltage and sub-station maintenance experience. Solar installer and/or construction experience helpful. Experience leading / supervising and training others.

Credentialing Required/Optional

Journeyman level certification. PV Installer Specialist certification or PV Installation Professional certification desirable (NABCEP).

POSITION REPORTS TO

Solar Technician Supervisor, Solar Site Manager, Manager Renewable Energy

CAREER PATH MOVES FROM THIS ROLE

Solar Technician Supervisor, Engineer (with degree), Project Manager





Asset Manager

DESCRIPTION

Safely maximize the profitability of clean energy assets. Develop budgets for projects and determine project performance. Conduct variance analysis and financial analysis. Develop cash flow forecasting. Assist with managing cash flow to meet budget and contractual needs, and financial targets. Develop other analyses as needed. Collaborate with the operations engineering team to evaluate and improve operational performance. Work with project team in contracting process from vendor bid solicitation to contracting. Work with other staff on operational and maintenance improvements, repair & replacement. Assist project team with compliance with regulations and legal contract requirements, as well as with purchase, operating, and credit agreements, and deliverables. Interface and collaborate with engineers, service providers, local and state authorities, operations, landowners investors. Develop reports regarding asset optimization, and provide recommendations to field teams.

KNOWLEDGE/SKILLS

Managing multiple, deadline-driven projects. Planning, prioritization, and time management. Contract compliance and contract management. Budgeting process, basic accounting principles, and P&L management. Wind and solar energy generating systems. Renewable energy markets. Power trading. Financial structures of energy projects. Financial analysis & modeling.

REQUIREMENTS

Education/Training

Bachelor's degree in finance or engineering

Experience

Minimum 5 years' experience in the utilities / energy sector; experience with financial metrics & analyses.

POSITION REPORTS TO

Director of Solar Operations or CFO

CAREER PATH MOVES FROM THIS ROLE

Director of Solar Operations or Engineering or Project Manager on other renewable energy systems



Director, Meteorology

DESCRIPTION

Develop and manage the meteorology program to support the company's solar energy generation business and to provide solar energy forecasts for locations of interest. Oversee the compilation of meteorological database for solar projects including archiving of past meteorological data, current operating projects, data, and development project data. Oversee the assessment of site suitability and micro-siting for development stage projects to optimize solar farm design. Manage Data Analysts, Field Technicians, and/or contractors providing meteorological tower erection, data analysis, numerical modeling, and forecasting. Provide analytical support and modeling capabilities to both finance and development from project conception through project operations.

KNOWLEDGE/SKILLS

Technical, commercial, and political aspects driving the solar industry, Meteorology, atmospheric science, solar energy forecasting, solar farm design, analyses, modeling.

REQUIREMENTS

Education/Training

Bachelor's and/or Master's degree in Meteorology, Atmospheric Science or a related science.

Experience

10-15 years' of related meteorological experience.

POSITION REPORTS TO

Vice President Operations, VP Solar Business

CAREER PATH MOVES FROM THIS ROLE

Vice President Operations, VP Solar Business



Director, Operations & Maintenance

DESCRIPTION

Manage overall strategic and operational activities for O&M projects in solar farms and potentially other clean power plants in the future. Manage scheduled and unscheduled maintenance work, out of scope transactional work and inspection work. Monitor subcontractors with regard to crane, mechanical, electrical and other work. Develop mid-term and long-term strategic plans for all O&M site operations. Include business plans, hiring strategies, development of strategic capabilities, and contributions to new site setup.

KNOWLEDGE/SKILLS

Strong business acumen, ability to run O&M projects as a business. Highly familiar with site management structure in the US for complex technical projects in the clean power industry. Strong knowledge and appreciation of the technical, commercial, and political aspects driving the solar industry.

REQUIREMENTS

Education/Training

Bachelor's degree in relevant discipline or similar degree/ experience required.

Experience

Minimum 5 years' experience Solar Energy Service Operations with project planning, execution, and history of improvements.

POSITION REPORTS TO

Vice President Operations, VP Solar Business

CAREER PATH MOVES FROM THIS ROLE

Vice President Operations, VP Solar Business



Director, Quality & Operations Support

DESCRIPTION

Standardize and strengthen the company’s quality, environmental, and health & safety approach. Contribute to the quality culture throughout the company. Develop, document, and implement technical documentation, training programs and quality policies to facilitate continuous improvement and the development of a solid QHSE framework. Ensure that subject matter experts review the project specifications, engineering design, and OEM requirements and identify all Quality Control requirements. Train others and manage project QC inspections and documentation to verify compliance with construction or operations Quality Plan(s). Ensure that projects and processes are in line with statutory obligations.

KNOWLEDGE/SKILLS

Business development, site assessments and quality checks. Setting scopes and cost bases for service contracts. Optimizing Operation IT programs, managing and administering subcontractors and partner contractors, conducting investigations, analyzing and reporting findings. Developing and monitoring quality performance. Preventative and corrective action plans.

REQUIREMENTS

Education/Training

Bachelor’s degree required.
Master’s degree is preferred.

Experience

10+ years’ of management experience.

POSITION REPORTS TO

Director, Operations & Maintenance,
Vice President Operations, VP Solar Business

CAREER PATH MOVES FROM THIS ROLE

Director, Operations & Maintenance,
Vice President Operations, VP Solar Business



Engineering Manager

DESCRIPTION

Provide engineering expertise and general support to the onsite operations and maintenance teams. Ensure there's a successful operations strategy. Implement processes and procedures. Lead and develop the engineering team to work on engineering solutions. Read and interpret documents such as operating and maintenance instructions, procedures manuals, blueprints and schematics. Write reports and correspondence. Solve complex problems in various situations. Make presentations to customers and at trade shows. Conduct root cause analysis and support troubleshooting, fault analysis and technical investigations. Lead development of upgrades. Ensure repairs are performed according to standards and procedures. Develop and implement strategic and tactical plans.

KNOWLEDGE/SKILLS

Engineering expertise. Implementing and advising on operations strategy. Implementing processes and procedures. Leading and developing people. Developing engineering solutions. Reading and interpreting documents such as operating and maintenance instructions, procedures manuals, blueprints and schematics. Writing reports and correspondence. Solving complex problems. Making presentations to customers and at trade shows. Conducting root cause analysis and technical investigations. Leading development of upgrades.

REQUIREMENTS

Education/Training

Bachelor's degree in Electrical Engineering or related field.

Experience

Minimum of 5 years of solar technical experience. Collaboration with and leadership of other teams. Experience with various equipment manufacturers, platforms, systems and components. Experience with system design and development of upgrades.

Credentialing Required/Optional

PE (Professional Engineer) certification may be required.

POSITION REPORTS TO

Director of Operations

CAREER PATH MOVES FROM THIS ROLE

Director of Operations, Project Manager



Environmental Engineer

Regulatory Compliance Manager

DESCRIPTION

Using knowledge from various engineering disciplines, develop processes, policies, and practices to prevent or mitigate health, safety, or environmental issues with solar operations. Monitor and address environmental and hazardous concerns such as materials and facility practices. Work with regulatory personnel, conduct inspections of solar sites and facilities, evaluating compliance with environmental, health and safety regulations. Monitor improvements and needed changes to practices.

KNOWLEDGE/SKILLS

Variety of software for analysis and compliance purposes, CAD programming, graphic imaging, system analysis, operations analysis, environmental / health / safety standards and regulations, hazardous materials and chemicals, problem solving.

REQUIREMENTS

Education/Training

Bachelor's degree in engineering.
For advancement, a MS or PhD.

Experience

5+ years' experience

Credentialing Required/Optional

PE (Professional Engineer) may be required.

POSITION REPORTS TO

Engineering Manager, Materials Scientist,
EHS Director

CAREER PATH MOVES FROM THIS ROLE

Materials Scientist



Instrumentation & Electrical Technician—Senior

DESCRIPTION

Perform maintenance, calibrate, install, and repair instrumentation including controls and electrical equipment at a solar energy facility. Maintain drawings, logs, and other project records. Carry out approved switching orders and perform high voltage switching. Troubleshoot and repair automated control systems, maintain and repair meteorological, fiber optic and electrical equipment, as well as instrumentation and SCADA systems. Work with voltages up to 230kV. Assist with high voltage system maintenance, repair and in inspecting renewable energy equipment. Interact with customers as directed by manager and ensure customer safety. Assist in all areas of site operations. Follow all health and safety and operating procedures.

KNOWLEDGE/SKILLS

Troubleshooting and maintaining equipment. Maintenance, calibration, installation and repair of instrumentation and controls for solar energy equipment. SCADA systems. Customer service. Ability to work with high voltages.

REQUIREMENTS

Education/Training

High school diploma or GED with completion of an apprentice program or equivalent experience. An Associate's degree from a technical school is common.

Experience

Completion of an apprentice program or equivalent experience. Minimum five years of experience troubleshooting and maintaining equipment.

Credentialing Required/Optional

ISA CCST certification to Level II is common.

POSITION REPORTS TO

Solar Instrumentation and Electrical Technician Supervisor, Solar Site Leader

CAREER PATH MOVES FROM THIS ROLE

Solar Instrumentation and Electrical Technician Supervisor, Engineer (with degree), Project Manager



Maintenance Manager

(See Operations Manager / O&M Manager)

DESCRIPTION

This position may also be combined with Operations manager (See Operations Manager / O&M Manager). Oversee operations and staff. The primary objective is accountability for the safe and compliant operations of the utility scale solar farm. Support the site / facility manager in operating the site. Develop strategy for improved maintenance diagnostics and operation. Lead and train more junior maintenance personnel. Interact with customers. Ensure all health and safety and operating procedures are followed.

KNOWLEDGE/SKILLS

Working around low, medium and high voltage. Reading and interpreting operating and maintenance instructions, and procedure manuals. Writing routine reports and correspondence. Developing strategy. Troubleshooting involving complex variables. Leading and training crews. Supervision of others and site management. Customer service, public relations. Using MS Office software to include spreadsheet and document applications. Operations financial management, forecasting and controls. Plant systems and computerized maintenance management systems (SAP).

REQUIREMENTS

Education/Training

Technical School Diploma preferred or equivalent combination of education and experience. High school diploma or GED required.

Experience

5+ years' experience in the operation of Solar plants, or 7 years of equivalent experience in instrumentation & controls, MV/HV Electrical work. Qualified to perform all routine and emergency operations at an electric generation facility and HV Switchyard. Experience with operations financial management, forecasting and controls preferred. Experience working with plant systems and computerized maintenance management systems (SAP).

Credentialing Required/Optional

Journeyman electrician preferred. and NESC.

POSITION REPORTS TO

Maintenance Director, Solar Director, Facility Manager

CAREER PATH MOVES FROM THIS ROLE

Maintenance Director, Construction Manager, Facility Manager



Meteorologist—Senior

DESCRIPTION

Monitor and manage data from meteorological towers to prepare reports and presentations to internal and external stakeholders. Assess site suitability and perform micro-siting for development stage projects to optimize solar farm design. Assist in developing the layout for solar farms based on available meteorological data using advanced mapping software. Analyze performance of operating projects to minimize energy losses. Provide analytical support and model capabilities to both finance and development from project conception through project operations. Mentor less-experienced team members.

KNOWLEDGE/SKILLS

Technical, commercial, and political aspects driving the solar industry, Meteorology, atmospheric science, solar energy forecasting, solar farm design, analyses, modeling.

REQUIREMENTS

Education/Training

Bachelor's and/or Master's degree in Meteorology, Atmospheric Science or a related science.

Experience

Five to eight years' of related meteorological experience.

POSITION REPORTS TO

Director, Meteorology

CAREER PATH MOVES FROM THIS ROLE

Director, Meteorology



Operations Manager

O&M Manager, Site Manager, Facility Manager—Solar

DESCRIPTION

Manage all solar farm operations day-to-day at the site for operations (and if job also includes, maintenance). Provide hands-on technical support and supervision for generation equipment and power delivery systems, as well as with other facility civil work, building maintenance, and upkeep. Work with engineering for diagnostics, and to ensure operations. Manage the monitoring of error codes and ensure reporting occurs. If job entails, manage schedule for maintenance and major repairs and ensure parts are ordered and coordinated. Ensure a positive working environment by maintaining discipline, morale, and employee relations. Set goals, prepare performance reviews, salary recommendations, and disciplinary recommendations. Manage the hiring and training of personnel on site. Meet or exceed production and financial targets. Work closely with asset management and accounting to manage P&L/budget, including planning, management and reporting.

KNOWLEDGE/SKILLS

Leadership & supervision in renewable energy, management and communication skills, organization, detail orientation, preparing budgets, keeping records, computer skills, renewable energy, solar farm operations, maintenance practices in renewable energy, mechanical and electrical troubleshooting and maintenance. Reading blueprints, schematics, and operating and maintenance manuals, as well as procedures. Ordering materials, tools & supplies.

REQUIREMENTS

Education/Training

BA/BS in engineering, business; related field or commensurate experience.

Experience

Leadership and technical experience in the power generation, renewable energy industry, electrical marine lines, military operations or related fields. Experience with mechanical and electrical troubleshooting and maintenance.

POSITION REPORTS TO

Director O&M (Operations & Maintenance),
Regional Operations Manager, Asset
Manager/Director

CAREER PATH MOVES FROM THIS ROLE

Director O&M (Operations & Maintenance),
Regional Operations Manager, Asset Director



Reliability Engineering Manager

DESCRIPTION

Deliver reliability analytics to the organization. Provide leadership and expertise to the reliability team, which is responsible for development of the reliability analytics for installed energy components, new products under development, and quality issues in the field. Coordinate with other areas across the organization to develop reliability models that provide cost projections to assess and manage cost risk for solar assets. Work cross-functionally to develop a strategy that supports risk management through reliability modeling. Track and trend reliability predictions compared against actuals and targets. Provide input in new product development through reliability modeling. Provide reliability insights to properly develop and prioritize productivity & repairs projects.

KNOWLEDGE/SKILLS

Reliability modeling techniques and technologies, problem solving; Reliasoft, JMP, and/or SAS modeling software, R or Python programming language.

REQUIREMENTS

Education/Training

Bachelor's degree in Engineering, Physics, Chemistry, Mathematics, or Computer Science.

Experience

Minimum 7 years' experience, including technical and leadership experience. Solar experience in design, installation, operation and maintenance.

POSITION REPORTS TO

Reliability Director, Solar Director

CAREER PATH MOVES FROM THIS ROLE

Reliability Director, Installation or Design Engineer



Safety Manager III

DESCRIPTION

Plan, organize and implement the company safety programs. Demonstrate management skills and the ability to manage all aspects of a project safety program. Develop project specific HSE programs and procedures through interface and teamwork with Project / Operations management/supervisory personnel. Maintain Accountability Programs on all projects for safety-related issues and work with supervision to ensure uniform application of safety related discipline. Be the lead safety manager on a project when necessary. Lead job site safety/EHS department. Function under the authority and direction of EHS Leadership. Serve as a mentor for and provide active leadership for their Safety/HSE managers / personnel. Develop and facilitate EHS project risk assessments. Lead and conduct accident, near miss, and damage investigations with Root Cause Analysis. Develop and monitor EHS performance, progress, preventive and corrective action plans.

KNOWLEDGE/SKILLS

MSHA/OSHA regulations and hazard recognition, record keeping and injury management. Environmental, Health & Safety policies and procedures. Managing safety of work sites, mitigating identified safety hazards. Managing people, including contractors. Reviewing technical and EHS training reports. Developing and implementing safety training, and safety alerts. Auditing work sites for EHS program effectiveness. Supporting injured workers. Case management. Developing, implementing and maintaining an effective site-specific safety/EHS plan.

REQUIREMENTS

Education/Training

4-year degree in Safety or related field.

Experience

Minimum of 5 years of construction experience managing safety or a related field. Demonstrated ability to provide a high level of safety leadership to both management and technicians.

Credentialing Required/Optional

Certified Hygiene Safety Technician (CHST) or higher BSCP certification. OSHA, MSHA and CPR/First Aid instructor.

POSITION REPORTS TO

EHS Senior Leadership or a Group/
Senior Safety Manager

CAREER PATH MOVES FROM THIS ROLE

Senior Safety Manager



Senior Financial Analyst & Planner

DESCRIPTION

Manage the range of assets for the business, from a financial standpoint. Prepare financial statements, forecasts, and reports. Manage the project financing process for various projects. Obtain construction loans, ensure development of equity, and secure debt vehicles. Manage project debts. Assist CFO and CEO with developing expansion or acquisition opportunities based on knowledge of the solar energy market. Manage financial close process. Ensure that business is in compliance and legal requirements are met. Provide supervision to other financial staff. Analyze and propose ways for the company to reduce costs. Assist management in making financial decisions. Perform data analysis and advise senior management on maximizing business profits and reducing costs.

KNOWLEDGE/SKILLS

Business analysis, advising senior leaders, financial analysis, developing financial reports and spreadsheets. Using math and finance tools. Financial practices and solar market knowledge. Developing and making presentations. Managing other financial staff.

REQUIREMENTS

Education/Training

Bachelor's degree required; Graduate degree often required.

Experience

5-10 years of experience in another business or financial occupation, such as an accountant, financial analyst or auditor.

POSITION REPORTS TO

Finance Manager or Director, or CFO

CAREER PATH MOVES FROM THIS ROLE

Finance Manager



Advanced Manufacturing Technician

Production Technician, Manufacturing Maintenance Technician

DESCRIPTION

Use mechanical, hydraulic, electrical, electronic, pneumatic or CNC technologies to set up, test, adjust and perform maintenance on solar manufacturing equipment. With appropriate training and experience, these technicians may also repair or operate, or develop programming for electronic or computer-controlled mechanical systems. Observe and track quality and productivity of manufacturing processes and equipment. Work with mechanical engineers to analyze processes and equipment and develop solutions and improvements. Inspect finished products for quality and adherence to specifications.

KNOWLEDGE/SKILLS

Mechanical, electronic, electrical, hydraulic maintenance and repair, machine adjusting, equipment troubleshooting, various machinery, hand tools, CNC / electronic equipment. Equipment maintenance and repair.

REQUIREMENTS

Education/Training

Minimum technical training post-secondary; HS diploma. Associate's degree preferred.

Experience

1-3 years' technician experience.

POSITION REPORTS TO

Production Supervisor, Maintenance Supervisor

CAREER PATH MOVES FROM THIS ROLE

Mechanical Engineer (with education),
Maintenance Supervisor



Assembler / Fabricator

DESCRIPTION

Assemble the parts that go into solar products. Use various machines and hand tools to create and assemble solar components, solar panels & devices, and other parts. Use schematics and blueprints to create and assemble. Conduct quality assurance of parts and assemblies. Collaborate with engineering and design in product development or changes to product design. Use various electronic, robotic, computer, or hand tools to fit components together and make alignment adjustments. Cut, trim, mold components. For assembly, connect parts with bolts & screws or by welding or soldering. Use hand tools, robots, etc. to assist in assembly. Assist in the testing of new products.

KNOWLEDGE/SKILLS

Assembling parts and components. Math skills. Use of computers. Mechanical skills and using various pieces of equipment in assembly. Using hand tools. Technical manuals, blueprints and schematics. Using soldering iron to perform certified soldering. Cutting and shaping metal into parts and components.

REQUIREMENTS

Education/Training

High school graduate or GED.

Experience

At least one year of experience in the assembly of small, intricate parts and assemblies and in performing expert soldering. Two years of technical experience preferred.

POSITION REPORTS TO

Manufacturing Supervisor or Lead

CAREER PATH MOVES FROM THIS ROLE

Machinist, Tool & Die Maker



CNC Operator

DESCRIPTION

Program and operate computer numeric controlled (computerized) equipment to manufacture components / parts for renewable energy equipment. Program machines to cut pieces according to design specifications, which can then be mass produced. Read schematics and program machine. Measure completed pieces for quality to ensure adherence to design specifications. Remove and replace tooling and other parts of CNC machines as needed. Monitor machines while operating.

KNOWLEDGE/SKILLS

Precision work. Quality control analysis. Operating CNC machines. Reading schematics and programming machines. Taking measurements of components/parts.

REQUIREMENTS

Education/Training

HS Diploma (or equivalent). May require a technical program or internship in CNC.

Experience

1-3 years

POSITION REPORTS TO

CNC Supervisor or Manager, Design Manager, Manufacturing Manager

CAREER PATH MOVES FROM THIS ROLE

Advanced Manufacturing Technician, Instrumentation and Controls Technician



Industrial Engineer

Manufacturing Engineer

DESCRIPTION

Develop and redesign solar component manufacturing processes to improve productivity and efficiency. Assess and study manufacturing and solar industry needs and issues. Improve product reliability and quality. Resolve production issues and develop ways to reduce costs.

KNOWLEDGE/SKILLS

Quality Control, solar systems, process and system design, operations analysis, statistical analysis, technology design, computer programming, equipment evaluation, mathematical modeling.

REQUIREMENTS

Education/Training

Bachelor's degree in engineering, math or science. Advanced roles may require a Master's degree & licensure.

Experience

5+ years' experience.

Credentialing Required/Optional

PE (Professional Engineer) may be required.

POSITION REPORTS TO

Engineering Manager or Manufacturing Manager

CAREER PATH MOVES FROM THIS ROLE

Other engineering roles, Engineering Manager, Director of Manufacturing



Inspector & Quality Control

DESCRIPTION

Responsible for verifying that Solar components are manufactured according to specifications. Perform type of inspection required for part or component—quick visual or longer, detailed one. Record results of examinations and submit quality control reports. Ensure that design specifications are followed precisely, to maintain the quality of the manufacturing process.

KNOWLEDGE/SKILLS

Quality control and inspection practices, material science, reading design schematics and specifications, testing procedures and tools, writing quality control reports.

REQUIREMENTS

Education/Training

Minimum associate's degree in quality control, material science, or related field. Bachelor's degree preferred.

Experience

2+ years' inspection and quality control of manufactured solar energy components and structures. Inspection and quality control of Solar components preferred.

POSITION REPORTS TO

Quality Control Manager

CAREER PATH MOVES FROM THIS ROLE

Quality Control Manager, Mechanical or Electrical Engineer (with education)



Fleet Manager

O&M Manager

DESCRIPTION

Contract and manage 3rd party or internal solar technician service teams to install or service commercial / utility size solar sites. Manage logistics and system monitoring. Evaluate technician teams. Ensure service and operation levels are maintained. Ensure quality of technical services and customer service. Optimize the dispatching process for service technicians to manage costs.

KNOWLEDGE/SKILLS

Commercial/utility solar industry and solar systems, coordinating people and resources, vendor management programs, logistics, problem solving, decision making.

REQUIREMENTS

Education/Training

Bachelor's degree. Trade experience in the field with solar installations and/or service.

Experience

5+ years' experience

Credentialing Required/Optional

PV Commissioning & Maintenance Specialist or PV Installation Professional certification (NABCEP) desirable.

POSITION REPORTS TO

Solar O&M Director

CAREER PATH MOVES FROM THIS ROLE

Solar O&M Director, Solar Instructor



Industrial Engineering Manager

Manufacturing Engineer Manager

DESCRIPTION

Direct research & development activities that support engineering initiatives. Plan and lead engineering activities (industrial / manufacturing). Provide leadership to engineers. Design and develop components and systems. Work with engineers to develop quality standards for components, parts, assembly and testing. Manage engineering support needed for sales group for contracts, proposals, and customer meetings. Make detailed resource plans and schedules to reach technical goals. Direct and coordinate the design of equipment and machinery. Discuss organizational engineering needs with other leaders. Determine budgets, staff needs, and resource needs. Hire and train staff.

KNOWLEDGE/SKILLS

Developing designs, solving problems, and making decisions. Complex engineering projects and analysis. Evaluating information. Communicating with and leading teams. Budgeting, scheduling. Specific area of engineering.

REQUIREMENTS

Education/Training

Bachelor's degree in relevant engineering discipline required. Masters degree preferred.

Experience

6-10 years experience as an engineer. Experience leading engineering teams and working on complex projects.

Credentialing Required/Optional

PE (Professional Engineer) a plus.

POSITION REPORTS TO

Engineering Director, Director Solar

CAREER PATH MOVES FROM THIS ROLE

Engineering Director, Manager of other engineering discipline



Commissioning Technician

DESCRIPTION

Work with team to perform required system inspections on utility photovoltaic (PV) power plants. Perform visual and mechanical inspections and electrical testing to specifications of construction documents, prior to energization date. Document all inspection findings and test results, and communicate the findings and test results with Commissioning Lead. Document and assist with PV system trouble shooting and corrective actions. Oversee third party testing and inspections. (Transformers, MV audits, MV cable tests, Fiber optics, etc.) Ensure site documentation is prepared for upcoming sites. Ensure proper use of PPE and conformity to safety procedures. Care for tools and report any missing or broken tools and needed supplies to Lead.

KNOWLEDGE/SKILLS

Photovoltaic systems, use of multi-meter, reading and using electrical single-line and three-line diagrams, safe work practices, visual and mechanical inspections and electrical testing.

REQUIREMENTS

Education/Training

HS Diploma or equivalent. Training in photovoltaic systems preferred.

Experience

Minimum 1-year Photovoltaic installation experience.

Credentialing Required/Optional

PV Commissioning & Maintenance Specialist certification (NABCEP) desirable.

POSITION REPORTS TO

Commissioning Manager

CAREER PATH MOVES FROM THIS ROLE

Commissioning Engineer



Concrete Worker

DESCRIPTION

Support the Facility Manager in all areas of the operating site. Ensure a positive working environment by maintaining morale and employee relations. Lead the use of maintenance documentation, reporting tools and performance systems necessary for reporting and performance improvement. Provide hands-on technical support and supervision for generation equipment and power delivery systems, as well as with other facility civil work, building maintenance, and upkeep.

KNOWLEDGE/SKILLS

Concrete pouring, Rebar tying, Concrete finishing

REQUIREMENTS

Education/Training

High school diploma, experience in concrete work, Apprenticeship preferred.

Experience

1-2 years' experience.

POSITION REPORTS TO

Foreman, Construction Manager

CAREER PATH MOVES FROM THIS ROLE

Solar Technician I (with additional training)



Crane Operator

DESCRIPTION

Operate cranes (hydro cranes, crawler cranes, and/or pile driving hammers) to hoist, move and place materials and objects, and raise, lower and rotate boom and load lines. Observe load hook-up, safety of load, stability of load and load weights. Ensure safety procedures are adhered to at all times. Perform daily inspection of cranes. Monitor weather conditions and site conditions. Clean, maintain and lubricate equipment. Obtain the required permits. Perform other duties as assigned on a job site when not operating a crane.

KNOWLEDGE/SKILLS

Safe operation of cranes. Safety practices. Reading and interpreting documents such as operation and maintenance manuals, procedures, and safety documents. Writing reports. Math skills and computing rate, ratio, percent. Problem solving.

REQUIREMENTS

Education/Training

HS Diploma or GED preferred. Completed apprenticeship crane operation preferred. Valid driver's license.

Experience

1-3 years' related experience and/or training or equivalent combination of education and experience.

Credentialing Required/Optional

Nationally accredited certification (i.e. NCCCO, NCCER or OECP).

POSITION REPORTS TO

Solar Site Supervisor, Crew Chief, or Project Manager

CAREER PATH MOVES FROM THIS ROLE

Crane or Heavy Equipment Supervisor, Mechanical Engineer (with education)



Equipment Operator—Light

DESCRIPTION

Perform miscellaneous light equipment operations across the project for construction, installation or maintenance.

KNOWLEDGE/SKILLS

Equipment capacity, rigging, inspections, maintenance, equipment operation, reading & interpreting documents (safety rules, operating & maintenance instructions, procedure manuals); Writing reports, math skills, computing rate, ratio, percent. Drawing & interpreting graphs.

REQUIREMENTS

Education/Training

HS Diploma. Training on equipment. May require apprenticeship on equipment.

Experience

1-3 years' experience operating light equipment

Credentialing Required/Optional

May require some certifications (i.e. forklift operator), Class A CDL to haul equipment.

POSITION REPORTS TO

Construction Manager or Foreman or Supervisor, Equipment Company Operator, Medium or Heavy Equipment Operator

CAREER PATH MOVES FROM THIS ROLE

Equipment Operator—Medium, Equipment Operator—Heavy, Construction Foreman or Construction Supervisor



Laborer

General Laborer

DESCRIPTION

Responsible for performing tasks involving physical labor at construction projects, excavations, and demolition sites while operating hand and power tools of all types, and other equipment and instruments. Lift and carry materials, tools & supplies. Fill expansion joints with caulking and rebar placement. Clean and prepare sites, dig holes & trenches, clean up rubble, and assist other craft workers. Dig, spread and level dirt and gravel is a pick or shovel. Perform variety of routine, non-machine tasks.

KNOWLEDGE/SKILLS

Construction skills including: tools, excavations, manual lifting. Reading & interpreting documents (safety rules, O&M instructions, procedures). Math, unit weights and volumes. Following procedures.

REQUIREMENTS

Education/Training

HS Diploma or GED

Experience

1-3 months related experience and/or training or equivalent combination of education & experience.

POSITION REPORTS TO

Craft Supervisor or Foreman

CAREER PATH MOVES FROM THIS ROLE

Craft / Tradesmen (with training)



Site Surveyor

DESCRIPTION

Perform miscellaneous duties across the project to include surveying, quality control, and scheduling. Survey and inspect site readiness and capabilities for projects. Conduct land title surveys, topographic surveys, boundary surveys, and construction-staking and as-built surveys. Prepare legal descriptions. Coordinate with crews and technicians. Perform quality control of field activities, project deliverables and related calculations.

KNOWLEDGE/SKILLS

Surveying, Quality Control, Calculations/Math, GIS & mapping, LIDAR, Auto-CAD.

REQUIREMENTS

Education/Training

High School diploma; some positions may require Bachelor's degree.

Experience

2 years surveying, Quality Control.

Credentialing Required/Optional

Licensed professional surveyor

POSITION REPORTS TO

Engineering, Project Manager

CAREER PATH MOVES FROM THIS ROLE

Senior Surveyor



Solar Assembler / Basic (Entry) Installer

Basic Installer

DESCRIPTION

Responsible for layout and assembly of solar PV systems / panels. Work with solar PV assembly crew to install panels. Follow schematics, instructions and drawings regarding assembly and installation. Potentially carry panel components and mounts over uneven terrain. Support the work of the assembly crew doing finishing work, weather sealing, etc.

KNOWLEDGE/SKILLS

Solar pv (photovoltaic) systems, PV installation, basic construction skills, mechanical and electrical, following directions, working at heights, climbing ladders with heavy equipment.

REQUIREMENTS

Education/Training

Minimum HS diploma preferred; ability to add, subtract multiply & divide whole numbers and fractions.

Experience

1-3 years

Credentialing Required/Optional

PV Installer Specialist certification or PV Installation Professional certification desirable (NABCEP).

POSITION REPORTS TO

Solar PV Crew Chief, Solar / PV Technician

CAREER PATH MOVES FROM THIS ROLE

Solar PV Installer, Crew Chief, Electrician, Solar Technician



Truck Driver

DESCRIPTION

Drive a truck / trailer to transport several types of construction equipment and materials throughout and between jobsites. Load and unload equipment and materials, including solar panels and work with crane operator for loading/unloading as needed. Secure loads according to load limits. Perform basic vehicle and equipment maintenance such as filling tank with gas, checking oil, keeping vehicle and equipment clean and ensuring required inspections are completed. Haul counterweights for cranes, construction equipment, and also water, sand and gravel. Ensure safety procedures and safe driving practices are followed. Communicate between office / shop / jobsite regarding status of hauls, any concerns or issues with equipment and materials. Perform daily inspection of truck. Obtain required permits. Advise supervisor if truck needs major repairs and maintenance.

KNOWLEDGE/SKILLS

Reading cargo manifests and delivery instructions, writing correspondence, math skills and able to figure or calculate load size versus requirements.

REQUIREMENTS

Education/Training

HS diploma or GED; 1 yr. certificate from college or technical school, driving school.

Experience

1-2 years' experience transporting construction equipment and materials.

Credentialing Required/Optional

Valid Class A commercial driver's license.

POSITION REPORTS TO

Transportation Manager or Superintendent,
Site Manager

CAREER PATH MOVES FROM THIS ROLE

Equipment Operator, Transportation
Supervisor or Coordinator



Warehouse Assistant

Warehouse Support

DESCRIPTION

Responsible for working directly with Warehouse Manager to coordinate the shipping, receiving and inventory. Responsible for cleanliness and organization of warehouse. Inspect all equipment and rigging coming in or leaving the warehouse. Assist with loading and unloading trucks. Prepare orders, process requests, and pull equipment and materials. Assist with inventory management. Interpret specifications and work orders. Requisition, obtain and distribute supplies and materials. Read, prepare, collect and maintain reports.

KNOWLEDGE/SKILLS

Construction practices, warehouse practices, reading and interpreting specifications and reports. Using tools and equipment. Inventory. Data entry and computer skills. Lifting and moving objects regularly between 10 and 50 pounds; occasionally lifting much heavier.

REQUIREMENTS

Education/Training

HS Diploma or GED preferred. 1-2 year certificate from college or technical school and/or 6 months to one year of related experience.

Experience

Training or 6 months to a year of related experience.

POSITION REPORTS TO

Warehouse Foreman, Supervisor or Manager;
Supply Chain Manager

CAREER PATH MOVES FROM THIS ROLE

Warehouse Foreman



Buyer

Procurement Specialist, Procurement Associate

DESCRIPTION

Provide commercial support to pre & post award projects and report to the assigned Procurement Manager or Director of Procurement. Prepare and issue RFP equipment packages to suppliers. Work with engineering to answer RFP questions. Receive and evaluate proposals. Negotiate pricing with suppliers. Work closely with engineering project management, scheduling, legal and insurance. Secure completed purchase requisition and purchase terms and conditions, and confirm final purchase order. Monitor, support and administer all issued purchase orders. Manage stakeholder & supplier interaction. Assist in schedule development for project proposals. Assist estimating with equipment scope and price.

KNOWLEDGE/SKILLS

Oral and written communication, engineering, construction industry standards, specifications and organizations. RFP and contracting process for purchasing from suppliers. Negotiating and problem solving.

REQUIREMENTS

Education/Training

4 year college degree in business field or combination of education and experience. Additional financial, business or legal degree and additional solar training needed for advancement.

Experience

Minimum 3 years' experience in procurement (preferably with engineering or construction industries).

POSITION REPORTS TO

Senior Buyer or Procurement Manager or Director

CAREER PATH MOVES FROM THIS ROLE

Senior Buyer or Procurement Manager or Director



Construction Manager

DESCRIPTION

Responsible for directing, planning, and managing Solar construction project(s) on jobsite. Oversee all construction contracts within area of responsibility, and supported by Site Teams. Monitor and oversee construction activities and personnel. Keep Superintendent II and Construction Manager II informed of overall construction activity progress and performance. Monitor and review construction performance indicators. Manage construction package elements of procurement process. Follow all health and safety procedures.

KNOWLEDGE/SKILLS

Business development, Solar systems, estimating, construction management, electrical systems and SCADA, planning, procurement, health & safety, MS Office, reading and interpreting blueprints, procedures, government regulations, presentations to management and public groups, writing reports, managing construction crew, interpreting technical instructions using math, algebra & geometry.

REQUIREMENTS

Education/Training

Bachelor's degree (BS) in Construction management, engineering or related field; equivalent combination of education and experience).

Experience

Three years of construction industry experience / knowledge of construction techniques, estimating and construction management.

POSITION REPORTS TO

Project Manager or Director of Solar Projects

CAREER PATH MOVES FROM THIS ROLE

Construction Manager II or Project Manager or Superintendent



Equipment Operator—Heavy

Equipment Operator

DESCRIPTION

Operate heavy machinery, such as a tractor, bulldozer, backhoe, or excavator, for the purposes of construction, demolition, or excavation. May be responsible for routine maintenance or repairs.

KNOWLEDGE/SKILLS

Equipment capacity, rigging, inspections, maintenance, equipment operation, reading & interpreting documents (safety rules, operating & maintenance instructions, procedure manuals); Writing reports, math skills, computing rate, ratio, percent. Drawing & interpreting graphs.

REQUIREMENTS

Education/Training

HS Diploma. For Crane—NCCCO or similar training on other Equipment. May require apprenticeship on equipment.

Experience

Minimum 5 years' experience operating heavy equipment.

Credentialing Required/Optional

Class A CDL to haul equipment; NCCCO Certification, Municipality may require license to operate or transport equipment. Pile-driver operators may need a crane license in some cities & states.

POSITION REPORTS TO

Construction Manager or Foreman or Supervisor, Equipment Company Operator

CAREER PATH MOVES FROM THIS ROLE

Construction Foreman or Construction Supervisor



Equipment Operator—Medium

DESCRIPTION

Operate medium machinery, for the purposes of construction, demolition, or excavation. May be responsible for routine maintenance or repairs.

KNOWLEDGE/SKILLS

Equipment capacity, rigging, inspections, maintenance, equipment operation, reading & interpreting documents (safety rules, operating & maintenance instructions, procedure manuals); Writing reports, math skills, computing rate, ratio, percent. Drawing & interpreting graphs.

REQUIREMENTS

Education/Training

HS Diploma. For Crane—NCCCO or similar training on other Equipment. May require apprenticeship on equipment.

Experience

3 Years' experience operating medium equipment

Credentialing Required/Optional

Class A CDL to haul equipment; NCCCO Certification, Municipality may require license to operate or transport equipment. Pile-driver operators may need a crane license in some cities & states.

POSITION REPORTS TO

Construction Manager or Foreman or Supervisor, Equipment Company Operator, Heavy Equipment Operator

CAREER PATH MOVES FROM THIS ROLE

Equipment Operator—Heavy, Construction Foreman or Construction Supervisor



Journeyman Electrician

DESCRIPTION

Responsible for installing, maintaining, and repairing electrical wiring, equipment, fixtures and ensuring that work is in accordance with relevant codes. Ensure the proper functioning of all electrical units and components. Complete scheduled checks to spot malfunctions. Use electrical testing and repair equipment. Maintain records of all electrical inventories and place orders for spare parts and equipment. Maintain a log of electrical repair and maintenance works. Journeyman Electricians may supervise Apprentice Electricians.

KNOWLEDGE/SKILLS

Long-term on the job training. Repair or replace complex electrical lines and equipment. Electrical systems and the appropriate tools needed to fix and maintain them. Troubleshooting skills—must diagnose problems in increasingly complex electrical systems. Able to lift heavy tools, cables, and equipment on a regular basis.

REQUIREMENTS

Education/Training

Bachelor's degree or an Associate's degree or diploma in electrical engineering, mechanical engineering or related field.

Experience

4+ years working as an electrician.

Credentialing Required/Optional

"Journeyman" electrical license.

POSITION REPORTS TO

Construction Manager, Project Manager, Electrician Supervisor or Manager

CAREER PATH MOVES FROM THIS ROLE

Electrician Supervisor or Manager



PV Site Inspector

QA Inspector, Inspector & Quality Control Coordinator

DESCRIPTION

Inspect the solar / photovoltaic (PV) project, job site, and construction, maintaining quality control. Determine degree of conformance of materials, equipment and installation of materials and equipment to specifications, codes and design requirements. Generate reports of conditions found during inspection activities. Notify management of significant problems. Complete documentation to attest to satisfactory completion of inspection or test activities. Provide oversight of activities relating to the construction for mechanical, civil, and electrical components of solar sites including substations, roads, environmental, excavations, concrete, rebar, transmission lines, solar racking and PV installation, underground utilities, steel erection, welding, piping, valves, pumps, compressors and a wide variety of other mechanical and electrical equipment. Ensure that defined requirements of schedule and quality are met. Prevent deficiencies through pre-construction quality control inspections, while working with field teams. Interface with field supervision to maintain an open line of communication and reporting.

KNOWLEDGE/SKILLS

Understanding of how the project is to be completed properly per code and customer requirements. Work plans or work process documentation. GPS operations. NEC, NESC, ASTM's, ANSI, IEEE and local building and construction codes. 29 CFR 1910 and 1926, ensuring OSHA standards are being maintained, computer skills (MS office).

REQUIREMENTS

Education/Training

Minimum High School diploma & experience; degree preferred. 4 year apprentice program or other training (combined with experience). An OSHA 30 hour is preferred.

Experience

Previous skilled labor experience; minimum 3 years' experience in solar; prefer experience with work plans or work process documentation. Familiarity with GPS operations. 5 years supervising crews in electrical, structural, mechanical or civil work.

Credentialing Required/Optional

PV System Inspector certification (NABCEP) desirable

POSITION REPORTS TO

Solar Construction Site Supervisor or Manager

CAREER PATH MOVES FROM THIS ROLE

Construction Manager, Project Manager





Solar Installer

Photovoltaic (PV) Installer

DESCRIPTION

Plan, lay-out, assemble and install solar modules, photovoltaic (PV) panels, or support structures. Install structural and mechanical components. Coordinate work with other crafts and co-workers on the job. Use appropriate hand tools and power tools to perform a variety of functions in accordance with codes and standards using drawings, schematics, and instructions. Lift and carry building materials, tools, and supplies. Examine / inspect field conditions and identify any problems, inaccuracies, and continuous improvement opportunities. Clean tools, equipment, material, and work areas. Observe functioning of installed equipment or systems to determine need for adjustments, relocation or replacement. If certified, operate equipment and ensure equipment is maintained in good working order. Participate in all pre-job work planning and safety discussions. Follow all safety and operating procedures. Identify safety hazards and take necessary corrective action to eliminate or mitigate safety hazards. Participate in on-the-job training with co-workers.

KNOWLEDGE/SKILLS

Plans & specifications for solar PV panels, including 3-dimensional drawings, site assessment, system design, solar PV systems, use of hand tools, listening and following directions, Solar pv (photovoltaic) systems, basic construction skills, mechanical and electrical, working at heights, climbing ladders with heavy equipment.

REQUIREMENTS

Education/Training

Associate's degree or Journeyman level; Engineering, skilled trades or electrical training. Bachelor's degree preferable.

Experience

3-5 years' experience working as a laborer or in any construction craft as a helper with basic knowledge in solar PV construction craft.

Credentialing Required/Optional

PV Installer Specialist certification or PV Installation Professional certification desirable (NABCEP).

POSITION REPORTS TO

PV Technician or Lead Installer (Crew Chief) or Project Manager

CAREER PATH MOVES FROM THIS ROLE

PV Technician, Lead Installer (Crew Chief), Engineer (with education), Solar Project Manager, System Designer



Solar PV Crew Chief

Solar Foreman

DESCRIPTION

Supervise teams of basic PV (photovoltaic) installers at a worksite and may oversee a variety of craft workers. Coordinate work, ensure schedules are followed, provide leadership to crews. Ensure safety, operations and installation specifications, and procedures are followed. Provide quality control for tasks and project. Serve as onsite supervisor to lead small teams to complete solar projects. Establish order of work, assist crew with lay-out of materials and tools, track progress, and review work and documentation. Complete required documentation and reporting. Support project manager and site supervisor. If needed, perform trade work in area of qualification. May participate in hiring, training, reviewing performance of crew members.

KNOWLEDGE/SKILLS

Quality Assurance, Safety, Fundamentals of solar photovoltaic (pv), Basic practices and procedures in pv installation, Basic construction skills, mechanical and electrical, Supervising various crafts, reading blueprints, math and computer experience, Proficient in at least one craft area.

REQUIREMENTS

Education/Training

HS Diploma or equivalent. Training in photovoltaic systems preferred. Technical or associate's degree preferred.

Experience

3-5 years' experience. Ideally proficient in at least one construction craft area.

POSITION REPORTS TO

Solar Project Manager

CAREER PATH MOVES FROM THIS ROLE

Solar Project Manager



Commissioning Manager

DESCRIPTION

Oversee regional installation / construction, testing, and commissioning operations from utility scale solar / photovoltaic project kickoff through customer acceptance. Responsible for planning, checking, quality assurance, monitoring, evaluation, and preparation of commissioning reports to management. Staff, train, and manage solar commissioning team personnel. Create guidelines and procedures to ensure all project activities are completed according to a standard process, project plan and budget. Carry out the commissioning and start-up according to the commissioning, start-up, operation and maintenance manuals. Forecast, monitor, estimate time and costs of commissioning activities. Conduct routine audits as necessary. Interact with engineering to troubleshoot any technical issues. Ensure compliance with all Company and safety policies and procedures. Prepare detailed schedules of the commissioning for each project. Prepare commissioning documents for each site according to contract obligations. Manage 3rd party testing when necessary. Review and verify completed testing documentation. Ensure project is completed by deadline date.

KNOWLEDGE/SKILLS

Electrical and mechanical theory. Team supervision. Budgeting procedures. Commissioning operations, start-up and practices for Solar projects, including reading operations and maintenance manuals and procedures. Interpreting engineering drawings. Organizing, instructing and supervising Commissioning crews in all facets of construction. Supervising the testing, commissioning and start-up of high, medium, low voltage and dc equipment / electrical and electronic systems. Leadership and supervision. Writing correspondence and compiling reports. Speaking to groups and making recommendations. Troubleshooting and data analysis. Computer skills.

REQUIREMENTS

Education/Training

Bachelor’s degree in construction management, engineering or related field; equivalent combination of education and experience (5-7 years).

Experience

5-7 years’ experience with power generation equipment and commissioning procedures. Construction and commissioning experience. 5 years’ experience in a supervisory role.

Credentialing Required/Optional

PV Commissioning & Maintenance Specialist certification (NABCEP) desirable. Also, there’s the REP—Renewable Energy Professional and Certified Energy Manager from the Association of Energy Engineers (aeecenter.org).

POSITION REPORTS TO

Director of Solar Commissioning; Director of Solar Projects

CAREER PATH MOVES FROM THIS ROLE

Construction Manager, Director of Solar Commissioning



Construction Manager II

DESCRIPTION

Responsible for directing, planning, and managing Solar construction project(s) on jobsite. Oversee all construction contracts within area of responsibility, and supported by Site Teams. Monitor and oversee construction activities and personnel. Keep Superintendent II and Construction Manager II informed of overall construction activity progress and performance. Monitor and review construction performance indicators. Manage construction package elements of procurement process. Follow all health and safety procedures.

KNOWLEDGE/SKILLS

Business development, Solar systems, estimating, construction management, electrical systems and SCADA, planning, procurement, health & safety, MS Office, reading and interpreting blueprints, procedures, government regulations, presentations to management and public groups, writing reports, managing construction crew, interpreting technical instructions using math, algebra & geometry.

REQUIREMENTS

Education/Training

Bachelor's degree (BS) in Construction management, engineering or related field; equivalent combination of education and experience).

Experience

Five years in a supervisory role of construction industry including construction techniques, estimating and construction management.

POSITION REPORTS TO

Project Manager or Director of Solar Projects

CAREER PATH MOVES FROM THIS ROLE

Construction Manager III or Project Manager or Superintendent



Construction Manager III

DESCRIPTION

Responsible for directing, planning, and managing Solar construction project(s) on jobsite from inception to completion. Responsible for overall direction and evaluation. Oversee all construction contracts within area of responsibility, and supported by Site Teams. Monitor and oversee construction activities and personnel. Keep Superintendent II and Construction Manager II informed of overall construction activity progress and performance. Monitor and review construction performance indicators. Manage construction package elements of procurement process. Follow all health and safety procedures.

KNOWLEDGE/SKILLS

Business development, Solar systems, estimating, construction management, electrical systems and SCADA, planning, procurement, health & safety, MS Office, reading and interpreting blueprints, procedures, government regulations, presentations to management and public groups, writing reports, interpreting technical instructions using math, algebra & geometry, Supervising construction crew, construction tools, machinery methods & procedures, forecasting for projects.

REQUIREMENTS

Education/Training

Bachelor's degree (BS) in Construction management, engineering or related field; equivalent combination of education and experience.

Experience

Seven years in a supervisory role of construction industry including construction techniques, estimating and construction management.

POSITION REPORTS TO

Project Manager or Director of Solar Projects

CAREER PATH MOVES FROM THIS ROLE

Director of Solar Projects



Project Manager

DESCRIPTION

Manage solar projects to ensure projects are completed within scope, on schedule, and within budget. Work closely with vendors and personnel to engineer, design, site, permit and construct assigned projects. Manage all aspects of projects including the coordination of regulatory approvals, and interface with regulators, local elected officials and town department managers. Manage the development of and process for evaluation of bid documents for engineering, design and construction, and for the procurement of materials and equipment. Ensure all aspects of projects are documented and completed according to company policies and all regulations and laws. Manage financial risk exposure and ensure timely communication and reporting with management including project scope, budget and schedule. Integrate and manage a cross-functional team to achieve project goals including the team’s development of a project plan, schedule, communication plan and control methodology. Manage the planning, engineering, siting/permitting, procurement, construction, commissioning and close out project phases. Manage execution of the project plan and project change control management. Coordinate development of project budget.

KNOWLEDGE/SKILLS

Ability to investigate and solve problems, analyze data, write effective reports and make presentations. Running meetings, motivating others. Managing multiple solar projects concurrently. Engineering / technical knowledge (analytical).

REQUIREMENTS

Education/Training

Bachelor’s degree in Engineering (preferred). Bachelor’s degree in Finance, Business or equivalent degree considered OR equivalent experience.

Experience

Minimum 5-10 years related experience. Experience with project management methodologies.

Credentialing Required/Optional

PE (Professional Engineer) and project management (PMP) certification are highly desirable; PV Installation Professional certification (NABCEP) may be applicable.

POSITION REPORTS TO

Manager of Solar Projects, Manager-Construction—Solar

CAREER PATH MOVES FROM THIS ROLE

Manager of Solar Projects, Manager—Construction Solar, Manager Commissioning



Analyst / Researcher

DESCRIPTION

Work across Solar project phases including development, permitting, construction, and operational. Support or lead conceptual design studies, Solar constraint analyses, site suitability, Solar permitting and technical studies, O&M analysis, constructability analyses, cost studies, decommissioning studies, and market and supply chain assessment. Maximize revenue and efficiency for Solar customers by identifying and initiating organizational responses for conditions, opportunities, and issues related to safety, production, and performance. Collect production data and perform energy analyses. Use technical knowledge of Solar systems. Support and serve the production team, field technical operations and asset management to address all Solar related production issues. Assist in the technical evaluation of proposals. Build and manage dashboards with performance and operations data. Assist in the development of forecasts and pro-forma analyses.

KNOWLEDGE/SKILLS

Knowledge of field applications is needed to translate the data to usable results and procedures for development and operations teams. Database structures, engineering calculations. Analyzing equipment performance and identifying performance issues using software tools. Performing calculations and collecting and analyzing data.

REQUIREMENTS**Education/Training**

Bachelor's degree in engineering or technical discipline; Masters degree preferred.

Experience

3+ years in asset management and/or field operations. 1 year experience in Solar desirable. Data analytics and statistics, building models. Experience working with large data sets, conducting root cause analyses, and visualizing data in a variety of formats for identifying trends and outliers.

POSITION REPORTS TO

Energy Project Manager, Operations Manager or Director

CAREER PATH MOVES FROM THIS ROLE

Project Manager Solar, Operations Director, Construction Manager; Solar Optimization Engineer



Research Engineer

Research and Development Engineer

DESCRIPTION

Plan and manage engineering projects to develop solar technologies and processes that produce the most efficient and cost-effective electricity. Design, develop and analyze/evaluate solar components and solar power systems. Conduct research and develop improved technology. Prepare financial estimates. Build processes and systems for testing. Lead teams of technicians, engineers and scientists. Produce and analyze designs.

KNOWLEDGE/SKILLS

Conducting research, interviewing subject matter experts. Developing solutions from research and analysis. Advanced engineering and design. Solving complex engineering problems. Communicating results and information. Writing reports. Collaborating with others to solve problems, and develop and implement projects.

REQUIREMENTS

Education/Training

Bachelor's degree required. Masters degree preferred.

Experience

3 years' engineering experience. Design and research experience.

Credentialing Required/Optional

PE (Professional Engineer certification) may be required.

POSITION REPORTS TO

Engineering Manager

CAREER PATH MOVES FROM THIS ROLE

Engineering Manager, Project Manager



Technical Trainer

Technical Instructor

DESCRIPTION

Educate employees about solar energy in various technical topic areas related to processes, equipment, environment, resources, etc. Facilitate classroom training and on the job coaching for businesses, colleges or learning providers. Continue to develop knowledge regarding changes and industry updates, and update training to reflect this. Use field experience to provide real-life scenarios and discussion. Develop training programs, guides, assignments and skill assessments/evaluations. Instruct training and conduct demonstrations on equipment. Supervise trainees in the safe use of equipment and walk-through of procedures. Assess skills, evaluate performance and monitor trainee progress. If applicable, develop relationships with other businesses to provide training experiences for students.

KNOWLEDGE/SKILLS

Training & communicating on technical topics. Developing training curriculum. Writing procedures and instructions. Creating successful learning environments, and developing variety of methods of teaching topics so students can learn in ways that work for them. Developing and using JPM's (job performance measures). Evaluating / assessing skills.

REQUIREMENTS

Education/Training

Bachelor's degree preferred, but may not be required.

Experience

Minimum 2 years in the topic area in which Trainer will be providing training.

Credentialing Required/Optional

Requirements for licensing and certification vary by state.

POSITION REPORTS TO

Training Manager

CAREER PATH MOVES FROM THIS ROLE

Training Manager, Operations Manager



Materials Scientist

Research & Development Engineer

DESCRIPTION

Develop processes and new materials to reduce cost, improve efficiencies with solar projects. Test research materials and structures to be used in various environments on solar projects. Conduct research to develop new materials and improvements to solar panels and structures.

KNOWLEDGE/SKILLS

Effects of various temperatures and environments on materials, materials properties, process optimization, advanced math & science, materials fabrication and processing, solar innovations and design.

REQUIREMENTS

Education/Training

MS or PhD. In applied physics, materials science or chemistry.

Experience

5+ years' experience.

Credentialing Required/Optional

May require engineering license.

POSITION REPORTS TO

Director or VP of Manufacturing / Fabrication or Director of Solar or Director of Engineering

CAREER PATH MOVES FROM THIS ROLE

Senior Engineer, Director of Fabrication or Manufacturing



Training & Development Manager

DESCRIPTION

Strategically manage all elements of the company's technical and non-technical training programs. Define the training requirements for each staff position and oversee a system of online, classroom and OJT training using a network of trainers. Track progress in the company's online Learning Management System (LMS). Generate new course content and modify existing courses for changes and updates needed. Work collaboratively with trainers and operations. Manage employee development and new hire orientation. Plan (with organizational leaders), develop, and facilitate or procure training and staff development programs that meet the needs of the organization. Proactively manage all aspects of T&D program delivery from start to finish, including content creation, instructor coordination, project planning, and logistics. Monitor training for effectiveness. Coach leaders in skill assessment and performance evaluation. Develop testing / assessment tools and procedures. Support continuous improvement. Manage training materials, supplies & the training budget.

KNOWLEDGE/SKILLS

Managing people, facilitating training programs, developing curriculum/training, defining training requirements, and evaluating performance. Sourcing training programs / trainers. Coaching leaders. Managing budget.

REQUIREMENTS

Education/Training

Generally bachelor's degree desired;
Master's degree preferred.

Experience

5 years' experience in similar role or
combination of knowledge and experience in
leading training efforts.

POSITION REPORTS TO

Director of Operations, Human Resources Director

CAREER PATH MOVES FROM THIS ROLE

Director of Operations, Project Manager,
Human Resources Director

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Thank You to Research Contributors:

Acciona	GE Renewable Energy	Pattern Energy
Clearway Energy Group	IEA (International Energy Agency)	RWE Renewables
Deutsche Windtechnik	Martin Up Consulting	Wanzek
Duke Energy	Olsson	

Additional Research Sources listed on following page.

For questions about this report, please contact Tom Vinson at tvinson@cleanpower.org



American Clean Power Occupations & Career Maps

Additional Research Sources:

BLS – Bureau of Labor Statistics

CANWEA “A Roadmap to Standardized Core Competencies for Wind Turbine Technician Training”

Department of Energy (DOE) <https://www.energy.gov/eere/education/explore-clean-energy-careers-0>

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Energy Futures Initiative (EFI) <https://energyfuturesinitiative.org/>

Environmental and Energy Institute (EESI) <https://www.eesi.org/papers/view/fact-sheet-jobs-in-renewable-energy-energy-efficiency-and-resilience-2019>

Ferroukhi R., Renner, M., García-Baños C., Elsayed, S., (IRENA), and Khalid, A. 2020. Renewable Energy and Jobs – Annual Review 2020. IRENA (International Renewable Energy Agency)

Get Renewable Energy Jobs <https://www.getrenewableenergyjobs.com/>

Green Citizen <https://greencitizen.com/renewable-energy-jobs/>

Greener Choices – Solar Energy Jobs <https://www.greenerchoices.org/solar-energy-jobs/>

Illinois Solar Energy Association <https://www.illinoissolar.org/jobs>

Indeed <https://www.indeed.com>

Interstate Renewable Energy Council (IREC) <https://www.irecsolarcareermap.org>

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Keyser, David, and Suzanne Tegen. 2019. The Wind Energy Workforce in the United States: Training, Hiring, and Future Needs. Golden, CO: National Renewable Energy Laboratory. NREL/TP-6A20-73908. <https://www.nrel.gov/docs/fy19osti/73908.pdf>.

LinkedIn <https://www.linkedin.com>

Midwest Renewable Energy Association (MREA) (solar) <https://www.solarenergyjobs>

National Association of State Energy Officials (NASEO) <https://www.naseo.org>

NAICS/SOC codes

National Solar Jobs Census 2019, Washington, DC, February, <https://www.thesolarfoundation.org/national/#:~:text=As%20of%202019%2C%20the%20National,nationwide%20from%202018%20to%202019>

Solar Energy Industries Association (SEIA) <https://www.seia.org/tags/workforce-development>

US Energy Jobs <https://www.usenergyjobs.org/>



American Clean Power is the voice of companies from across the clean power sector that are powering America's future, providing cost-effective solutions to the climate crisis while creating jobs, spurring massive investment in the U.S. economy and driving high-tech innovation across the nation. We are uniting the power of America's renewable energy industry to advance our shared goals and to transform the U.S. power grid to a low-cost, reliable, and renewable power system. Learn more about the benefits clean power brings to America at www.cleanpower.org.



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