



**CLEAN ENERGY**

# **Career Pathways Catalog**





# Clean Energy Career Pathways Catalog



## 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.

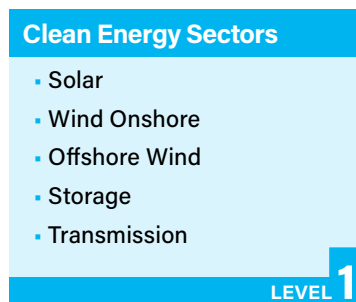
For sector-specific job catalogs, see page 5. If you have questions about the catalog, please email [workforcedev@cleanpower.org](mailto:workforcedev@cleanpower.org).





# Career & Occupation Hierarchy

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:





# Explanation of Career Maps

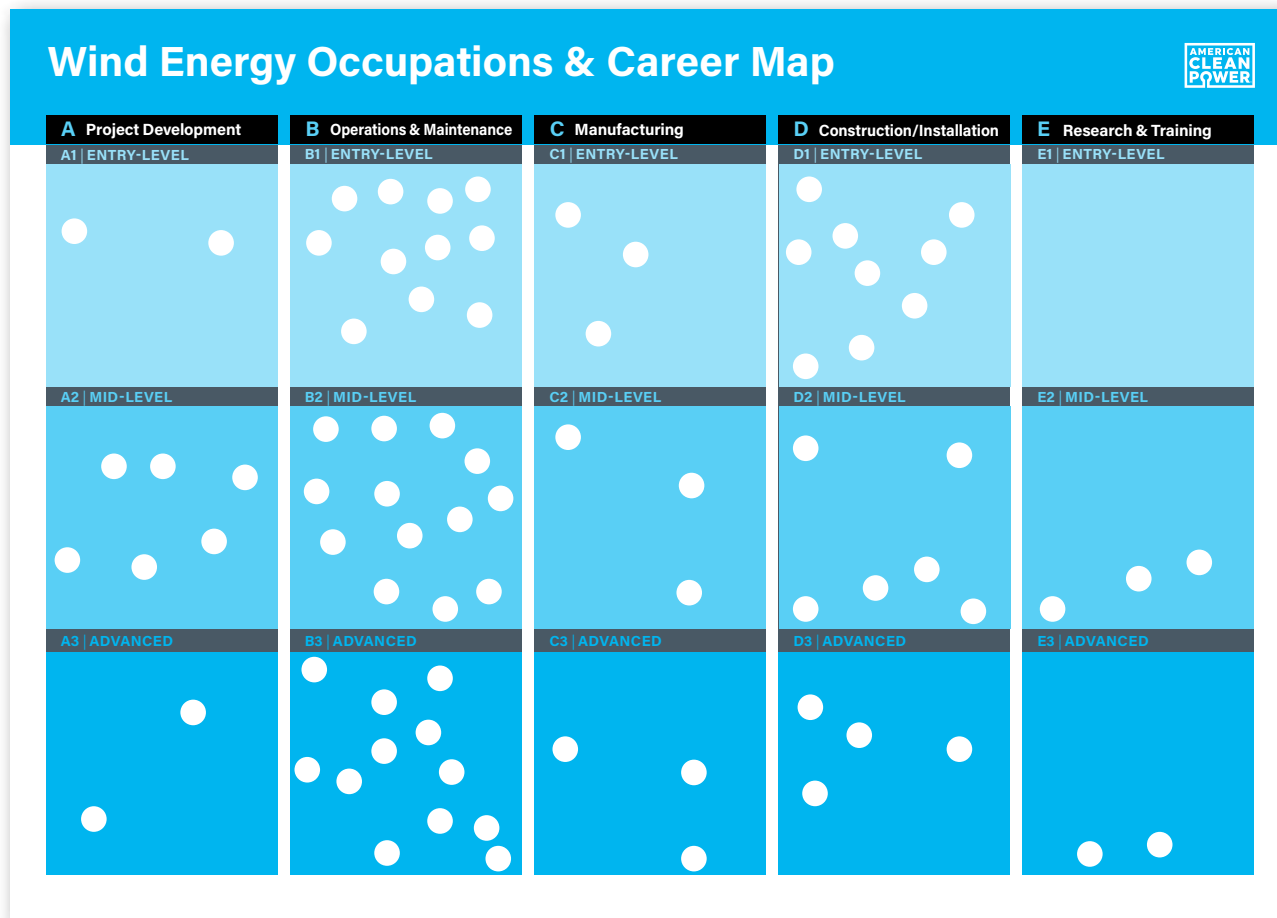
Each catalog includes an interactive Career Map that illustrates potential pathways for career growth within the Sector and within five specific Industry Segments.

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.



# Energy Sector Table of Contents



**Solar Energy**



**Wind Energy**



**Offshore Wind Energy**



**Energy Storage**



**Energy Transmission**





A photograph of a large solar farm with rows of solar panels stretching across a field, with the sun rising in the background, creating a warm, golden glow.

CLEAN ENERGY CAREER PATHWAYS CATALOG

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# Solar Energy

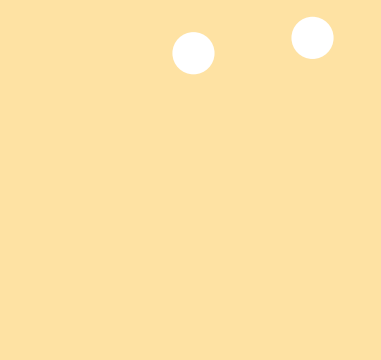
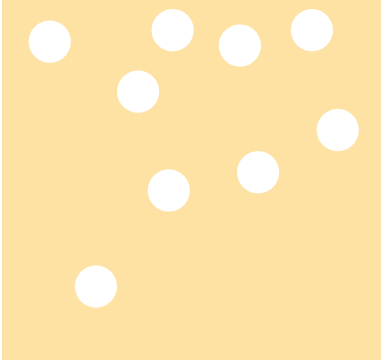

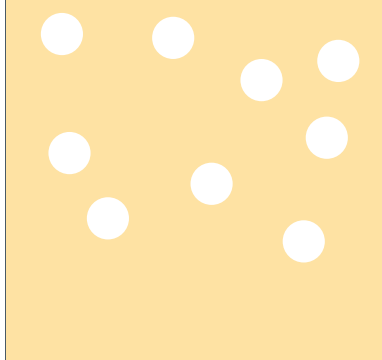


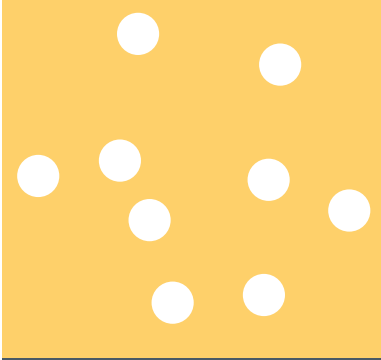
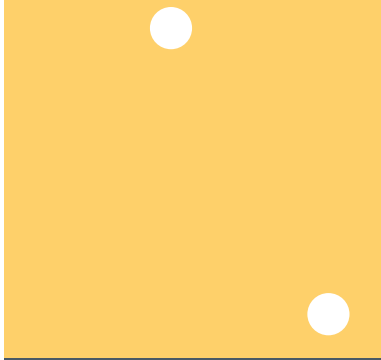

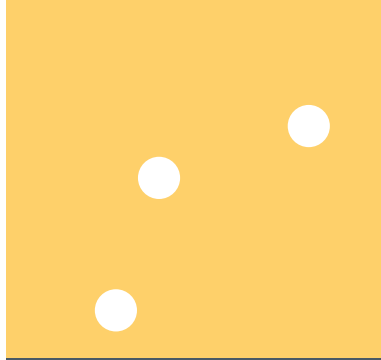
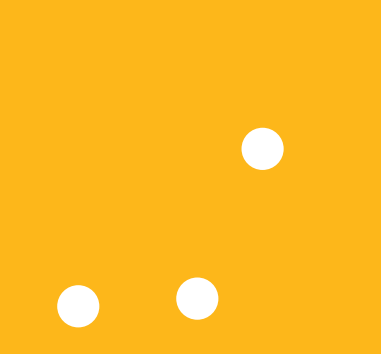
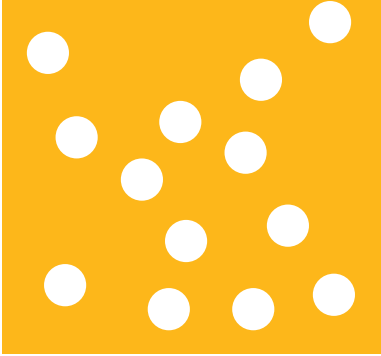
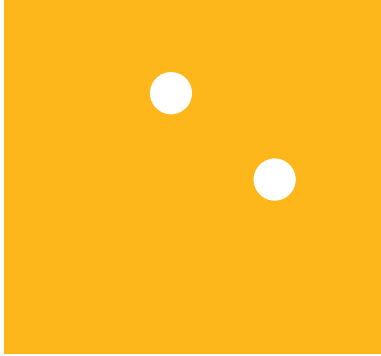

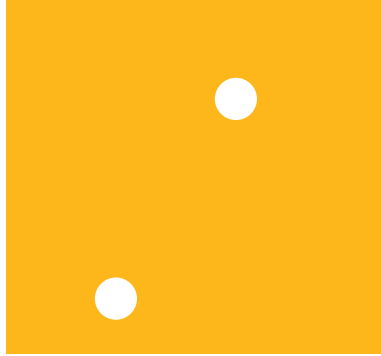
HOME

CAREER  
MAP

CAREER  
LIST



# Solar Energy Career Map

A Project Development		B Operations & Maintenance		C Manufacturing		D Construction/Installation		E Research & Training	
A1   ENTRY-LEVEL   PAGE 9-10		B1   ENTRY-LEVEL   PAGE 21-29		C1   ENTRY-LEVEL   PAGE 52-54		D1   ENTRY-LEVEL   PAGE 59-67		E1   ENTRY-LEVEL	
									
A2   MID-LEVEL   PAGE 11-17		B2   MID-LEVEL   PAGE 30-38		C2   MID-LEVEL   PAGE 55-56		D2   MID-LEVEL   PAGE 68-75		E2   MID-LEVEL   PAGE 80-82	
									
A3   ADVANCED   PAGE 18-20		B3   ADVANCED   PAGE 39-51		C3   ADVANCED   PAGE 57-58		D3   ADVANCED   PAGE 76-79		E3   ADVANCED   PAGE 83-84	
									

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





# Solar Energy Career List

## A Project Development

### A1 ENTRY-LEVEL PAGE 9-10

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

### A2 MID-LEVEL PAGE 11-17

- 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 18-20

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

## B Operations & Maintenance

### B1 ENTRY-LEVEL PAGE 21-29

- 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 30-38

- 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 39-51

- 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 52-54

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

### C2 MID-LEVEL PAGE 55-56

- Industrial Engineer / Manufacturing Engineer
- Inspector & Quality Control

### C3 ADVANCED PAGE 57-58

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

## D Construction/Installation

### D1 ENTRY-LEVEL PAGE 59-67

- 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 68-75

- 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 76-79

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

## E Research & Training

### E1 ENTRY-LEVEL

- N/A

### E2 MID-LEVEL PAGE 80-82

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

### E3 ADVANCED PAGE 83-84

- 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.

HOME

CAREER  
MAP





# 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 OECF).

## 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



CLEAN ENERGY CAREER PATHWAYS CATALOG

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# Wind Energy



HOME

CAREER  
MAP

CAREER  
LIST



# Wind Energy Career Map



A Project Development	B Operations & Maintenance	C Manufacturing	D Construction/Installation	E Research & Training
A1   ENTRY-LEVEL   PAGE 88-89	B1   ENTRY-LEVEL   PAGE 98-108	C1   ENTRY-LEVEL   PAGE 134-136	D1   ENTRY-LEVEL   PAGE 143-151	E1   ENTRY-LEVEL
A2   MID-LEVEL   PAGE 90-95	B2   MID-LEVEL   PAGE 109-121	C2   MID-LEVEL   PAGE 137-139	D2   MID-LEVEL   PAGE 152-157	E2   MID-LEVEL   PAGE 162-164
A3   ADVANCED   PAGE 96-97	B3   ADVANCED   PAGE 122-133	C3   ADVANCED   PAGE 140-142	D3   ADVANCED   PAGE 158-161	E3   ADVANCED   PAGE 165-166

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



# Wind Energy Career List

## A Project Development

### A1 ENTRY-LEVEL PAGE 88-89

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

### A2 MID-LEVEL PAGE 90-95

- Business Development Manager
- Electrical Systems Engineer, Power Systems Engineer, Electrical Interconnection Engineer, Electrical Design Engineer
- Mechanical Engineer, Design Engineer, Product Engineer, Equipment Engineer
- Project Developer; Pre-Construction Manager
- Site Acquisition Manager, Land Acquisition Manager
- Strategic Procurement Manager

### A3 ADVANCED PAGE 96-97

- Civil Engineer, Structural Engineer
- Planner—Renewable Energy

## B Operations & Maintenance

### B1 ENTRY-LEVEL PAGE 98-108

- Blade Repair Services Technician, Wind Blade Repair Technician
- Cable Splicer & Terminator
- Composite Blade Technician I
- Composite Blade Technician II
- Control Center Operator or Controller or Remote Access Operator
- Meteorologist—Entry
- Operations Specialist I
- Safety Manager I
- Wind Instrumentation & Electrical Technician—Entry
- Wind Technician I, Wind Farm Technician Trainee, Wind Turbine Tech, Wind Technician, Wind Technician Grade 1, Wind Turbine Tech—Entry
- Wind Technician II, Wind Farm Technician Associate, Wind Turbine Tech II, Wind Turbine Tech—Intermediate, Associate Technician

### B2 MID-LEVEL PAGE 109-121

- Assistant Facility Manager
- Composite Blade Technician III, Blade Composite Technician
- Environmental Engineer, Regulatory Compliance Manager, Environmental Scientist
- Maintenance Supervisor, Technician Supervisor
- Meteorologist—Intermediate
- Operations Specialist II
- Reliability Engineer
- Safety Manager II
- Wind Instrumentation & Electrical Technician—Intermediate
- Wind Instrumentation & Electrical Technician—Senior
- Wind Technician III, Wind Turbine Tech III, Wind Turbine Tech—Senior, Senior Technician
- Wind Technician Lead, Wind Maintenance Lead, Wind Turbine Tech Lead, Wind Services Lead, Lead Wind Technician
- Wind Technician Supervisor, Wind Turbine Technician Supervisor

### B3 ADVANCED PAGE 122-133

- Asset Manager
- Composite Blade Manager
- Director, Meteorology
- Director, Operations & Maintenance, Director O&M
- Director, Quality & Operations Support
- Engineering Manager
- Maintenance Manager
- Meteorologist—Senior
- Operations Manager, O&M Manager, Site Manager, Facility Manager
- Reliability Engineering Manager
- Safety Manager III
- Senior Financial Analyst & Planner

## C Manufacturing

### C1 ENTRY-LEVEL PAGE 134-136

- Advanced Manufacturing Technician, Production Technician, Manufacturing Maintenance Technician
- Assembler / Fabricator
- Inspector / Quality Control

### C2 MID-LEVEL PAGE 137-139

- Blade Testing Engineer—Intermediate
- Blade Testing Engineer—Entry
- Industrial Engineer, Manufacturing Engineer

### C3 ADVANCED PAGE 140-142

- Blade Testing Engineer—Advanced
- Blade Testing Engineer—Senior
- Industrial Engineering Manager, Manufacturing Engineering Manager

## D Construction/Installation

### D1 ENTRY-LEVEL PAGE 143-151

- Buyer, Procurement Specialist, Procurement Associate
- Commissioning Technician
- Concrete Worker
- Crane Operator
- Equipment Operator—Light
- Laborer, General Laborer
- Site Surveyor
- Truck Driver
- Warehouse Assistant, Warehouse Support

### D2 MID-LEVEL PAGE 152-157

- Construction Manager
- Construction Manager II
- Equipment Operator—Heavy, Equipment Operator
- Equipment Operator—Medium
- Journeyman Electrician
- Site Inspector, QA Inspector, Inspector & Quality Control Coordinator, Site Assessor

### D3 ADVANCED PAGE 158-161

- Commissioning Manager
- Construction Manager III
- Project Manager I (May serve as Construction Manager I)
- Project Manager II, Senior Project Manager (May serve as Construction Manager II)

## E Research & Training

### E1 ENTRY-LEVEL

- N/A

### E2 MID-LEVEL PAGE 162-164

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

### E3 ADVANCED PAGE 165-166

- 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.

## POSITION REPORTS TO

Business Development Director

## CAREER PATH MOVES FROM THIS ROLE

Business Development Director





# Site Acquisition Specialist

Land Acquisition Specialist, Land Agent, Land Acquisition Associate

## DESCRIPTION

Assist in obtaining land for Wind Onshore 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 wind onshore 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. 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.

## POSITION REPORTS TO

Business Development Director

## CAREER PATH MOVES FROM THIS ROLE

Business Development Director





# Electrical Systems Engineer

Power Systems Engineer, Electrical Interconnection Engineer, Electrical Design Engineer

## DESCRIPTION

Support the technical efforts associated with designing electrical power generation, delivery, and control and protection systems for renewable energy projects along with project-related electrical engineering, while providing electrical engineering expertise to development, construction, and operations. Support internal Project Engineers in the management of electrical design engineering firms and/or EPC contractors. Prepare and study specs of electrical systems and technical drawings. Develop construction, installation and manufacturing specifications. Develop and direct/implement commercial and utility scale wind power projects. Assess effectiveness and safety of wind 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, qualify 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

Minimum Bachelor of Science degree in electrical engineering is required.

### Experience

Three years progressively responsible experience in the renewable energy industry with electrical, protection, and/or controls design and engineering.

### Credentialing Required/Optional

Familiarity with IEEE electrical standards and NESC.

## POSITION REPORTS TO

Power Systems or Energy Systems Manager or Director

## CAREER PATH MOVES FROM THIS ROLE

Wind Energy Systems Designer





# Mechanical Engineer

Design Engineer, Product Engineer, Equipment Engineer

## DESCRIPTION

Design, develop, analyze and test Wind Onshore equipment and products. Design mechanical and electromechanical systems and components for Wind Onshore 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 Wind Onshore designs to improve efficiency and reliability, and to reduce costs.

## KNOWLEDGE/SKILLS

Project management, design for manufacturability (DFM) principles, mechanical and electromechanical assemblies & mechanisms, Wind Onshore energy, 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

Experience with design of mechanical or electromechanical Wind Onshore assemblies and mechanisms. Ideally 3D cad modeling and variety of software.

### Credentialing Required/Optional

May require engineering license, PE Professional engineer

## 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 the Pre-Construction aspects of utility-scale wind onshore renewable energy. Complete cost analysis and budgetary estimates for the engineering, procurement and construction of the renewable generation facilities. Manage the preliminary engineering for the 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 Wind Onshore Projects,  
Project Manager

## CAREER PATH MOVES FROM THIS ROLE

Construction Manager, Director of Engineering,  
Director of Wind Onshore Projects





# Site Acquisition Manager

Land Acquisition Manager

## DESCRIPTION

This is the more senior level of Site Acquisition Specialist. Secure optimal sites for wind onshore energy projects. Identify, structure, negotiate and execute real estate transactions with a wide range of property owners and third parties for the development of wind onshore 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 wind 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, Wind Onshore; Director of Development, or VP, Wind Onshore

## CAREER PATH MOVES FROM THIS ROLE

Wind Onshore 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 Wind Onshore energy solutions, tracking systems and other key technologies with a focus on Wind Onshore 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

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, Wind Onshore Operations

## CAREER PATH MOVES FROM THIS ROLE

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





# Civil Engineer

## Structural Engineer

### DESCRIPTION

Work with Wind Onshore project contractors by offering civil engineering expertise and meeting with leadership regarding project updates and reporting. Ensure project deliverables are in line with scope of work, quality, budget and schedule. Manage aspects of the onshore civil, structural (and architectural) fields for the Wind Onshore project. Provide input on planning and execution of civil engineering and construction scope. Ensure that all civil engineering complies with regulations, specifications, and best practices. Work with design team to define technical solutions within scope and provide civil and structural input and research-driven solutions. Calculate risks and document through risk management systems. Work with operations team and contractors regarding engineered solutions and structural capabilities. During construction, support field engineers and provide input and responsible decision making regarding civil discipline. Provide input and participate in testing and verification processes.

### KNOWLEDGE/SKILLS

Regulations, codes and permitting related to Wind Onshore projects. Civil engineering on Wind Onshore projects. Marine construction. Structural capacities. Risk systems.

### REQUIREMENTS

#### Education/Training

Master's degree in civil or structural engineering preferred. Minimum bachelor's degree in civil or structural engineering.

#### Experience

Minimum 10 years' experience with engineering and project execution. Civil/structural engineering experience.

#### Credentialing Required/Optional

PE (Professional Engineer)—registration.  
GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

### POSITION REPORTS TO

Wind Projects Senior Lead or Director

### CAREER PATH MOVES FROM THIS ROLE

Wind Projects Civil Lead or Director,  
Project Manager, other engineering discipline





# 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





# Blade Repair Services Technician

Wind Blade Repair Technician

## DESCRIPTION

In some companies, this role is part of the Wind Technician role. Maintain and repair composite blades and various turbine models. Report to, assist and support supervisors in coordination and execution of maintenance & repair activity of wind turbine blades, nacelles, composite components. Climb wind towers and access wind turbines to perform composites repair & maintenance tasks. Assist in transportation, setup and the operation of up-tower blade access mechanism. Support a team in performing rope, platform, and ground access composite repairs on multiple turbine manufacturers. Assist in mobilization of all repair equipment to site. Assist in major component replacement, which will primarily focus on blades. Assure proper storage, maintenance and handling of all blade repair service equipment.

## KNOWLEDGE/SKILLS

Equipment and repair of turbine blades of multiple manufactures (i.e. Siemens, GE, Vestas, Mitsubishi). Crane and rigging work. Composite materials and tools used during repairs. Techniques, skills and tools needed to repair the different type of damages in wind turbine blades. Repairs on the first layer of glass, core, & inner laminate.

## REQUIREMENTS

### Education/Training

High School diploma or GED & experience.

### Experience

Minimum 1 year experience in operation & maintenance of electromechanical apparatus, composite systems, or aerospace / marine composites manufacturing & engineering. Demonstrated experience in blade damage assessment and repair required.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered. American Composites Manufacturers Association (ACMA): Certified Composites Technician (CCT), CCT—Advanced Composites (CCT—AC), and CCT—Wind Blade Repair; Commercial Driver's License (CDL) if transporting wind blades/components.

## POSITION REPORTS TO

Blade Repair Supervisor, Wind Technician Supervisor

## CAREER PATH MOVES FROM THIS ROLE

Wind Technician advanced role, Lead, Supervisor





# Cable Splicer & Terminator

## DESCRIPTION

Perform cable splicing, termination 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

Cable splicing & termination. Electrical 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Head or Senior Electrician or Manager

## CAREER PATH MOVES FROM THIS ROLE

Head or Senior Electrician





# Composite Blade Technician I

## DESCRIPTION

Perform internal and external inspections, defect analysis and repair of fiberglass and composite blades, spinners, and nacelles from all categories. Provide maintenance support and perform large component replacements of wind turbine generators. Photograph internal and external blade damage, document findings, and assemble all associated paperwork. Perform coating and minor structural repairs on internal and external blade surfaces, tip repair, leading and trailing edge repair on locations both up tower and down tower. Utilize blade access platforms at heights of 300ft or more. Help in all areas of site preparation (i.e. coordination of labor and materials) with minimal supervision. Communicate site status to engineering, customers, and management. Provide maintenance support and perform large component replacement of wind turbine generators. Provide wind turbine generator LOTO (Lock Out & Tag Out) support.

## KNOWLEDGE/SKILLS

Tower Safety Training (LOTO), Suspended Platform Rigging/De-Rigging, Lamination principles and post-curing. Installation of vortex generators (serrations, panels, vanes, and flow anchors). Wiring schematics, blade access platforms, lightning protection system inspections, technology of wind blade construction & repair, mix of ratios for blade repair chemicals, blade assembly terminology, vacuum bagging principles. Documenting work performed, using computer-based procedures.

## REQUIREMENTS

### Education/Training

High School Diploma or GED.

### Experience

Minimum 1 year composite repair experience (OR Graduate of a Wind Tech and/or Composite program).

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered. American Composites Manufacturers Association (ACMA) Certified Composites Technician (CCT), CCT—Advanced Composites (CCT—AC), CCT—Wind Blade Repair

## POSITION REPORTS TO

Composite Blade Tech III,  
Composite Blade Manager

## CAREER PATH MOVES FROM THIS ROLE

Composite Blade Technician II,  
Composite Blade Technician III





# Composite Blade Technician II

## DESCRIPTION

Perform internal and external inspections, defect analysis and repair of fiberglass and composite blades, spinners, and nacelles from all categories. Provide maintenance support and perform large component replacements of wind turbine generators. Photograph internal and external blade damage, document findings, and assemble all associated paperwork. Perform coating and minor structural repairs on internal and external blade surfaces, tip repair, leading and trailing edge repair on locations both up tower and down tower. Utilize blade access platforms at heights of 300ft or more. Help in all areas of site preparation (i.e. coordination of labor and materials) with minimal supervision. Communicate site status to engineering, customers, and management. Provide maintenance support and perform large component replacement of wind turbine generators. Provide wind turbine generator LOTO (Lock Out & Tag Out) support.

## KNOWLEDGE/SKILLS

Tower Safety Training (LOTO), Suspended Platform Rigging/De-Rigging, Lamination principles and post-curing. Installation of vortex generators (serrations, panels, vanes, and flow anchors). Wiring schematics, blade access platforms, lightning protection system inspections, technology of wind blade construction & repair, mix of ratios for blade repair chemicals, blade assembly terminology, vacuum bagging principles. Documenting work performed, using computer based procedures.

## REQUIREMENTS

### Education/Training

High School Diploma or GED.

### Experience

Minimum of 2-3 years' of composite repair experience or minimum 1-2 years' AND Graduate of a Wind Tech/and or Composite Program.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered. American Composites Manufacturers Association (ACMA) Certified Composites Technician (CCT), CCT—Advanced Composites (CCT—AC), CCT—Wind Blade Repair

## POSITION REPORTS TO

Composite Blade Tech III,  
Composite Blade Manager

## CAREER PATH MOVES FROM THIS ROLE

Composite Blade Technician III





# Control Center Operator

Power System Operator, Electrical System Operator

## DESCRIPTION

Direct, monitor and coordinate the operation of wind energy assets from an Operations Control Center. Use SCADA and other monitoring and control systems. The Control Center Operator ensures that the operations of Wind Power Plants (WPP) 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





# 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 wind farm design. Assist in developing the turbine layout for wind farms based on available meteorological data using advanced mapping software. Analyze performance of operating projects, including evaluation of turbine performance in order 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, wind energy forecasting, wind 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.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered. American Composites Manufacturers Association (ACMA) Certified Composites Technician (CCT), CCT—Advanced Composites (CCT—AC), CCT—Wind Blade Repair

## 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) for Center Wind-Onshore 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

Wind 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 Wind 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Operations Manager or RPM Manager

## CAREER PATH MOVES FROM THIS ROLE

Operations Specialist II





# Safety Manager I

## DESCRIPTION

Participate in planning 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 lead safety manager on small project. Present safety training to support the company and client requirements. Participate in EHS project risk assessments. Assist with conducting accident, near miss, & damage investigations with Root Cause Analysis. With oversight, develop and monitor EHS performance, 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

EHS Senior Leadership or a Group/Senior Safety Manager

## CAREER PATH MOVES FROM THIS ROLE

Senior Safety Manager, Safety Manager II





# Wind Instrumentation & Electrical Technician—Entry

## DESCRIPTION

Under close supervision, perform maintenance, calibrate, install, and repair instrumentation including controls and electrical equipment at a wind 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 and climb towers in excess of 200 feet tall. 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 wind energy equipment. SCADA systems. Customer service. Ability to climb towers in excess of 200 feet tall and 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

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

## CAREER PATH MOVES FROM THIS ROLE

Wind Instrumentation and Electrical Technician—Intermediate





# Wind Technician I

Wind Farm Technician Trainee, Wind Turbine Tech, Wind Technician, Wind Technician Grade 1, Wind Turbine Tech—Entry

## DESCRIPTION

Assist in the safe operation and performance of scheduled and unscheduled mechanical, electrical and hydraulic maintenance activities for wind turbines and turbine components consistent with policies and procedures established for the wind farm site. Climb towers as required to perform maintenance, replacement and inspection. Assist in the replacement of major turbine components (e.g. generators & gearboxes), heavy equipment rigging and directing, identification of failures, faults, and problems, and implementation of corrective actions. Assist in conducting acceptance and performance tests on systems and equipment following planned maintenance and outages. Write (some using computer) routine reports and correspondence. Maintain service logs, and monitor turbine performance. Read blueprints and schematics. Collect turbine data for testing or research and analysis. May also service underground transmission systems, wind field substations, or fiber optic sensing and control systems. Assist with high voltage system maintenance and repair and in inspecting wind turbines. 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

Reading schematics & blueprints. Diagnosing equipment problems. Physically fit enough to free climb 250ft multiple times/day while wearing 25+ lbs. of climbing gear under extraordinary weather conditions. High tower rescue. Basic Electricity, Mechanical Fundamentals, 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 documents such as safety rules, operating and maintenance instructions, and procedures manuals. Writing reports.

## REQUIREMENTS

### Education/Training

Minimum requirement: High school diploma or GED. An associate's degree (electrical or technical) helpful. Advanced electrical and mechanical courses helpful. Valid driver's license.

### Experience

0-2+ years related work experience

### Credentialing Required/Optional

Certifications required to perform the work, including but not limited to: First Aid / CPR, Tower Climb and Rescue, LOTO, Arc Flash, etc. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Wind Turbine Technician Lead or Senior, Wind Turbine Technician Supervisor, Wind Farm Site Manager, Manager Renewable Energy

## CAREER PATH MOVES FROM THIS ROLE

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





# Wind Technician II

Wind Farm Technician Associate, Wind Turbine Tech II,  
Wind Turbine Tech—Intermediate, Associate Technician

## DESCRIPTION

Ensure safe operation and perform scheduled and unscheduled mechanical, electrical and hydraulic maintenance activities for wind turbines and turbine components consistent with policies and procedures established for the wind farm site. Climb towers as required to perform maintenance, replacement and inspection. Inspect wind turbines. Replace major turbine components. Assist with heavy equipment rigging and directing. Identify / troubleshoot failures, faults, and problems. Interpret fault reports and implement corrective actions. Conduct acceptance and performance tests on systems and equipment following planned maintenance and outages. Write (some using computer) routine reports and correspondence. Maintain service logs, and monitor turbine performance and SCADA systems. Read blueprints and schematics. Collect turbine data for testing or research and analysis. Lead and train more junior technicians to complete required duties. Interact with customers. Assist in all areas of site operations. Ensure all health and safety and operating procedures are followed.

## KNOWLEDGE/SKILLS

Reading schematics & blueprints. Diagnosing equipment problems. Physically fit enough to free climb 250ft multiple times/day while wearing 25+ lbs. of climbing gear under extraordinary weather conditions. High tower rescue. Basic Electricity, Mechanical Fundamentals, 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 documents such as safety rules, operating and maintenance instructions, and procedures manuals. Writing routine reports and correspondence. Dealing with problems involving several variables.

## REQUIREMENTS

### Education/Training

High School diploma or GED and some experience. Preference for one-year technical college or trade school or associate's degree. Advanced electrical and mechanical courses helpful. Valid driver's license.

### Experience

2-3 years of related work experience

### Credentialing Required/Optional

Certifications required to perform the work, including but not limited to: First Aid / CPR, Tower Climb and Rescue, LOTO, Arc Flash, etc. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Wind Turbine Technician Lead or Senior, Wind Turbine Technician Supervisor, Wind Farm Site Manager, Manager Renewable Energy

## CAREER PATH MOVES FROM THIS ROLE

Wind 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

Ability to climb turbine tower > 100m. Computer skills, mechanical and electrical troubleshooting and maintenance. Leadership & 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.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Facility Manager, Operations Manager

## CAREER PATH MOVES FROM THIS ROLE

Facility Manager, Operations Manager





# Composite Blade Technician III

## DESCRIPTION

Perform internal and external inspections, defect analysis and repair of fiberglass and composite blades, spinners, and nacelles from all categories. Provide maintenance support and perform large component replacements of wind turbine generators. Photograph internal and external blade damage, document findings, and assemble all associated paperwork. Perform coating and minor structural repairs on internal and external blade surfaces, tip repair, leading and trailing edge repair on locations both up tower and down tower. Utilize blade access platforms at heights of 300ft or more. Help in all areas of site preparation (i.e. coordination of labor and materials) with minimal supervision. Communicate site status to engineering, customers, and management. Provide maintenance support and perform large component replacement of wind turbine generators.

## KNOWLEDGE/SKILLS

Tower Safety Training (LOTO), Suspended Platform Rigging/De-Rigging. Lamination principles and postcuring. Install vortex generators (serrations, panels, vanes, and flow anchors). Ability to read and understand wiring schematics. Blade access platforms experience, lightning protection system inspections knowledge. Technology of wind blade construction & repair, mix of ratios for blade repair chemicals, blade assembly terminology, vacuum bagging principles. Document all work performed using computer-based procedures.

## REQUIREMENTS

### Education/Training

High School Diploma or GED.

### Experience

Minimum of 3-5 years' of composite repair experience or minimum 2-4 years' AND Graduate of a Wind Tech/and or a Composite Program.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered. American Composites Manufacturers Association (ACMA) Certified Composites Technician (CCT), CCT—Advanced Composites (CCT—AC), CCT—Wind Blade Repair

## POSITION REPORTS TO

Composite Blade Manager

## CAREER PATH MOVES FROM THIS ROLE

Composite Blade Manager





# Environmental Engineer

Regulatory Compliance Manager, Environmental Scientist

## DESCRIPTION

Using knowledge from various engineering disciplines, develop processes, policies, and practices to prevent or mitigate health, safety, or environmental issues with Wind Onshore operations. Conduct environmental impact studies and recommend management and mitigation strategies. Monitor and address environmental and hazardous concerns such as materials and facility practices. Work with regulatory personnel. Conduct inspections of Wind Onshore 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





# Maintenance Supervisor

## Technician Supervisor

### DESCRIPTION

Supervise and perform corrective, preventive, and emergency maintenance and operations for Wind Onshore 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 Wind Onshore facilities 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, 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 wind farm design. Assist in developing the turbine layout for wind farms based on available meteorological data using advanced mapping software. Analyze performance of operating projects, including evaluation of turbine performance in order 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, wind energy forecasting, wind 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.

### Credentialing Required/Optional

Journeyman electrician preferred

## 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 Wind-Onshore 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

Wind 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 Wind 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Operations Manager or RPM Manager

## CAREER PATH MOVES FROM THIS ROLE

Operations Manager or RPM Manager





# Reliability Engineer

## DESCRIPTION

Assess wind turbine 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 wind turbines.

## 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. Wind 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 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

EHS Senior Leadership or a Group/Senior Safety Manager

## CAREER PATH MOVES FROM THIS ROLE

Senior Safety Manager, Safety Manager III





# Wind Instrumentation & Electrical Technician—Intermediate

## DESCRIPTION

Perform maintenance, calibrate, install, and repair instrumentation including controls and electrical equipment at a wind 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 and climb towers in excess of 200 feet tall. 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 wind energy equipment. SCADA systems. Customer service. Ability to climb towers in excess of 200 feet tall and 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Wind Farm Site Manager

## CAREER PATH MOVES FROM THIS ROLE

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





# Wind Instrumentation & Electrical Technician—Senior

## DESCRIPTION

Perform maintenance, calibrate, install, and repair instrumentation including controls and electrical equipment at a wind 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, electrical equipment, instrumentation and SCADA systems. Provide guidance to less experienced technicians. Work with voltages up to 230kV and climb towers in excess of 200 feet tall. 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 wind energy equipment. SCADA systems. Customer service. Ability to climb towers in excess of 200 feet tall and 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Wind Farm Site Manager

## CAREER PATH MOVES FROM THIS ROLE

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





# Wind Technician III

Wind Turbine Tech III, Wind Turbine Tech—Senior, Senior Technician

## DESCRIPTION

Oversee safe operation and performance of scheduled and unscheduled mechanical, electrical and hydraulic maintenance activities for wind turbines and turbine components consistent with policies and procedures established for the wind farm site. Climb towers as required to perform maintenance, replacement and inspection. Inspect wind turbines. Assist with heavy equipment rigging and directing. Identify / troubleshoot failures, faults, and problems. Interpret fault reports, and implement corrective actions. Conduct acceptance and performance tests on systems and equipment. Write (some using computer) routine reports and correspondence. Maintain service logs, and monitor turbine performance and SCADA systems. Read blueprints and schematics. Collect turbine data for testing or research and analysis. Develop strategy for improved maintenance diagnostics and operation. Lead and train more junior technicians. Read and write business, operations and financial reports. Serve as the person in charge for work team. Interact with customers. Ensure health, safety and operating procedures are followed.

## KNOWLEDGE/SKILLS

Reading schematics & blueprints. Diagnosing equipment problems. Physically fit enough to free climb 250ft multiple times/day while wearing 25+ lbs. of climbing gear under extraordinary weather conditions. High tower rescue. Electricity, Mechanical Fundamentals, Hydraulics, and Environmental, Health and Safety Fundamentals. Using 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 procedures manuals. Writing routine reports and correspondence. Troubleshooting involving several variables. Leading and training other technicians.

## REQUIREMENTS

### Education/Training

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

### Experience

Minimum of 4 years of related work experience; ideally 6-8 years as a Wind Technician

### Credentialing Required/Optional

Certifications required to perform the work, including but not limited to: First Aid / CPR, Tower Climb and Rescue, LOTO, Arc Flash, etc. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Wind Farm Site Manager

## CAREER PATH MOVES FROM THIS ROLE

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





# Wind Technician Lead

Wind Maintenance Lead, Wind Turbine Tech Lead,  
Wind Services Lead, Lead Wind Technician

## DESCRIPTION

Support the site / facility manager in operating the site. Oversee safe operation and performance of scheduled and unscheduled mechanical, electrical and hydraulic maintenance activities for wind turbines and turbine components consistent with policies and procedures established for the wind farm site. Climb towers as required to perform maintenance, replacement and inspection. Replace major turbine components. Assist with heavy equipment rigging and directing. Ensure the troubleshooting of failures, faults, and problems; interpret fault reports, and implement corrective actions. Conduct performance tests on systems and equipment. Write (some using computer) routine reports and correspondence. Maintain service logs, and monitor turbine performance and SCADA systems. Read blueprints and schematics. Collect turbine data for testing or research and analysis. Assist with high-voltage system maintenance and repair. Develop strategy for improved maintenance diagnostics and operation. Lead and train more junior technicians. Read and write business, operations and financial reports. Serve as the person in charge for work team. Interact with customers. Support public relations.

## KNOWLEDGE/SKILLS

Reading schematics & blueprints. Diagnosing equipment problems. Physically fit enough to free climb 250ft multiple times/day while wearing 25+ lbs. of climbing gear under extraordinary weather conditions. High tower rescue. 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. Writing routine reports and correspondence. Troubleshooting involving several variables. Leading and training other technicians. Customer service, public relations.

## REQUIREMENTS

### Education/Training

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

### Experience

Minimum 5+ years related experience; ideally 7-10 years as a Wind Technician or experience in renewable energy sector. 1+ years of independent turbine troubleshooting experience (without assistance)

### Credentialing Required/Optional

Certifications required to perform the work, including but not limited to: First Aid / CPR, Tower Climb and Rescue, LOTO, Arc Flash, etc. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Wind Technician Supervisor, Wind Site Leader

## CAREER PATH MOVES FROM THIS ROLE

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





# Wind Technician Supervisor

## Wind Turbine Technician Supervisor

### DESCRIPTION

Support the site / facility manager in operating the site. Provide first line of supervision for technicians. Oversee safe operation and performance of mechanical, electrical and hydraulic maintenance activities for wind turbines and turbine components consistent with policies and procedures established for the wind farm site. Schedule all maintenance, replacement and inspection. Ensure the troubleshooting of failures, faults, and problems; interpret fault reports, and implement corrective actions. Write (some using computer) routine reports and correspondence. Maintain service logs, and monitor turbine performance and SCADA systems. Read blueprints and schematics. Collect turbine data for testing or research and analysis. Assist with high-voltage system maintenance and repair. Develop strategy for improved maintenance diagnostics and operation. Lead and train more junior technicians. Interact with customers. Assist in the selection of team members and performance evaluations and coaching. Assume site manager role temporarily as needed. Balance and support facility public relations and community interactions. Ensure all health and safety and operating procedures are followed.

### KNOWLEDGE/SKILLS

Diagnosing equipment problems. Physically fit enough to free climb 250ft under extraordinary weather conditions and for high tower rescue. 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. Customer service.

### REQUIREMENTS

#### Education/Training

Minimum High school diploma or GED, along with additional training in electrical/mechanical theory and leadership skills. Associate's degree or Bachelor's degree (electrical or technical) is preferred. Valid driver's license.

#### Experience

Minimum of 3 years repair and maintenance with all wind turbine power generation equipment and systems. Experience with operating and maintenance procedures and planning techniques. Experience leading crews highly preferred. Demonstrated ability to maintain wind turbines at high availability. Experience creating reports and using MS Office software.

#### Credentialing Required/Optional

Certifications required to perform the work, including but not limited to: First Aid / CPR, Tower Climb and Rescue, LOTO, Arc Flash, etc. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

### POSITION REPORTS TO

Wind Site Leader, Project Manager

### CAREER PATH MOVES FROM THIS ROLE

Site Leader, 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 Wind Operations or CFO

## CAREER PATH MOVES FROM THIS ROLE

Director of Wind Operations or Engineering or  
Project Manager on other green energy systems





# Composite Blade Manager

## DESCRIPTION

Oversee and support blade repair crews and assist in performing complex repairs as necessary. Evaluate and approve employee blade competency levels for blade repair training. Develop new and amend existing work instructions for blade repairs used on renewables' sites. Oversee certification for Composite Blade Training Program. Perform evaluations of blade repairs and blade teams in accordance with Safety, Quality and Productivity expectations. Evaluate and document blade damage dispositions for all categories of blade repairs. Perform and/or review blade repair reports, quality reviews, open cases and ensure appropriate follow-up measures are taken. May be required to review and certify blade repair. Monitor and report blade failure rates using reliability methodology. Support and review the procurement of blade assets necessary to complete jobs in timely manner.

## KNOWLEDGE/SKILLS

Blade damage assessment, multiple manufacturers and repair types. EHS requirements. Non-Destructive Testing, composite materials. Integral, spar/shell and web blades, manufacturing of blades and/or designing blade repairs, performing quality inspections from damage identification to repair reporting. Operations and maintenance of electrical, mechanical, hydraulic, or pneumatic systems.

## REQUIREMENTS

### Education/Training

Associate (minimum 2-year) degree in aerospace, mechanical or related technical field, or equivalent experience.

### Experience

7+ years' of wind energy composite experience, experience working on integral, spar/shell and web blades, proven experience in manufacturing of blades and/or designing blade repairs, performing quality inspections from damage identification to repair reporting.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered. American Composites Manufacturers Association (ACMA): Certified Composites Technician (CCT), CCT—Advanced Composites (CCT—AC), and CCT—Wind Blade Repair

## POSITION REPORTS TO

Maintenance Manager, O&M Manager, Director Wind

## CAREER PATH MOVES FROM THIS ROLE

Maintenance Manager, O&M Manager, Director Wind





# Director, Meteorology

## DESCRIPTION

Develop and manage the meteorology program to support the company's wind energy generation business and to provide wind energy forecasts for locations of interest. Oversee the compilation of meteorological database for wind 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 wind 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 wind industry, Meteorology, atmospheric science, wind energy forecasting, wind 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 Wind Business

## CAREER PATH MOVES FROM THIS ROLE

Vice President Operations, VP Wind Business





# Director Operations & Maintenance

## DESCRIPTION

Manage overall strategic and operational activities for O&M projects in wind farms and potentially other clean power operations. 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 wind industry.

## REQUIREMENTS

### Education/Training

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

### Experience

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

## POSITION REPORTS TO

Vice President Operations, VP Wind Business

## CAREER PATH MOVES FROM THIS ROLE

Vice President Operations, VP Wind 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

Vice President Operations, VP Wind  
Onshore Business

## CAREER PATH MOVES FROM THIS ROLE

Vice President Operations, VP Wind  
Onshore Business





# Engineering Manager

## DESCRIPTION

Provide engineering expertise and general support to the onsite operations and maintenance teams. Ensure 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 wind 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Director of Operations

## CAREER PATH MOVES FROM THIS ROLE

Director of Operations, Project Manager





# Maintenance 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 Wind 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 Wind Onshore facilities, 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 facility systems and computerized maintenance management systems (SAP).

### Credentialing Required/Optional

Journeyman electrician preferred.

## POSITION REPORTS TO

Maintenance Director, Wind Onshore 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 wind farm design. Assist in developing the turbine layout for wind farms based on available meteorological data using advanced mapping software. Analyze performance of operating projects, including evaluation of turbine performance in order 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 wind industry, Meteorology, atmospheric science, wind energy forecasting, wind 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.

### Credentialing Required/Optional

Journeyman electrician preferred.

## POSITION REPORTS TO

Director, Meteorology

## CAREER PATH MOVES FROM THIS ROLE

Director, Meteorology





# Operations Manager

O&M Manager, Site Manager, Facility Manager

## DESCRIPTION

Manage all wind 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, wind 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. Ability to climb towers > 400ft.

## 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.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## 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 wind 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. Wind experience in design, installation, operation and maintenance.

## POSITION REPORTS TO

Reliability Director, Wind Onshore Director

## CAREER PATH MOVES FROM THIS ROLE

Reliability Director, Installation or Design Engineer





# Safety Manager III

## DESCRIPTION

Plan 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 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 & provide active leadership for Safety/HSE personnel. Develop and facilitate EHS project risk assessments. Lead and conduct accident, near miss, and damage investigations with Root Cause Analysis. Develop & monitor EHS performance, 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## 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 wind 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 wind 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 Wind Onshore 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.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## 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 wind products. Use various machines and hand tools to create and assemble wind turbine components, wind blades, tower structures, instrument / electronic 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. Create wind blades by combining layers of fabrics, adhesives and protective coatings. 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.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Manufacturing Supervisor or Lead

## CAREER PATH MOVES FROM THIS ROLE

Machinist, Tool & Die Maker





# Inspector / Quality Control

## DESCRIPTION

Responsible for verifying that Wind Onshore components of tower, nacelle and blades, are manufactured according to specifications, move correctly and are properly lubricated. (Some inspectors may focus on the nacelle, others on the blades, etc.) 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 wind energy components and structures. Inspection and quality control of Wind Onshore components preferred

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Quality Control Manager

## CAREER PATH MOVES FROM THIS ROLE

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





# Blade Testing Engineer—Intermediate

## DESCRIPTION

Under broad supervision, support the continuous improvement of blade product quality to control and improve upon the non-conformities across manufacturing facilities. Test composite materials, working in the range from small scale testing to full scale testing of wind turbine blades. Update team regarding test findings for all alarms and warnings. Perform troubleshooting on Wind Turbine anomalies to determine root cause and communicate action needed. Aid in the support of blade repair methods using a statistical approach for continuous improvement. Review mechanical design, composite material, and systems. Review material defects. Help to develop, verify, and validate test methods in blade testing and repair documentation.

## KNOWLEDGE/SKILLS

Strong knowledge of composite materials and process. Basic knowledge in SAP or QDA. Mechanical design and Mechanical system in wind blade production.

## REQUIREMENTS

### Education/Training

Bachelor's Degree in Mechanical/Composites.

### Experience

At least three to five years of experience in mechanical engineering or other relevant experience.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Senior or Advanced Blade Testing Engineer

## CAREER PATH MOVES FROM THIS ROLE

Senior or Advanced Blade Testing Engineer,  
Other Senior or Advanced Engineer





# Blade Testing Engineer—Entry

## DESCRIPTION

Under close supervision, support the continuous improvement of blade product quality to control and improve upon the non-conformities across manufacturing facilities. Test composite materials, working in the range from small scale testing to full scale testing of wind turbine blades. Update team regarding test findings for all alarms and warnings. Perform troubleshooting on Wind Turbine anomalies to determine root cause, and communicate action needed. Aid in the support of blade repair efforts using a statistical approach for continuous improvement. Review mechanical design, composite material, and systems. Review material defects. Help to develop, verify, and validate test methods in blade testing and repair documentation.

## KNOWLEDGE/SKILLS

Strong knowledge of composite materials and process. Basic knowledge in SAP or QDA. Mechanical system in wind blade production. Mechanical design and systems.

## REQUIREMENTS

### Education/Training

Bachelor's Degree in Mechanical/Composites.

### Experience

At least one to two years of experience in mechanical engineering or other relevant experience.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Intermediate, Senior or Advanced Blade Testing Engineer

## CAREER PATH MOVES FROM THIS ROLE

Intermediate Blade Testing Engineer,  
Other Intermediate Engineer





# Industrial Engineer

## Manufacturing Engineer

### DESCRIPTION

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

### KNOWLEDGE/SKILLS

Quality control, Wind Onshore 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





# Blade Testing Engineer—Advanced

## DESCRIPTION

Provide leadership and direction to employees who are training in their roles. Ensure continuous improvement to control and improve upon the non-conformities in blade product quality, across the manufacturing plants. Understand the mechanical system in wind blade production. Test composite materials, working in the range from small scale testing to full scale testing of wind turbine blades. Update team regarding test findings for all alarms and warnings. Perform troubleshooting on Wind Turbine anomalies to determine root cause and communicate action needed. Support blade repair methods using a statistical approach for continuous improvement. Review and understand mechanical design, composite material, and systems. Review material defects. Develop, verify, and validate test methods in blade used in testing and repair documentation.

## KNOWLEDGE/SKILLS

Strong knowledge of mechanical engineering, composite materials and process, SAP or QDA. Mechanical design and systems.

## REQUIREMENTS

### Education/Training

Bachelor's Degree or Master's Degree in Mechanical/Composites. Knowledge of composite materials and process.

### Experience

Five to seven years of experience in mechanical engineering or other relevant experience.

### Credentialing Required/Optional

PE (Professional Engineer) desirable. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Blade Testing Engineer—Senior, Manufacturing or Operations Manager or Engineering Manager or Director

## CAREER PATH MOVES FROM THIS ROLE

Manufacturing or Operations Manager or Engineering Manager or Director, Project Manager





# Blade Testing Engineer—Senior

## DESCRIPTION

Mentor less-experienced team members. Ensure the continuous improvement in blade product quality to control and improve upon the non-conformities across manufacturing plants. Test composite materials, working in the range from small scale testing to full scale testing of wind turbine blades. Update team regarding test findings for all alarms and warnings. Perform troubleshooting on Wind Turbine anomalies to determine root cause and communicate action needed. Aid in the support of blade repair methods using a statistical approach for continuous improvement. Review mechanical design, composite material, and systems. Review material defects. Help to develop, verify, and validate test methods in blade testing and repair documentation. Support blade repair methods use a statistical approach for continuous improvement. Review and understand mechanical design, composite material, and systems. Review material defects. Develop, verify, and validate test methods in blade testing and repair documentation.

## KNOWLEDGE/SKILLS

Strong knowledge of composite materials and process. Basic knowledge in SAP or QDA. Mechanical system in wind blade production. Mechanical design.

## REQUIREMENTS

### Education/Training

Bachelor's Degree or Master's Degree in Mechanical/Composites.

### Experience

At least five years of experience in mechanical engineering or other relevant experience.

### Credentialing Required/Optional

PE (Professional Engineer) desirable.  
GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Engineering Manager or Director, or  
Manufacturing or Operations Manager

## CAREER PATH MOVES FROM THIS ROLE

Engineering Manager or Director, Project Manager





# 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 Wind Onshore

### CAREER PATH MOVES FROM THIS ROLE

Engineering Director, Manager of other engineering discipline





# 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. 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 wind 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





# Commissioning Technician

## DESCRIPTION

Work with team to perform required system inspections on utility wind power facilities. 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 wind system troubleshooting and corrective actions. Oversee third party testing and inspections. (Transformers, audits, 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

Wind 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 wind systems preferred.

### Experience

Minimum 1 year wind turbine installation experience.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Commissioning Manager

## CAREER PATH MOVES FROM THIS ROLE

Commissioning Engineer





# Concrete Worker

## DESCRIPTION

Perform duties such as concrete placement, rebar tying, concrete finishing, and manual lifting.

## KNOWLEDGE/SKILLS

Concrete pouring. Rebar tying. Concrete finishing.

## REQUIREMENTS

### Education/Training

HS Diploma, experience in concrete work, Apprenticeship preferred

### Experience

1-2 years' experience

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Foreman, Construction Manager

## CAREER PATH MOVES FROM THIS ROLE

Foreman, Technician (with education)





# Crane Operator

## DESCRIPTION

Responsible for operating crane (hydro cranes, crawler cranes, and/or pile driving hammers) to hoist, move, and place materials and objects. Operate levers and pedals to raise and lower loads, and move loads around. Monitor load hook-up and safety. Clean and maintain equipment. Perform daily inspections of equipment. Read and interpret procedures, directions, drawings, and calculate loads.

## 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 or GED preferred.

May require apprenticeship on equipment.

### Experience

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

### Credentialing Required/Optional

Class A CDL to haul equipment; NCCCO Certification, GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered. 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—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—Light





# 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

High School 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 / Tradesman (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





# 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. 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-year 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. Wind Energy Transportation Professional Advanced Certification (WITPAC—NAPVSA.org) desirable.

## 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





# Construction Manager

## DESCRIPTION

Responsible for directing, planning, and managing Wind Onshore 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, Wind Onshore 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 Wind Onshore Projects

## CAREER PATH MOVES FROM THIS ROLE

Construction Manager II or Project Manager or Superintendent





# Construction Manager II

## DESCRIPTION

Responsible for directing, planning, and managing Wind Onshore 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, Wind Onshore 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 Wind Onshore Projects

## CAREER PATH MOVES FROM THIS ROLE

Construction Manager III 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

### 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, GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Construction Manager, Project Manager, Electrician Supervisor or Manager

## CAREER PATH MOVES FROM THIS ROLE

Electrician Supervisor or Manager





# Site Inspector

QA Inspector, Inspector & Quality Control Coordinator, Site Assessor

## DESCRIPTION

Inspect the wind project, job site, construction, and maintain 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 wind sites including; substations, roads, environmental, excavations, concrete, rebar, transmission lines, underground utilities, steel erection, 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. Monitor job progress, schedules and subcontractor performance.

## 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.

## 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 wind onshore; 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

GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Construction Manager, Director of Wind Projects

## CAREER PATH MOVES FROM THIS ROLE

Construction Manager, Project Manager





# Commissioning Manager

## DESCRIPTION

Oversee project development, construction and commissioning operations from the Wind Onshore project kickoff through customer acceptance. Responsible for planning, checking, quality assurance, monitoring, evaluation, and preparation of commissioning reports to management. Staff, train, and manage Wind Onshore commissioning team personnel. Ensure all EHS policies and procedures are followed. Create guidelines and procedures to ensure all project activities are completed according to a standard process, project plan and budget. Conduct routine audits as necessary. Interact with engineering to troubleshoot any technical issues. Manage budgets.

## KNOWLEDGE/SKILLS

Electrical and mechanical theory. Team supervision. Budgeting procedures. Commissioning operations and practices for Wind energy projects. Interpreting engineering drawings.

## REQUIREMENTS

### Education/Training

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

### Experience

5-7 years Experience with power generation equipment and commissioning procedures. Construction and commissioning experience in structural assembly, electrical protection and control systems related to the site work.

### Credentialing Required/Optional

Optional: REP—Renewable Energy Professional and Certified Energy Manager from the Association of Energy Engineers ([aeecenter.org](http://aeecenter.org))

## POSITION REPORTS TO

Director, Wind Onshore Commissioning;  
Director, Wind Onshore

## CAREER PATH MOVES FROM THIS ROLE

Project Manager—Commissioning; Director,  
Wind Onshore Commissioning





# Construction Manager III

## DESCRIPTION

Responsible for directing, planning, and managing Wind Onshore 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, Wind Onshore 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 Wind Onshore Projects

## CAREER PATH MOVES FROM THIS ROLE

Director of Wind Onshore Projects





# Project Manager I

(May serve as Construction Manager I)

## DESCRIPTION

Provide technical support of development activities. Manage project(s) from office location and/or remote project site and the construction of wind sites, concentrating on safety, schedule, budget, labor relations, customer satisfaction, costs and quality compliance. Responsible for holding and understanding specifications of job in regards to the specific project. Serve as the construction manager OR work with the construction manager. Handle contract management—change orders, change in scope, change in field conditions, change in ability to perform as bid with means and methods. Create and manage budgets. Manage contractor and vendor relationships including identifying and mitigating potential risk exposure and cost overrun exposure. Plan needed equipment and personnel and manage purchase orders. Manage and update reports, order logs, and communication logs. Manage costs of the project and projected changes based on weather change orders, etc. Complete due diligence of all construction practices, procedures, and construction documents.

## KNOWLEDGE/SKILLS

Knowledge of basic engineering concepts. Familiarity with wind power generation systems and equipment, overhead and underground cable installation, reactive power compensation equipment, SCADA systems, cost analysis, constructability knowledge, safety, leadership, familiarity with equipment and creating / managing contracts and contract law.

## REQUIREMENTS

### Education/Training

High school diploma plus experience required. Bachelor of Science degree in engineering or construction management is desired.

### Experience

5-10 years progressively responsible experience in the clean energy industry with wind energy experience.

### Credentialing Required/Optional

PMP certification preferred. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Project Manager II, Construction Manager, Site Manager, Director of Wind Onshore

## CAREER PATH MOVES FROM THIS ROLE

Project Manager II, Construction Manager, Site Manager





# Project Manager II

(May serve as Construction Manager II)

## DESCRIPTION

Provide technical support of development activities. Manage project(s) from office location and/or remote project site and the construction of wind sites, concentrating on safety, schedule, budget, labor relations, customer satisfaction, costs and quality compliance. Responsible for holding and understanding specifications of job in regards to specific project. Serve as construction manager OR work with construction manager. Handle contract management—change orders, changes in scope, changes in field conditions, changes in ability to perform as bid with means and methods. Create and manage budgets. Manage contractor and vendor relationships including identifying and mitigating potential risk exposure and cost overrun exposure. Plan needed equipment and personnel, and manage purchase orders. Manage and update reports, order logs, and communication logs. Manage costs of the project and projected changes based on weather change orders, etc. Complete due diligence of all construction practices, procedures, and construction documents.

## KNOWLEDGE/SKILLS

Knowledge of basic engineering concepts. Familiarity with wind power generation systems and equipment, overhead and underground cable installation, reactive power compensation equipment, SCADA systems, cost analysis, constructability knowledge, safety, leadership, familiarity with equipment and creating / managing contracts and contract law.

## REQUIREMENTS

### Education/Training

Bachelor's degree in engineering is required, preferably mechanical or electrical engineering or construction.

### Experience

Minimum of 10-15 years' experience in the construction industry—with direct experience in wind farm design or construction. Field experience is a plus.

### Credentialing Required/Optional

PMP certification preferred. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Construction Manager, Site Manager,  
Director of Wind Onshore

## CAREER PATH MOVES FROM THIS ROLE

Construction Manager, Site Manager





# Analyst / Researcher

## DESCRIPTION

Work across Wind Onshore project phases including development, permitting, construction, and operational. Support or lead conceptual design studies, Wind Onshore constraint analyses, site suitability, Wind Onshore permitting and technical studies, O&M analysis, constructability analyses, cost studies, decommissioning studies, and market and supply chain assessment. Maximize revenue and efficiency for Wind Onshore 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 Wind Onshore systems. Support and serve the production team, field technical operations and asset management to address all Wind Onshore 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 Wind Onshore 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 Wind Onshore, Operations Director, Construction Manager; Wind Onshore Optimization Engineer





# Research Engineer

Research and Development Engineer

## DESCRIPTION

Plan and manage engineering projects to develop wind technologies and processes that produce the most efficient and cost-effective electricity. Design, develop and analyze/evaluate wind turbine components and wind 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 wind 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

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered. 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 Wind Onshore projects. Test research materials and structures to be used in various environments on Wind Onshore projects. Conduct research to develop new materials and improvements to Wind Onshore blades and structures.

## KNOWLEDGE/SKILLS

Effects of various temperatures and environments on materials, materials properties, process optimization, advanced math & science, materials fabrication and processing, Wind Onshore 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 Wind Onshore 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.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records  
Database) registered.

## POSITION REPORTS TO

Director of Operations, Human Resources Director

## CAREER PATH MOVES FROM THIS ROLE

Director of Operations, Project Manager,  
Human Resources Director



CLEAN ENERGY CAREER PATHWAYS CATALOG

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# Offshore Wind Energy

HOME

CAREER  
MAP

CAREER  
LIST



# Offshore Wind Career Map



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





# Offshore Wind Energy Career List



## A Project Development

### A1 | ENTRY-LEVEL |

- N/A

### A2 | MID-LEVEL | PAGE 170-175

- Business Development Manager
- Electrical Systems Engineer, Power Systems Engineer, Electrical Interconnection Engineer, Electrical Design Engineer
- Mechanical Engineer, Design Engineer, Product Engineer, Equipment Engineer
- Permitting Lead or Manager depending on years of experience
- Project Developer; Pre-Construction Manager
- Strategic Procurement Manager

### A3 | ADVANCED | PAGE 176-179

- Civil Engineer, Structural Engineer
- Geotechnical Engineer
- Permitting Director
- Planner—Renewable Energy

## B Operations & Maintenance

### B1 | ENTRY-LEVEL | PAGE 180-188

- Blade Repair Services Technician, Wind Blade Repair Technician
- Composite Blade Technician I
- Composite Blade Technician II
- Control Center Operator, Controller, Remote Access Operator
- Meteorologist—Entry
- Operations Specialist I
- Safety Manager I
- Wind Instrumentation and Electrical Technician (Offshore)
- Wind Technician—Offshore

### B2 | MID-LEVEL | PAGE 189-197

- Assistant Facility Manager
- Composite Blade Technician III, Blade Composite Technician
- Engineer & Site Inspector
- Environmental Engineer, Regulatory Compliance Manager, Environmental Scientist
- Maintenance Supervisor, Technician Supervisor
- Meteorologist—Intermediate
- Operations Specialist II
- Reliability Engineer
- Safety Manager II

### B3 | ADVANCED | PAGE 198-209

- Asset Manager
- Composite Blade Manager
- Director, Meteorology
- Director, Operations & Maintenance, Director O&M
- Director, Quality & Operations Support
- Engineering Manager
- Maintenance Manager
- Meteorologist—Senior
- Operations Manager, O&M Manager, Site Manager, Facility Manager—Offshore Wind
- Reliability Engineering Manager
- Safety Manager III
- Senior Financial Analyst & Planner

## C Manufacturing

### C1 | ENTRY-LEVEL | PAGE 210-212

- Advanced Manufacturing Technician, Production Technician, Manufacturing Maintenance Technician
- Assembler / Fabricator
- Warehouse Assistant, Warehouse Support

### C2 | MID-LEVEL | PAGE 213-217

- Blade Testing Engineer—Entry
- Blade Testing Engineer—Intermediate
- Industrial Engineer, Manufacturing Engineer
- Inspector & Quality Control
- Journeyman Electrician

### C3 | ADVANCED | PAGE 218-220

- Blade Testing Engineer—Advanced
- Blade Testing Engineer—Senior
- Industrial Engineering Manager, Manufacturing Engineering Manager

## D Construction/Installation

### D1 | ENTRY-LEVEL | PAGE 221-223

- Buyer, Procurement Specialist, Procurement Associate
- Commissioning Technician
- Laborer, General Laborer

### D2 | MID-LEVEL | PAGE 224-225

- Construction Manager
- Construction Manager II

### D3 | ADVANCED | PAGE 226-230

- Commissioning Manager
- Construction Manager III
- Project Director
- Project Manager, Technical Project Manager
- Senior Project Manager

## E Research & Training

### E1 | ENTRY-LEVEL |

- N/A

### E2 | MID-LEVEL | PAGE 231-233

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

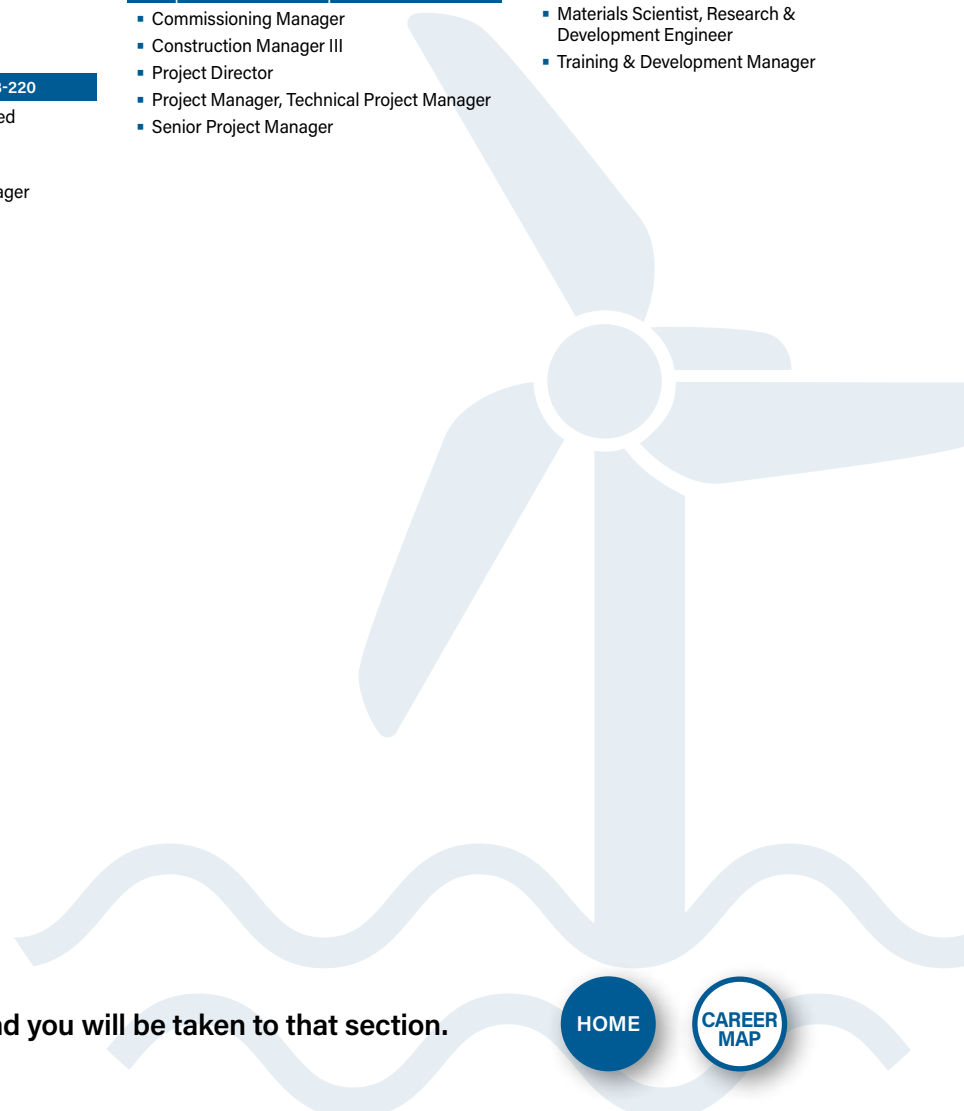
### E3 | ADVANCED | PAGE 234-236

- Marine Scientist, Environmental Scientist
- 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.

HOME

CAREER  
MAP







# Business Development Manager

## DESCRIPTION

Responsible for execution of growth strategy through developing new opportunities for offshore wind. Represent offshore wind to new potential partners & clients. Develop and maintain relationships to ensure continued business and growth and to mitigate risks to the business. Develop budget, contribute to strategy development and provide commercial expertise. Develop understanding of client businesses and their goals to execute marketing strategies. Track leads, results and contacts.

## 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.

## POSITION REPORTS TO

Business Development Director / Head

## CAREER PATH MOVES FROM THIS ROLE

Business Development Director / Head





# Electrical Systems Engineer

Power Systems Engineer, Electrical Interconnection Engineer, Electrical Design Engineer

## DESCRIPTION

Support the technical efforts associated with designing electrical power generation, delivery, and control and protection systems for renewable energy projects along with project-related electrical engineering, while providing electrical engineering expertise to development, construction, and operations. Support internal Project Engineers in the management of electrical design engineering firms and/or EPC contractors. Prepare and study specs of electrical systems and technical drawings. Develop construction, installation and manufacturing specifications. Develop and direct/implement commercial and utility scale wind power projects. Assess effectiveness and safety of wind 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

Minimum Bachelor of Science degree in electrical engineering is required.

### Experience

Three years progressively responsible experience in the renewable energy industry with electrical, protection, and/or controls design and engineering.

### Credentialing Required/Optional

Familiarity with IEEE electrical standards and NESC.

## POSITION REPORTS TO

Power Systems or Energy Systems Manager or Director

## CAREER PATH MOVES FROM THIS ROLE

Wind Energy Systems Designer





# Mechanical Engineer

Design Engineer, Product Engineer, Equipment Engineer

## DESCRIPTION

Design, develop, analyze and test Offshore Wind equipment and products. Design mechanical and electromechanical systems and components for Offshore Wind 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 Offshore Wind designs to improve efficiency and reliability, and to reduce costs.

## KNOWLEDGE/SKILLS

Project management, design for manufacturability (DFM) principles, mechanical and electromechanical assemblies & mechanisms, Offshore Wind energy, 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

Experience with design of mechanical or electromechanical Offshore Wind assemblies and mechanisms. Ideally 3D cad modeling and variety of software.

### Credentialing Required/Optional

May require engineering license, PE Professional engineer

## POSITION REPORTS TO

Engineering Manager or Director

## CAREER PATH MOVES FROM THIS ROLE

Engineering Manager or Director,  
Materials Scientist





# Permitting Lead or Manager

Manager (depending on years of experience)

## DESCRIPTION

Navigate statutory and regulatory environment for offshore and onshore aspects of offshore wind projects. Lead permitting efforts and contribute to planning on offshore wind (OSW) projects. Mentor and develop team and work with internal teams (engineering, development, compliance, strategy). Work with leadership to shape offshore wind business strategy. Use project management experience to lead projects and obtaining permits. Cultivate client and industry relationships, including with federal agencies (BOEM, NOAA/NMFS, USACE, USFWS, USACOE, USCG) involved in OSW projects. Attend open houses, stakeholder engagement sessions, agency and municipality meetings, etc. Also, work with various state groups regarding permitting for state waters and onshore impacts. Work to ensure the permitting process for transmission line and grid updates to support the OSW industry is accomplished. May be involved with development of Construction and Operations Plans (COP) and/or with Site Assessment Plans (SAP).

## KNOWLEDGE/SKILLS

Bureau of Ocean Energy Management (BOEM) related to permitting of OSW, OSW project development life-cycle, US offshore wind industry, marketing & selling services. Ideally have relationships with OSW developers, suppliers or utilities. Experience with the National Environmental Policy Act. Experience or knowledge of agencies beyond BOEM such as (USCG, USAOE, USFWS, NOAA Fisheries, EPA, DoD, FAA. Bureau of Safety & Environmental Enforcement. Federal statutes applicable to OSW projects in the US, construction and operations plans (COP), site assessment plans (SAP), project management, writing permit applications.

## REQUIREMENTS

### Education/Training

Bachelor's degree in related field (land use planning, environmental planning, environmental science/engineering, or other environmental law/policy field). Master's degree preferred in related field.

### Experience

2-3 years' experience (for Lead role); Minimum 4+ years' experience (for Manager role) permitting and planning OSW projects. Ideally experience working with Bureau of Ocean Energy Management (BOEM) for the permitting of OSW. Experience in environmental consulting with direct involvement in the offshore wind industry or electrical marine lines, inter-island, interconnection, and port development.

## POSITION REPORTS TO

Lead reports to Wind Permitting Manager;  
Manager reports to Permitting Director

## CAREER PATH MOVES FROM THIS ROLE

Wind Permitting Manager





# Project Developer

Pre-Construction Manager

## DESCRIPTION

Manage and oversee all the Pre-Construction aspects of utility-scale wind offshore renewable energy. Complete cost analysis and budgetary estimates for the engineering, procurement and construction of the renewable generation facilities. Manage the preliminary engineering for the 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 (BS) 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 Wind Offshore Projects,  
Project Manager

## CAREER PATH MOVES FROM THIS ROLE

Construction Manager, Director of Engineering,  
Director of Wind Offshore Projects





# 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 energy Offshore Wind solutions, tracking systems and other key technologies with a focus on energy Offshore Wind. 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, Offshore Wind Energy

## CAREER PATH MOVES FROM THIS ROLE

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





# Civil Engineer

## Structural Engineer

### DESCRIPTION

Work with Offshore Wind project contractors by offering civil engineering expertise and meeting with leadership regarding project updates and reporting. Ensure project deliverables are in line with scope of work, quality, budget and schedule. Manage aspects of the onshore civil, structural (and architectural) fields for the Offshore Wind project. Provide input on planning and execution of civil engineering and construction scope. Ensure that all civil engineering complies with regulations, specifications, and best practices. Work with design team to define technical solutions within scope and provide civil and structural input and research-driven solutions. Calculate risks and document through risk management systems. Work with operations team and contractors regarding engineered solutions and structural capabilities. During construction, support field engineers and provide input and responsible decision making regarding civil discipline. Provide input and participate in testing and verification processes.

### KNOWLEDGE/SKILLS

Regulations, codes and permitting related to offshore wind projects. Civil engineering on offshore wind projects. Marine construction. Structural capacities. Risk systems.

### REQUIREMENTS

#### Education/Training

Master's degree in civil or structural engineering preferred. Minimum bachelor's degree in civil or structural engineering.

#### Experience

Minimum 10 years' experience with engineering and project execution. Civil/structural engineering experience.

#### Credentialing Required/Optional

PE (Professional Engineer)—registration.  
GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

### POSITION REPORTS TO

Wind Projects Civil Lead or Director

### CAREER PATH MOVES FROM THIS ROLE

Wind Projects Civil Lead or Director, Project Manager, other engineering discipline





# Geotechnical Engineer

## DESCRIPTION

Collaborate cross-organizationally in the design and analysis of foundations for offshore wind turbines, offshore electrical substations and port facilities in support of all phases of project lifecycle, including planning, design, construction, operation and decommissioning by providing geotechnical and foundation expertise. Perform 3-D soil-structure interaction analysis, geotechnical analysis and dynamic analysis using advanced software. Complete structural design and specifications for offshore wind foundations. Develop design methodologies. Prepare design documents and handle quality control validation of calculations, design drawings and specifications. Visit site and/or client offices, and meet virtually too, as required by the project.

## KNOWLEDGE/SKILLS

Soil / structure interaction, preparing and checking engineering designs and calculations for deep foundations and pilings for bridges, buildings, marine structures, etc., production of design documents for clients, Plaxis 3D or similar geotechnical software, interfacing with variety of technical disciplines (structural, electrical, mechanical, CADD, etc.), industry software and programming languages, offshore codes (API, DNVGL, etc.).

## REQUIREMENTS

### Education/Training

Master's degree in geotechnical engineering, focusing on the design of foundations.

### Experience

Minimum 2 years' experience as geotechnical engineer. Experience with soil/structure interaction, preparing and checking engineering and design calculations, for marine structures, bridges, etc. Ideally/preferred to have experience with offshore wind foundation design and analysis.

### Credentialing Required/Optional

PE (Professional Engineer) license prior to or within 1 year of employment.

## POSITION REPORTS TO

Geoscience & Engineering Manager

## CAREER PATH MOVES FROM THIS ROLE

Design Lead, Geoscience & Engineering Manager





# Permitting Director

## DESCRIPTION

Develop and execute permitting strategy to secure all necessary federal, state, and local permits to construct and operate an offshore wind farm and associated transmission system. As a member of the project management team, work with leadership to shape offshore wind business strategy and support projects from development through construction. Use project management experience to lead projects and obtaining permits. Cultivate client and industry relationships, including with federal agencies (BOEM, NOAA/NMFS, USACE, USFWS, USACOE, USCG) involved in OSW projects. Mentor and develop team and work with internal teams (engineering, development, compliance, strategy). Participate in local, regional and state engagement and planning regarding offshore and onshore impact.

## KNOWLEDGE/SKILLS

Bureau of Ocean Energy Management (BOEM) related to permitting of OSW, OSW project development life-cycle, US offshore wind industry, marketing & selling services. Ideally have relationships with OSW developers, suppliers or utilities. Experience with the National Environmental Policy Act. Experience or knowledge of agencies beyond BOEM such as (USCG, USAOE, USFWS, NOAA Fisheries, EPA, DoD, FAA. Bureau of Safety & Environmental Enforcement. Federal statutes applicable to OSW projects in the US, construction and operations plans (COP), site assessment plans (SAP), project management, writing permit applications.

## REQUIREMENTS

### Education/Training

Bachelor's degree in related field (land use planning, environmental planning, environmental science/engineering, or other environmental law/policy field). Master's degree preferred in related field.

### Experience

Minimum 7-10 years' experience. Experience working with or knowledge of Bureau of Ocean Energy Management (BOEM) for the permitting of OSW. Experience in environmental consulting with direct involvement in the offshore wind industry or electrical marine lines, inter-island, interconnection, and port development.

## POSITION REPORTS TO

Permitting Group

## CAREER PATH MOVES FROM THIS ROLE

Permitting Group Head, Offshore Wind  
Development Head, Vice President Offshore Wind





# 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 7 years of applicable professional experience. Minimum 5 years of demonstrated project lead experience. Minimum 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





# Blade Repair Services Technician

Wind Blade Repair Technician

## DESCRIPTION

In some companies, this role is part of the Wind Technician role. Maintain and repair composite blades and various turbine models. Report to, assist and support supervisors in coordination and execution of maintenance & repair activity of wind turbine blades, nacelles, composite components. Climb wind towers and access wind turbines to perform composites repair & maintenance tasks. Assist in transportation, setup and the operation of up-tower blade access mechanism. Support a team in performing rope, platform, and ground access composite repairs on multiple turbine manufacturers. Assist in mobilization of all repair equipment to site. Assist in major component replacement, which will primarily focus on blades. Assure proper storage, maintenance and handling of all blade repair service equipment.

## KNOWLEDGE/SKILLS

Equipment and repair of turbine blades of multiple manufactures (i.e. Siemens, GE, Vestas, Mitsubishi). Crane and rigging work. Composite materials and tools used during repairs. Techniques, skills and tools needed to repair the different type of damages in wind turbine blades. Repairs on the first layer of glass, core, & inner laminate.

## REQUIREMENTS

### Education/Training

High School diploma or GED & experience.

### Experience

Minimum 1 year experience in operation & maintenance of electromechanical apparatus, composite systems, or aerospace / marine composites manufacturing & engineering. Demonstrated experience in blade damage assessment and repair required.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered. American Composites Manufacturers Association (ACMA): Certified Composites Technician (CCT), CCT—Advanced Composites (CCT—AC), and CCT—Wind Blade Repair; Commercial Driver's License (CDL) if transporting wind blades/components.

## POSITION REPORTS TO

Blade Repair Supervisor, Wind Technician Supervisor

## CAREER PATH MOVES FROM THIS ROLE

Wind Technician advanced role, Lead, Supervisor





# Composite Blade Technician I

## DESCRIPTION

Perform internal and external inspections, defect analysis and repair of fiberglass and composite blades, spinners, and nacelles from all categories. Provide maintenance support and perform large component replacements of wind turbine generators. Photograph internal and external blade damage, document findings, and assemble all associated paperwork. Perform coating and minor structural repairs on internal and external blade surfaces, tip repair, leading and trailing edge repair on locations both up tower and down tower. Utilize blade access platforms at heights of 300 ft or more. Help in all areas of site preparation (i.e. coordination of labor and materials) with minimal supervision. Communicate site status to engineering, customers, and management. Provide maintenance support and perform large component replacement of wind turbine generators. Provide wind turbine generator LOTO (Lock Out & Tag Out) support.

## KNOWLEDGE/SKILLS

Tower Safety Training (LOTO), Suspended Platform Rigging/De-Rigging, Lamination principles and post-curing. Installation of vortex generators (serrations, panels, vanes, and flow anchors). Wiring schematics, blade access platforms, lightning protection system inspections, technology of wind blade construction & repair, mix of ratios for blade repair chemicals, blade assembly terminology, vacuum bagging principles. Documenting work performed, using computer based procedures.

## REQUIREMENTS

### Education/Training

High School Diploma or GED.

### Experience

Minimum 1 year composite repair experience (OR Graduate of a Wind Tech and/or Composite program).

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered. American Composites Manufacturers Association (ACMA) Certified Composites Technician (CCT), CCT—Advanced Composites (CCT—AC), CCT—Wind Blade Repair

## POSITION REPORTS TO

Composite Blade Tech III, Composite Blade Manager

## CAREER PATH MOVES FROM THIS ROLE

Composite Blade Technician II,  
Composite Blade Technician III





# Composite Blade Technician II

## DESCRIPTION

Perform internal and external inspections, defect analysis and repair of fiberglass and composite blades, spinners, and nacelles from all categories. Provide maintenance support and perform large component replacements of wind turbine generators. Photograph internal and external blade damage, document findings, and assemble all associated paperwork. Perform coating and minor structural repairs on internal and external blade surfaces, tip repair, leading and trailing edge repair on locations both up tower and down tower. Utilize blade access platforms at heights of 300ft or more. Help in all areas of site preparation (i.e. coordination of labor and materials) with minimal supervision. Communicate site status to engineering, customers, and management. Provide maintenance support and perform large component replacement of wind turbine generators. Provide wind turbine generator LOTO (Lock Out & Tag Out) support.

## KNOWLEDGE/SKILLS

Tower Safety Training (LOTO), Suspended Platform Rigging/De-Rigging, Lamination principles and post-curing. Installation of vortex generators (serrations, panels, vanes, and flow anchors). Wiring schematics, blade access platforms, lightning protection system inspections, technology of wind blade construction & repair, mix of ratios for blade repair chemicals, blade assembly terminology, vacuum bagging principles. Documenting work performed, using computer based service reporting procedures.

## REQUIREMENTS

### Education/Training

High School Diploma or GED.

### Experience

Minimum of 2-3 years' of composite repair experience or minimum 1-2 years' AND Graduate of a Wind Tech/and or Composite Program.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered. American Composites Manufacturers Association (ACMA) Certified Composites Technician (CCT), CCT—Advanced Composites (CCT—AC), CCT—Wind Blade Repair

## POSITION REPORTS TO

Composite Blade Tech III, Composite Blade Manager

## CAREER PATH MOVES FROM THIS ROLE

Composite Blade Technician III





# Control Center Operator

Power System Operator, Electrical System Operator

## DESCRIPTION

Direct, monitor and coordinate the operation of offshore wind farm from an Operations Control Center. Use SCADA and other monitoring and control systems. Ensure that the operations of offshore wind farms comply with all applicable North American Electric Reliability Corporation (NERC) standards and practices. Work 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





# 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 wind farm design. Assist in developing the turbine layout for wind farms based on available meteorological data using advanced mapping software. Analyze performance of operating projects, including evaluation of turbine performance in order 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, wind energy forecasting, wind 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) (Operations Center) Center Wind-Offshore 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

Wind 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 Wind 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Operations Manager or RPM 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





# Wind Instrumentation And Electrical Technician (Offshore)

## DESCRIPTION

Perform maintenance, calibrate, install and repair instrumentation including controls and electrical equipment at an offshore wind 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, electrical equipment, instrumentation and SCADA systems. Provide guidance to less experienced technicians. Work with voltages up to 230kV and climb towers. 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 wind energy equipment. SCADA systems. Customer service. Ability to climb offshore wind towers and 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Wind Instrumentation and Electrical Technician Supervisor, Wind Site Leader

## CAREER PATH MOVES FROM THIS ROLE

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





# Wind Technician—Offshore

## DESCRIPTION

Ensure safe operation and perform mechanical, electrical and hydraulic maintenance activities for offshore wind turbines and turbine components consistent with policies and procedures established for the offshore wind farm site. Travel via offshore vessel/helicopter to wind farm. Climb from the base to the nacelle on 700+ ft. offshore towers as required to perform maintenance, replacement and inspection. Wear safety harness and safety suit. Inspect wind turbines. Replace major turbine components (e.g. generators & gearboxes). Identify / troubleshoot failures, faults, and problems, interpret fault reports, and implement corrective actions. Conduct acceptance and performance tests on systems and equipment following maintenance and outages. Write (some using computer) routine reports and correspondence. Maintain service logs, and monitor turbine performance. Read blueprints and schematics. Monitor turbine performance and SCADA systems. Collect turbine data for testing or research and analysis. Assist with high-voltage system maintenance and repair. Inspect wind turbines. Lead and train more junior technicians to complete required duties. Ensure all health and safety and operating procedures are followed.

## KNOWLEDGE/SKILLS

Electrical machinery, hydraulics, ecology, wind power technology. Safety training including underwater escape from a helicopter.

## REQUIREMENTS

### Education/Training

Associate's Degree in Electrical Engineering or wind turbine technology or an equivalent combination of training and experience is preferred. Some may accept a certificate program in wind turbine technology.

### Experience

Ideally Offshore Wind technician experience. Minimum of 2 years' Wind Onshore experience.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Offshore Wind Site Manager,  
Technician Supervisor

## CAREER PATH MOVES FROM THIS ROLE

Technician Supervisor, Mechanical or  
Electrical Engineer (with education)





# 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

Ability to climb turbine tower > 100m. 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.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Facility Manager, Operations Manager

## CAREER PATH MOVES FROM THIS ROLE

Facility Manager, Operations Manager





# Composite Blade Technician III

## DESCRIPTION

Perform internal and external inspections, defect analysis and repair of fiberglass and composite blades, spinners, and nacelles from all categories. Provide maintenance support and perform large component replacements of wind turbine generators. Photograph internal and external blade damage, document findings, and assemble all associated paperwork. Perform coating and minor structural repairs on internal and external blade surfaces, tip repair, leading and trailing edge repair on locations both up tower and down tower. Utilize blade access platforms at heights of 300ft or more. Help in all areas of site preparation (i.e. coordination of labor and materials) with minimal supervision. Communicate site status to engineering, customers, and management. Provide maintenance support and perform large component replacement of wind turbine generators. Provide wind turbine generator LOTO (Lock Out & Tag Out) support.

## KNOWLEDGE/SKILLS

Tower Safety Training (LOTO), Suspended Platform Rigging/De-Rigging, Understand lamination principles and postcuring. Install vortex generators (serrations, panels, vanes, and flow anchors). Ability to read and understand wiring schematics, blade access platforms experience, lightning protection system inspections knowledge, understand technology of wind blade construction & repair, understand mix of ratios for blade repair chemicals, understand blade assembly terminology, understand vacuum bagging principles.

## REQUIREMENTS

### Education/Training

High School Diploma or GED.

### Experience

Minimum of 3-5 years' of composite repair experience or minimum 2-4 years' AND Graduate of a Wind Tech/and or a Composite Program.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered. American Composites Manufacturers Association (ACMA) Certified Composites Technician (CCT), CCT—Advanced Composites (CCT—AC), CCT—Wind Blade Repair

## POSITION REPORTS TO

Composite Blade Manager

## CAREER PATH MOVES FROM THIS ROLE

Composite Blade Manager





# Engineer & Site Inspector

## DESCRIPTION

Provide engineering expertise and general onsite support related to offshore wind energy. Ensure successful operation strategy. Contribute to design specification, optimization, and costing of wind energy facilities. Assist with any SCADA related collaboration with engineering. Support the evaluation of new equipment components and other direct cost reduction initiatives. Define standard engineering deliverables for project teams. Develop and maintain wind energy equipment standards to be used by engineering team. Perform onsite technical inspections of equipment and facility. Perform trouble shooting, fault analysis, and investigation. Develop, maintain and update work instructions and procedures. Lead and support technical root cause analysis for component and equipment failures. Analyze performance data related to wind operations.

## KNOWLEDGE/SKILLS

Engineering and System design expanding technical knowledge, health and safety, creating written instruction. Designing and modeling renewable energy and wind energy.

## REQUIREMENTS

### Education/Training

Bachelor's degree in technical field (electrical, mechanical, etc.).

### Experience

3-5 years' related technical experience with wind energy operations.

### Credentialing Required/Optional

PE (Professional Engineer) a plus. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Director of Operations

## CAREER PATH MOVES FROM THIS ROLE

Operations Manager, Construction Manager, Project Manager, Director of Operations





# Environmental Engineer

Regulatory Compliance Manager, Environmental Scientist

## DESCRIPTION

Using knowledge from various engineering disciplines, develop processes, policies, and practices to prevent or mitigate health, safety, or environmental issues with Offshore Wind operations. Conduct environmental impact studies and recommend management and mitigation strategies. Monitor and address environmental and hazardous concerns such as materials and facility practices. Work with regulatory personnel. Conduct inspections of Offshore Wind 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





# Maintenance Supervisor

Technician Supervisor

## DESCRIPTION

Supervise and perform corrective, preventive, and emergency maintenance and operations for Offshore Wind 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 Offshore Wind facilities 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Maintenance Manager, 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 wind farm design. Assist in developing the turbine layout for wind farms based on available meteorological data using advanced mapping software. Analyze performance of operating projects, including evaluation of turbine performance in order 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, wind energy forecasting, wind 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) (Operations Center) Center Wind-Offshore 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

Wind 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 Wind 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Operations Manager

## CAREER PATH MOVES FROM THIS ROLE

Operations Manager





# Reliability Engineer

## DESCRIPTION

Assess wind turbine 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 wind turbines.

## 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. Wind 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





# 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 Wind Operations or CFO

## CAREER PATH MOVES FROM THIS ROLE

Director of Wind Operations or Engineering or  
Project Manager on other green energy systems





# Composite Blade Manager

## DESCRIPTION

Oversee and support blade repair crews and assist in performing complex repairs as necessary. Evaluate and approve employee blade competency levels for blade repair training. Develop new and amend existing work instructions for blade repairs used on renewables' sites. Oversee certification for Composite Blade Training Program. Perform evaluations of blade repairs and blade teams in accordance with Safety, Quality and Productivity expectations. Evaluate and document blade damage dispositions for all categories of blade repairs. Perform and/or review blade repair reports, quality reviews, open cases and ensure appropriate follow-up measures are taken. May be required to review and certify blade repair. Monitor and report blade failure rates using reliability methodology. Support and review the procurement of blade assets necessary to complete jobs in timely manner.

## KNOWLEDGE/SKILLS

Blade damage assessment, multiple manufacturers and repair types. EHS requirements. Non-Destructive Testing, composite materials. Integral, spar/shell and web blades, manufacturing of blades and/or designing blade repairs, performing quality inspections from damage identification to repair reporting. Operations and maintenance of electrical, mechanical, hydraulic, or pneumatic systems.

## REQUIREMENTS

### Education/Training

Associate (minimum 2-year) degree in aerospace, mechanical or related technical field, or equivalent experience.

### Experience

7+ years' of wind energy composite experience, experience working on integral, spar/shell and web blades, proven experience in manufacturing of blades and/or designing blade repairs, performing quality inspections.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered. American Composites Manufacturers Association (ACMA): Certified Composites Technician (CCT), CCT—Advanced Composites (CCT—AC), and CCT—Wind Blade Repair

## POSITION REPORTS TO

Maintenance Manager, O&M Manager, Director Wind

## CAREER PATH MOVES FROM THIS ROLE

Maintenance Manager, O&M Manager, Director Wind





# Director, Meteorology

## DESCRIPTION

Develop and manage the meteorology program to support the company's wind energy generation business and to provide wind energy forecasts for locations of interest. Oversee the compilation of meteorological database for wind 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 wind 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 wind industry, Meteorology, atmospheric science, wind energy forecasting, wind 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 Wind Business

## CAREER PATH MOVES FROM THIS ROLE

Vice President Operations, VP Wind Business





# Director, Operations & Maintenance

## DESCRIPTION

Manage overall strategic and operational activities for O&M projects in wind farms and potentially other clean power operations. 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 wind industry.

## REQUIREMENTS

### Education/Training

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

### Experience

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

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Vice President Operations, VP Wind Business

## CAREER PATH MOVES FROM THIS ROLE

Vice President Operations, VP Wind 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.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Vice President Operations, VP Offshore Wind Business

## CAREER PATH MOVES FROM THIS ROLE

Vice President Operations, VP Offshore Wind Business





# Engineering Manager

## DESCRIPTION

Provide engineering expertise and general support to the onsite operations and maintenance teams. Ensure 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 3 years of wind 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Director of Operations

## CAREER PATH MOVES FROM THIS ROLE

Director of Operations, Project Manager





# Maintenance 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 Offshore Wind 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.

### Experience

5+ years' experience in the operation of Offshore Wind facilities, 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. Experience with operations financial management, forecasting and controls preferred. Experience working with facility systems and computerized maintenance management systems (SAP).

### Credentialing Required/Optional

"Journeyman" electrician preferred. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Maintenance Director, Offshore Wind 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 wind farm design. Assist in developing the turbine layout for wind farms based on available meteorological data using advanced mapping software. Analyze performance of operating projects, including evaluation of turbine performance in order 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 wind industry, Meteorology, atmospheric science, wind energy forecasting, wind 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

## DESCRIPTION

Manage all wind 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 reporting. 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 budget 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, wind farm operations, maintenance practices in renewable energy, mechanical and electrical troubleshooting and maintenance. Reading blueprints, schematics, and operating and maintenance manuals, and procedures. Ordering materials, tools & supplies. Ability to climb offshore wind towers.

## REQUIREMENTS

### Education/Training

Bachelor's degree in Mechanical Engineering, Electrical Engineering, or other related disciplines. Leadership experience in power generation, renewable energy or military.

### 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.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## 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 wind 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. Wind experience in design, installation, operation and maintenance.

## POSITION REPORTS TO

Reliability Director, Offshore Wind 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 wind 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 wind 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 Offshore Wind 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.

### Credentialing Required/Optional

Designation as a Power System Electrician or advanced certificate course in power systems, protective relaying theory, and computerized relaying theory.

## 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 wind products. Use various machines and hand tools to create and assemble wind turbine components, wind blades, tower structures, instrument / electronic 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. Create wind blades by combining layers of fabrics, adhesives and protective coatings. 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





# 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





# Blade Testing Engineer—Entry

## DESCRIPTION

Under close supervision, support the continuous improvement of blade product quality to control and improve upon the non-conformities across manufacturing facilities. Test composite materials, working in the range from small scale testing to full scale testing of offshore wind turbine blades. Update team regarding test findings for all alarms and warnings. Perform troubleshooting on Offshore Wind Turbine anomalies to determine root cause, and communicate action needed. Aid in the support of blade repair efforts using a statistical approach for continuous improvement. Review mechanical design, composite material, and systems. Review material defects. Help to develop, verify, and validate test methods in blade testing and repair documentation.

## KNOWLEDGE/SKILLS

Strong knowledge of composite materials and process. Basic knowledge in SAP or QDA preferred. Mechanical system in wind blade production. Mechanical design and systems.

## REQUIREMENTS

### Education/Training

Bachelor's Degree in Mechanical/Composites.

### Experience

At least one to two years of experience in mechanical engineering or other relevant experience.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Intermediate, Senior or Advanced Blade Testing Engineer

## CAREER PATH MOVES FROM THIS ROLE

Intermediate Blade Testing Engineer,  
Other Intermediate Engineer





# Blade Testing Engineer—Intermediate

## DESCRIPTION

Under broad supervision, support the continuous improvement of blade product quality to control and improve upon the non-conformities across manufacturing facilities. Test composite materials, working in the range from small scale testing to full scale testing of wind turbine blades for offshore wind structures. Update team regarding test findings for all alarms and warnings. Perform troubleshooting on Offshore Wind Turbine anomalies to determine root cause and communicate action needed. Aid in the support of blade repair methods using a statistical approach for continuous improvement. Review mechanical design, composite material, and systems. Review material defects. Help to develop, verify, and validate test methods in blade testing and repair documentation.

## KNOWLEDGE/SKILLS

Strong knowledge of composite materials and process. Basic knowledge in SAP or QDA preferred. Mechanical design and Mechanical system in wind blade production.

## REQUIREMENTS

### Education/Training

Bachelor's Degree in Mechanical/Composites.

### Experience

At least three to five years of experience in mechanical engineering or other relevant experience.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Intermediate, Senior or Advanced Blade Testing Engineer

## CAREER PATH MOVES FROM THIS ROLE

Intermediate Blade Testing Engineer,  
Other Intermediate Engineer





# Industrial Engineer

## Manufacturing Engineer

### DESCRIPTION

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

### KNOWLEDGE/SKILLS

Quality control, Offshore Wind 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.  
GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

### 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 offshore wind components of tower, nacelle and blades, are manufactured according to specifications, move correctly, and are properly lubricated. (Some inspectors may focus on the nacelle, others on the blades, etc.) 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 wind energy components and structures. Inspection and quality control of offshore wind components preferred.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Quality Control Manager

## CAREER PATH MOVES FROM THIS ROLE

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





# 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. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Construction Manager, Project Manager, Electrician Supervisor or Manager

## CAREER PATH MOVES FROM THIS ROLE

Electrician Supervisor or Manager





# Blade Testing Engineer—Advanced

## DESCRIPTION

Provide leadership and direction to employees who are training in their roles. Ensure continuous improvement to control and improve upon the non-conformities in blade product quality, across the manufacturing plants. Understand the mechanical system in offshore wind blade production. Test composite materials, working in the range from small scale testing to full scale testing of wind turbine blades. Update team regarding test findings for all alarms and warnings. Perform troubleshooting on Wind Turbine anomalies to determine root cause and communicate action needed. Support blade repair methods using a statistical approach for continuous improvement. Review and understand mechanical design, composite material, and systems. Review material defects. Develop, verify, and validate test methods used in blade testing and repair documentation.

## KNOWLEDGE/SKILLS

Strong knowledge of mechanical engineering, composite materials and process, SAP or QDA. Mechanical design and systems.

## REQUIREMENTS

### Education/Training

Bachelor's Degree or Master's Degree in Mechanical/Composites. Knowledge of composite materials and process. Basic knowledge in SAP or QDA preferred.

### Experience

At least five to seven years of experience in mechanical engineering or other relevant experience.

### Credentialing Required/Optional

PE (Professional Engineer) desirable.  
GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Manufacturing or Operations Manager or  
Engineering Manager or Director

## CAREER PATH MOVES FROM THIS ROLE

Manufacturing or Operations Manager or  
Engineering Manager or Director, Project Manager





# Blade Testing Engineer—Senior

## DESCRIPTION

Mentor less-experienced team members. Ensure the continuous improvement in offshore blade product quality to control and improve upon the non-conformities across manufacturing plants. Test composite materials, working in the range from small scale testing to full scale testing of wind turbine blades. Update team regarding test findings for all alarms and warnings. Perform troubleshooting on Offshore Wind Turbine anomalies to determine root cause and communicate action needed. Aid in the support of blade repair methods using a statistical approach for continuous improvement. Review mechanical design, composite material, and systems. Review material defects. Help to develop, verify, and validate test methods in blade testing and repair documentation. Support blade repair methods use a statistical approach for continuous improvement. Review and understand mechanical design, composite material, and systems. Review material defects. Develop, verify, and validate test methods used in blade testing and repair documentation.

## KNOWLEDGE/SKILLS

Strong knowledge of composite materials and process. Basic knowledge in SAP or QDA preferred. Mechanical system in wind blade production. Mechanical design.

## REQUIREMENTS

### Education/Training

Bachelor's Degree or Master's Degree in Mechanical/Composites.

### Experience

At least five years of experience in mechanical engineering or other relevant experience. Experience in wind energy.

### Credentialing Required/Optional

PE (Professional Engineer) desirable.  
GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Engineering Manager or Director, or  
Manufacturing or Operations Manager

## CAREER PATH MOVES FROM THIS ROLE

Engineering Manager or Director, Project Manager





# Industrial Engineering Manager

## Manufacturing Engineering 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 Offshore Wind

### CAREER PATH MOVES FROM THIS ROLE

Engineering Director, Manager of other engineering discipline





# 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. 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 wind 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, Procurement Manager or Director





# Commissioning Technician

## DESCRIPTION

Work with team to perform required system inspections on utility wind power facilities. 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 wind system troubleshooting and corrective actions. Oversee third party testing and inspections. (Transformers, audits, 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

Wind 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 wind systems preferred.

### Experience

Minimum 1 year wind turbine installation experience.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Commissioning Manager

## CAREER PATH MOVES FROM THIS ROLE

Commissioning Engineer





# 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. Clean up rubble and assist other craft workers. Perform variety of routine, non-machine tasks.

## KNOWLEDGE/SKILLS

Construction skills including: tools, 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

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Craft Supervisor or Foreman

## CAREER PATH MOVES FROM THIS ROLE

Craft / Tradesman (with training)





# Construction Manager

## DESCRIPTION

Responsible for directing, planning, and managing Wind Offshore 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, Wind Offshore 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 Wind Offshore Projects

## CAREER PATH MOVES FROM THIS ROLE

Construction Manager II or Project Manager or Superintendent





# Construction Manager II

## DESCRIPTION

Responsible for directing, planning, and managing Wind Offshore 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, Wind Offshore 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 Wind Offshore Projects

## CAREER PATH MOVES FROM THIS ROLE

Construction Manager III or Project Manager or Superintendent





# Commissioning Manager

## DESCRIPTION

Oversee project development, construction and commissioning operations from the Offshore Wind planning, checking, quality assurance, monitoring, evaluation, and preparation of commissioning reports to management. Staff, train, and manage Offshore Wind commissioning team personnel. Ensure all EHS policies and procedures are followed. Create guidelines and procedures to ensure all project activities are completed according to a standard process, project plan and budget. Conduct routine audits as necessary. Interact with engineering to troubleshoot any technical issues. Manage budgets.

## KNOWLEDGE/SKILLS

Electrical and mechanical theory. Team supervision. Budgeting procedures. Commissioning operations and practices for Wind energy projects. Interpreting engineering drawings.

## REQUIREMENTS

### Education/Training

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

### Experience

5-7 years Experience with power generation equipment and commissioning procedures. Construction and commissioning experience in structural assembly, electrical protection and control systems related to the site work.

### Credentialing Required/Optional

Optional: REP—Renewable Energy Professional and Certified Energy Manager from the Association of Energy Engineers (aeecenter.org)

## POSITION REPORTS TO

Director, Offshore Wind, Commissioning;  
Director, Offshore Wind

## CAREER PATH MOVES FROM THIS ROLE

Project Manager—Commissioning; Director,  
Offshore Wind Commissioning





# Construction Manager III

## DESCRIPTION

Responsible for directing, planning, and managing Wind Offshore 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, Wind Offshore 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 Wind Offshore Projects

## CAREER PATH MOVES FROM THIS ROLE

Director of Wind Offshore Projects





# Project Director

## DESCRIPTION

Direct Offshore Wind farm installation projects, including major capital projects for enabling foundation installation, seabed intervention, dredging work. Responsible for planning and execution of installation, including staffing, engineering, and procurement through to operations, knowing that the typical project timeframe from development to operations of an offshore wind project is 3-4 years. Build and lead the project team including the site team and vessel team. Ensure projects are completed on budget, in scope, on schedule, with no HSE incidents. Manage project risks and develop plans for mitigating risks. Keep senior management up to date with status through project reporting. Manage project changes and change orders to stay on schedule and avoid delays. Manage contractors, contracts and supply acquisition. Contribute to strategic and operational development of company.

## KNOWLEDGE/SKILLS

Contract management, project management and project direction, risk management and risk systems, managing large teams, dispute resolution, developing and executing strategy, offshore wind projects.

## REQUIREMENTS

### Education/Training

Bachelor's or Master's degree in mechanical engineering or related field. MBA is a plus.

### Experience

15+ years' experience in project management for offshore installation projects. Experience as a project director of offshore wind installation projects. Experience with offshore oil and gas projects a plus.

### Credentialing Required/Optional

PMP certification desirable. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

SVP Offshore Wind, VP Offshore Wind

## CAREER PATH MOVES FROM THIS ROLE

SVP Offshore Wind, VP Offshore Wind





# Project Manager

Technical Project Manager

## DESCRIPTION

Support operations preparation for offshore wind farms. Responsible for project management, including budgeting and planning for process of development and construction / installation to operations. Provide technical support of development activities. Manage project(s) from office location and/or remote project site and the construction of wind sites, concentrating on safety, schedule, budget, labor relations, customer satisfaction, costs and quality compliance. Responsible for holding and understanding specifications of job in regards to specific project. Identify and qualify available Operations and Maintenance service suppliers. Negotiate service agreements and scope of work. Manage supplier relationships, including change orders, and work on the wind farm projects. Plan needed equipment and personnel and manage purchase orders. Manage and update reports, order logs, and communication logs. Manage costs of the project and projected changes based on weather change orders, etc. Complete due diligence of all construction practices, procedures, and construction documents.

## KNOWLEDGE/SKILLS

Knowledge of basic engineering concepts. Familiarity with wind power generation systems and equipment, marine transmission lines, reactive power compensation equipment, SCADA systems, cost analysis, constructability knowledge, safety, leadership, familiarity with equipment and creating / managing contracts and contract law.

## REQUIREMENTS

### Education/Training

High school diploma plus experience required. Bachelor of Science degree in engineering or construction management is desired.

### Experience

5-10 years' progressively responsible experience in the clean energy industry with wind energy experience. Offshore wind industry or electrical marine lines, inter-island, interconnection, and port development preferred.

### Credentialing Required/Optional

PMP certification preferred. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Project Manager II, Construction Manager, Site Manager, Director of Offshore Wind

## CAREER PATH MOVES FROM THIS ROLE

Project Manager II, Construction Manager, Site Manager





# Senior Project Manager

## DESCRIPTION

Support operations preparation for offshore wind farms. Responsible for project management, including budgeting and planning for process of development and construction / installation to operations. Provide technical support of development activities. Manage project(s) from office location and/or remote project site and the construction of wind sites, concentrating on safety, schedule, budget, labor relations, customer satisfaction, costs and quality compliance. Responsible for holding and understanding specifications of job in regards to specific project. Identify and qualify available Operations and Maintenance service suppliers. Negotiate service agreements and scope of work. Manage supplier relationships, including change orders, and work on the wind farm projects. Plan needed equipment and personnel and manage purchase orders. Manage and update reports, order logs, and communication logs. Manage costs of the project and projected changes based on weather change orders, etc. Complete due diligence of all construction practices, procedures, and construction documents. Work with leadership to develop strategy for offshore wind development.

## KNOWLEDGE/SKILLS

Knowledge of basic engineering concepts. Familiarity with wind power generation systems and equipment, marine transmission lines, reactive power compensation equipment, SCADA systems, cost analysis, constructability knowledge, safety, leadership, familiarity with equipment and creating / managing contracts.

## REQUIREMENTS

### Education/Training

Bachelor's degree in engineering is required, preferably mechanical or electrical engineering or construction.

### Experience

Minimum of 10-15 years' experience in the construction industry—with direct experience in wind farm design or construction. Offshore wind industry or electrical marine lines, inter-island, interconnection, and port development preferred.

### Credentialing Required/Optional

PMP certification preferred. GWO (Global Wind Organisation) certified. WINDA (Wind Industry Training Records Database) registered.

## POSITION REPORTS TO

Construction Manager, Site Manager, Director of Offshore Wind, Project Director

## CAREER PATH MOVES FROM THIS ROLE

Construction Manager, Site Manager, Project Director





# Analyst / Researcher

## DESCRIPTION

Work across Offshore Wind project phases including development, permitting, construction, and operational. Support or lead conceptual design studies, Offshore Wind constraint analyses, site suitability, Offshore Wind permitting and technical studies, O&M analysis, constructability analyses, cost studies, decommissioning studies, and market and supply chain assessment. Maximize revenue and efficiency for Offshore Wind 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 Offshore Wind systems. Support and serve the production team, field technical operations and asset management to address all Offshore Wind 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 offshore wind 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 Offshore Wind, Operations Director, Construction Manager; Offshore Wind Optimization Engineer





# Research Engineer

Research and Development Engineer

## DESCRIPTION

Plan and manage engineering projects to develop wind technologies and processes that produce the most efficient and cost-effective electricity. Design, develop and analyze/evaluate wind turbine components and wind 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 wind 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

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records Database) registered. Requirements for licensing and certification vary by state.

## POSITION REPORTS TO

Training Manager

## CAREER PATH MOVES FROM THIS ROLE

Training Manager, Operations Manager





# Marine Scientist

## Environmental Scientist

### DESCRIPTION

Working within the strategic permitting team, provide scientific input and project management for offshore wind projects. Undertake environmental monitoring surveys and coordinate data collection and management with the goal of wind projects meeting regulatory agency requirements and maintaining environmental best practices. Assist with the development of data management practices, survey protocols, and monitoring aimed at scientific investigation and reporting across multiple projects. Provide scientific support for preparation of permits for offshore wind projects. Regulations and agencies may include: Marine Mammal Protection Act authorizations and Bureau of Ocean Energy Management Construction. Serve as a technical resource for compliance by monitoring mitigation commitments and approval conditions, and by positioning projects for successful adherence to regulations and effective compliance response prior to commitments. Work with marine wildlife and fisheries scientists to develop and execute strategy and initiatives. Develop messaging and materials for communicating data and recommendations.

### KNOWLEDGE/SKILLS

Marine or environmental science, Survey protocols, scientific reporting, data management, environmental regulations related to marine life and habitats and relationship to scientific surveys, assessments and mitigation measures. Regional fisheries independent surveys and monitoring activities for wildlife.

### REQUIREMENTS

#### Education/Training

Master's degree or equivalent experience in marine science, environmental science, fisheries science natural resources or other relevant field.

#### Experience

Prior work experience as a marine scientist and with survey protocols, scientific reporting, and managing large sets of data with data management tools.

### POSITION REPORTS TO

Permitting Director

### CAREER PATH MOVES FROM THIS ROLE

Senior Scientist, Permitting Director





# Materials Scientist

Research & Development Engineer

## DESCRIPTION

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

## KNOWLEDGE/SKILLS

Effects of various temperatures and environments on materials, materials properties, process optimization, advanced math & science, materials fabrication and processing, Offshore Wind 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 Offshore Wind 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.

### Credentialing Required/Optional

GWO (Global Wind Organisation) certified.  
WINDA (Wind Industry Training Records  
Database) registered.

## POSITION REPORTS TO

Director of Operations, Human Resources Director

## CAREER PATH MOVES FROM THIS ROLE

Director of Operations, Project Manager,  
Human Resources Director



## CLEAN ENERGY CAREER PATHWAYS CATALOG

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# Energy Storage

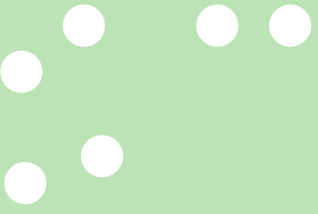

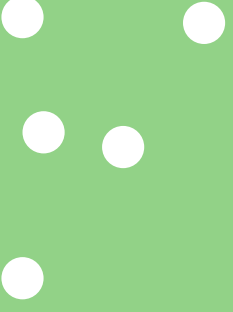
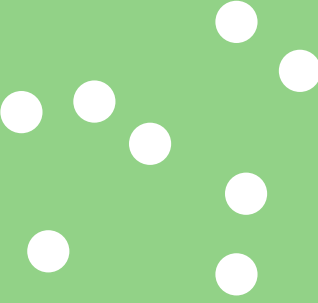
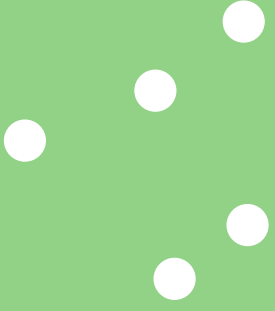

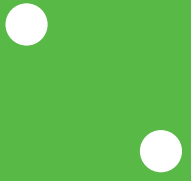
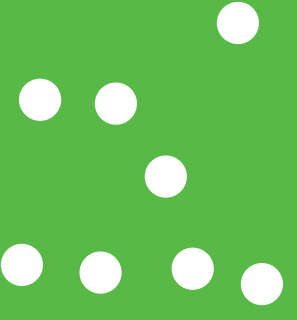


HOME

CAREER  
MAP

CAREER  
LIST



# Energy Storage Career Map

A Project Development	B Operations & Maintenance	C Manufacturing	D Construction/Installation	E Research & Training
A1   ENTRY-LEVEL	B1   ENTRY-LEVEL   PAGE 247-252	C1   ENTRY-LEVEL	D1   ENTRY-LEVEL   PAGE 269-270	E1   ENTRY-LEVEL
				
A2   MID-LEVEL   PAGE 240-244	B2   MID-LEVEL   PAGE 253-260	C2   MID-LEVEL	D2   MID-LEVEL   PAGE 271-275	E2   MID-LEVEL   PAGE 279
				
A3   ADVANCED   PAGE 245-246	B3   ADVANCED   PAGE 261-268	C3   ADVANCED	D3   ADVANCED   PAGE 276-278	E3   ADVANCED   PAGE 280
				

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

HOME

CAREER  
LIST



# Energy Storage Career List



## A Project Development

### A1 ENTRY-LEVEL

- N/A

### A2 MID-LEVEL PAGE 240-244

- Manager, Energy Storage Development
- Mechanical Engineer, Design Engineer, Product Engineer, Equipment Engineer
- Sales Solutions Engineer
- Site Acquisition Manager, Land Acquisition Manager
- Site Acquisition Specialist, Land Acquisition Specialist, Land Agent, Land Acquisition Associate

### A3 ADVANCED PAGE 245-246

- Planner - Renewable Energy
- Strategic Procurement Manager—Energy Storage

## B Operations & Maintenance

### B1 ENTRY-LEVEL PAGE 247-252

- Associate Technician, Mechanical Assistant
- Energy Storage Technician or Field Service Specialist (Also Mechanical Technician)
- High Voltage Technician
- Operations Specialist I
- Safety Manager I
- Technology Specialist

### B2 MID-LEVEL PAGE 253-260

- Analyst
- Engineer - Energy Storage
- High Voltage Reliability Engineer / Specialist
- Maintenance Supervisor, Technician Supervisor
- Operations Specialist II
- Safety Consultant
- Safety Manager II
- Systems Engineer

### B3 ADVANCED PAGE 261-268

- Asset Manager, Senior Financial Analyst
- Director, Energy Storage Systems
- Director, Operations & Maintenance, Director O&M
- Director, Quality & Operations Support
- Engineering Manager
- Maintenance Manager
- Operations Manager, O&M Manager, Site Manager, Facility Manager—Storage
- Systems Engineering Manager

## C Manufacturing

### C1 ENTRY-LEVEL

- N/A

### C2 MID-LEVEL

- N/A

### C3 ADVANCED

- N/A

## D Construction/Installation

### D1 ENTRY-LEVEL PAGE 269-270

- Commissioning Technician
- Site Surveyor

### D2 MID-LEVEL PAGE 271-275

- Buyer, Procurement Specialist, Procurement Associate
- Construction Manager
- Construction Manager II
- Journeyman Electrician
- Optimization Engineer

### D3 ADVANCED PAGE 276-278

- Commissioning Manager
- Construction Manager III
- Project Manager

## E Research & Training

### E1 ENTRY-LEVEL

- N/A

### E2 MID-LEVEL PAGE 279

- Technical Trainer, Technical Instructor

### E3 ADVANCED PAGE 280

- Training & Development Manager

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

HOME

CAREER  
MAP





# Manager, Energy Storage Development

## DESCRIPTION

Implement project origination and development tasks, including negotiation of site control agreements, managing site surveys and due diligence, securing land use and environmental approvals, and advancing projects through the interconnection process. Additional tasks may include obtaining project easements and assisting with energy marketing. Solicit and procure deliverables. Ensure deliverables are completed on-time and within budget and mentor other developers in the same. Ensure project financial models are kept up to date and help manage the internal financial approval process for assigned development projects. Conduct risk analyses / assessments and recommend mitigation measures. Coordinate with internal teams regarding marketing, engineering, legal, procurement and construction.

## KNOWLEDGE/SKILLS

Analytical skills, conducting financial and risk analyses, negotiating, contracting, leading & directing people

## REQUIREMENTS

### Education/Training

Bachelor's degree in engineering, business/economics, or energy related field. Advanced degree a plus.

### Experience

Several years work experience preferably applicable to renewable energy, ideally energy storage.

## POSITION REPORTS TO

Director, Energy Storage, Director of Development, or VP, Energy Storage

## CAREER PATH MOVES FROM THIS ROLE

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





# Mechanical Engineer

Design Engineer, Product Engineer, Equipment Engineer

## DESCRIPTION

Design, develop, analyze and test Storage equipment and products. Design mechanical and electromechanical systems and components for Storage 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 energy Storage designs to improve efficiency and reliability, and to reduce costs.

## KNOWLEDGE/SKILLS

Project management, design for manufacturability (DFM) principles, mechanical and electromechanical assemblies & mechanisms, Energy Storage, 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 years' experience with design of mechanical or electromechanical Storage assemblies and mechanisms. Ideally 3D cad modeling and variety of software.

### Credentialing Required/Optional

May require engineering license, PE Professional engineer

## POSITION REPORTS TO

Engineering Manager or Director

## CAREER PATH MOVES FROM THIS ROLE

Engineering Manager or Director,  
Materials Scientist





# Sales Solution Engineer

## DESCRIPTION

Present storage solutions in a compelling and value-based approach to prospects and customers as part of the sales process. Uncover business requirements, prescribe comprehensive solutions, and demonstrate the solutions that will address the requirements. Partner with account executives to provide customer-facing consultation. Maintain technical understanding of company's storage solutions. Develop expertise in vertical market and knowledge of competitors in the market. May lead discovery and initial requirements gathering sessions with customers and prospects, translating key needs into solution opportunities. Recommend products and services to match customer requirements. Respond to functional and technical questions, RFPs, etc.

## KNOWLEDGE/SKILLS

Translating technical capabilities into business benefits, translating customer requirements and needs into solutions, presenting

## REQUIREMENTS

### Education/Training

Bachelor's degree in engineering or other field related to role.

### Experience

Experience with energy storage systems, developing and delivering presentations to executives and customers.

## POSITION REPORTS TO

Solutions Engineering Manager, Sales Manager or Director

## CAREER PATH MOVES FROM THIS ROLE

Engineering Manager or Sales Manager or Director





# Site Acquisition Manager

Land Acquisition Manager

## DESCRIPTION

This is the more senior level of Site Acquisition Specialist. Secure optimal sites for energy storage. Identify, structure, negotiate and execute real estate transactions with a wide range of property owners and third parties for the development of energy storage 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 energy storage 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, Energy Storage, Director of Development, or VP, Energy Storage

## CAREER PATH MOVES FROM THIS ROLE

Project Manager Energy Storage,  
Operations Director





# Site Aquisition Specialist

Land Acquisition Specialist, Land Agent, Land Acquisition Associate

## DESCRIPTION

Assist in obtaining land for energy storage 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 storage 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





# 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 hazardous materials, biological resources or environmental law a plus.

### Experience

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





# 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 energy storage solutions, tracking systems and other key technologies with a focus on energy storage. 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 (storage preferred); experience in negotiations and analysis.

## POSITION REPORTS TO

Director, Energy Storage

## CAREER PATH MOVES FROM THIS ROLE

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





# Associate Technician

Mechanical Assistant

## DESCRIPTION

Perform all preventive, scheduled, and unscheduled maintenance on mechanical equipment in safe & efficient manner. Read and follow work procedures, operation and maintenance instructions / manuals, blueprints and schematics. Provide assistance in troubleshooting, installing, replacing, and repairing storage equipment and components. (This position is not qualified to independently perform Electrical technician work). Align machines and equipment, dismantle and move machinery / equipment. Perform work according to EHS practices, including LOTO procedures. Complete required reports and paperwork, including inputting information into a computer / device.

## KNOWLEDGE/SKILLS

Mechanical / technical general skills. Strong mechanical aptitude. Comfortable working in confined spaces. Able to lift repeated weight up to 50 lbs.

## REQUIREMENTS

### Education/Training

High school diploma. Valid driver's license.

### Experience

0-1 year of relevant experience. Industrial maintenance desired. Operations and upgrade of equipment. Hands on mechanical position in industrial environment desired. Using hand held and power tools including mechanical troubleshooting equipment.

## POSITION REPORTS TO

Electrical Technician, Field Technician, Maintenance or Operations Manager

## CAREER PATH MOVES FROM THIS ROLE

Mechanical Technician, Other Technician Roles





# Energy Storage Technician

Field Service Specialist, Mechanical Technician

## DESCRIPTION

Perform all preventive, scheduled, and unscheduled maintenance on mechanical equipment in safe & efficient manner. Read and follow work procedures, operation and maintenance instructions / manuals, blueprints and schematics. Troubleshoot, install, replace and repair storage equipment and components. Troubleshoot complicated mechanical, hydraulic, and electrical problems and performance maintenance with storage equipment / facility. Perform some diagnostic/troubleshooting electrical and mechanical analysis and equipment inspections. Write reports and procedures. Assist with installation and commissioning. Provide training and direction to others. Follow Environmental, Health & Safety (EHS) procedures.

## KNOWLEDGE/SKILLS

SCADA or storage management system; Mechanical, hydraulic, and electrical knowledge for troubleshooting, repair, installation, commissioning; EHS practices; PCAT and FCAT commissioning, electrical test equipment; electrical and mechanical schematics, project management, team leadership, using hand tools.

## REQUIREMENTS

### Education/Training

Depending on Level: HS Diploma or GED, Associates degree or diploma in electrical or mechanical field, technician or technical field.

### Experience

Depending on level of Technician (I-IV), 2+ to 4+ years experience in construction, installation or commissioning. , mechanical engineering helpful; maintenance experience. Preferably experience working around all levels of voltage.

### Credentialing Required/Optional

Certified to perform commissioning on SCADA or storage management system.

## POSITION REPORTS TO

Engineer or Construction / Project / Commissioning Manager

## CAREER PATH MOVES FROM THIS ROLE

Other Technician roles. Energy Storage Engineer. Construction Manager / Project Manager, Commissioning Manager





# High Voltage Technician

## DESCRIPTION

Provide electrical, high voltage (HV), and substation emergency response to wind farms, solar facilities, transmission or storage relay, substation or powerhouse. Lead maintenance, service, and repair of HV assets in conjunction with other technicians and HV Reliability Engineers. Perform testing, repairs, switching, and construction activities. Provide technical expertise for commissioning start-up, and initial operating activities.

## KNOWLEDGE/SKILLS

Medium & HV substation electrical equipment, systems, design, AC/DC hi-pots, low res ohm meters, communication systems (SCADA), OTO & LOTO procedures.

## REQUIREMENTS

### Education/Training

HS Diploma or equivalent, plus continuing education in electro-mechanical field. Valid driver's license.

### Experience

5+ years relevant technical experience, experience in power generation or distribution preferred.

### Credentialing Required/Optional

Qualifications required to operate HV equipment.

## POSITION REPORTS TO

Regional Operations Manager, High Voltage Reliability Engineer

## CAREER PATH MOVES FROM THIS ROLE

Storage Technician, High Voltage Reliability Engineer / Specialist, Storage HV Technician





# Operations Specialist I

## DESCRIPTION

Support day to day Reporting, Performance, and Monitoring (RPM) Center Storage 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

Storage 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 Storage 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 Specialist II





# Safety Manager I

## DESCRIPTION

Participate in planning and implementing safety programs for projects while ensuring compliance with federal, state and corporate environmental, health and safety regulations. Develop specific HSE programs & procedures through interface and teamwork with 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 HSE professionals. May be the lead safety manager on a small project. Coordinate & present safety training to support company & client requirements. Participate in EHS project risk assessments. Assist with conducting accident, near miss, & damage investigations with Root Cause Analysis. With oversight, develop & monitor EHS performance, preventive & 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





# Technology Specialist

## DESCRIPTION

Provide technical expertise regarding storage technology solutions to solve technical challenges. Troubleshoot hardware and software issues. Work with infrastructure and application support internally and external vendors to resolve technical issues, perform installations, decommissioning, repairs, upgrades. Maintain technical understanding of company's storage solutions.

## KNOWLEDGE/SKILLS

Technical knowledge, energy storage technology, hardware and software applications / systems, diagnosing issues

## REQUIREMENTS

### Education/Training

HS Diploma or equivalent, plus continuing education in electro-mechanical field. Valid driver's license.

### Experience

Some experience in renewable energy, specifically storage technology.

## POSITION REPORTS TO

Energy Storage Engineer, Energy Storage Systems Engineer

## CAREER PATH MOVES FROM THIS ROLE

Energy Storage Engineer, Energy Storage Systems Engineer





# Analyst

## DESCRIPTION

Model and monitor storage facilities. Maximize revenue and efficiency for energy storage customers by identifying and initiating appropriate responses for conditions, opportunities, and issues related to safety, production, and performance. Collect daily production data and perform energy simulation analyses. Additionally, utilize technical knowledge of storage systems and support and serve the production team, field technical operations and asset management to address all storage 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. 3+ years experience in energy storage. 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.

### Credentialing Required/Optional

PE (Professional Engineer) a plus.

## POSITION REPORTS TO

Energy Project Manager, Operations Manager or Director

## CAREER PATH MOVES FROM THIS ROLE

Project Manager Energy Storage, Operations Director, Construction Manager; Energy Storage Optimization Engineer





# Engineer—Energy Storage

## DESCRIPTION

Provide engineering expertise and general onsite support related to battery storage, Ensure successful operation strategy. Perform trouble shooting, fault analysis, and investigation. Develop, maintain and update work instructions and procedures. Lead and support technical root cause analysis for component and equipment failures. Analyze performance data related to battery storage. Contribute to design specification, optimization, and costing of energy storage facilities. Assist with any SCADA related collaboration with engineering. Support the evaluation of new equipment components and other direct cost reduction initiatives. Define standard engineering deliverables for project teams. Develop and maintain energy storage equipment standards to be used by engineering team.

## KNOWLEDGE/SKILLS

System design expanding technical knowledge, Health and safety, Creating written instruction. Designing and modeling renewable energy and energy storage. Ability to physically move around and work on equipment, and lift and carry up to 50 lbs.

## REQUIREMENTS

### Education/Training

Higher education or Bachelor's degree in relevant subject.

### Experience

3-5 years related technical experience with battery storage.

### Credentialing Required/Optional

PE (Professional Engineer) a plus.

## POSITION REPORTS TO

Director of Operations

## CAREER PATH MOVES FROM THIS ROLE

Operations Manager / Engineering Manager /  
Construction Manager / Project Manager,  
Director of Operations





# High Voltage Reliability Engineer / Specialist

## DESCRIPTION

Provide front-line High Voltage (HV) Electrical Equipment support to wind farms, solar facilities, transmission or storage relay, substation or powerhouse. Serve as organization's subject matter expert on HV concerns. Provide support regarding electrical design, engineering, testing and construction. Support and coordinate commissioning, start-up and initial operation. Optimize scheduled maintenance with fuel resources, weather and reactive maintenance activities. Support and coordinate electrical equipment inventory, maintenance, etc. Perform equipment inspections and ensure compliance with applicable NERC standards. Train and supervise subordinates.

## KNOWLEDGE/SKILLS

Safe work practices, HV equipment operation, maintenance, medium & high voltage substation equipment, relay protection systems, collection systems, transmission designs & operations, power generation and distribution, HV field service, MS office, project software, specifications / drawings / documents related to engineering and construction, schematics, wiring diagrams industry standards and codes including: Institute of Electronic Engineers (IEEE), National Electrical Safety Code (NESC) and ANSI (American National Standards Institute). Ability to travel to different sites.

## REQUIREMENTS

### Education/Training

Bachelor's degree in Electrical Engineering or equivalent in training & experience.  
Valid driver's license.

### Experience

5+ years relevant technical experience. Expert knowledge of medium & high voltage substation electrical equipment. Experience with power generation or distribution, establishing HV field service. Proficient in MS office, project software, relay and protection fundamentals, operation of capacitor banks, circuit breakers, and disconnect switches. LOTO and OTO procedures software suite preferred.

### Credentialing Required/Optional

Qualifications required to operate HV equipment.

## POSITION REPORTS TO

High Voltage Operations Manager

## CAREER PATH MOVES FROM THIS ROLE

HV Operations Manager, Operations Manager, Construction / Project Manager





# Maintenance Supervisor

Technician Supervisor

## DESCRIPTION

Supervise and perform corrective, preventive, and emergency maintenance and operations for Storage 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 Storage facilities 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 and NESC.

## POSITION REPORTS TO

Maintenance Manager, Project Manager

## CAREER PATH MOVES FROM THIS ROLE

Maintenance Manager





# Operations Specialist II

## DESCRIPTION

Support day to day Reporting, Performance, and Monitoring (RPM) Center Storage 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

Storage 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 Storage 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





# Safety Consultant

## DESCRIPTION

Support safety testing and technical due diligence. Support a range of research, modeling, and review projects ranging from technology hardware, code, and safety reviews. Collaborate on industry engagements regarding energy storage across various industries. Provide expertise and process improvement to destructive and performance testing, working with experts in fire, explosion, performance risk analysis, and interpreting fire and safety codes for customers. Provide input on strategic planning, marketing, and new business development.

## KNOWLEDGE/SKILLS

Construction and operation of energy storage systems, energy storage codes and standards, modeling or simulating energy storage operations, interpret & direct CFD models as they relate to fire safety risk. Experience with NFPA, UL, IEC, IEEE, and ASTM standards as they relate to energy storage safety. Industry best practices, guidelines and standards.

## REQUIREMENTS

### Education/Training

Bachelor's degree in engineering, environmental sciences, technical or related field. Advanced degree in engineering or related field preferable.

### Experience

Minimum 2 years experience in energy storage, fire safety, safety consulting. Ideally business development experience or involvement in industry groups or committees, trade journals, conference presentations. Ideally experience in modeling or simulating energy storage operations.

### Credentialing Required/Optional

CSP (Certified Safety Professional), NDT (non-destructive testing) certification and/or PE (Professional Engineer) certification a plus.

## POSITION REPORTS TO

Operations Manager, Construction Manager or Engineering Manager

## CAREER PATH MOVES FROM THIS ROLE

Operations Manager, Construction Manager, Engineering Manager or Development 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 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 & monitor EHS performance, preventive & 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

## CAREER PATH MOVES FROM THIS ROLE

EHS Senior Leadership





# Systems Engineer

## DESCRIPTION

Support the storage infrastructure—installation, deployment, performance testing, upgrades, problem diagnosis, and troubleshooting. Support the computing, networking, and storage systems (electro-chemical, thermal and/or mechanical). Apply systems analysis techniques and procedures, including consulting with users / customers to determine hardware, software or system functional specifications. Design, develop, document, analyze, create, test, optimize or modify storage systems or programs, including prototypes, based on and related to user or system design specifications. Diagnose system operational problems. Participate in on-call rotation providing 24-hour, 7 day support and off-hours maintenance. Coordinate with vendors to resolve hardware and software problems. Serve as a subject matter expert for storage resources. Lead system design, facility integration, deployment, upgrades, issues resolution, and decommissioning.

## KNOWLEDGE/SKILLS

Identifying requirements and matching to energy storage solutions; Installation, operation and maintenance of storage systems & facility, managing priorities and people.

## REQUIREMENTS

### Education/Training

Bachelor's degree in engineering, technical field, or storage system technology.

### Experience

3+ years experience in renewable energy, preferable energy storage technologies.

### Credentialing Required/Optional

PE (Professional Engineer) a plus.

## POSITION REPORTS TO

Energy Storage Systems Manager, Systems Engineering Manager

## CAREER PATH MOVES FROM THIS ROLE

Energy Storage Systems Manager, Engineering Manager, Operations Manager





# Asset Manager

Senior Financial Analyst

## 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 energy storage 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 storage 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





# Director, Energy Storage Systems

## DESCRIPTION

Spearhead and oversee the development, implementation and closing of all activities necessary for energy storage system. Lead negotiations with stakeholders in new energy storage projects including, independent system operators, consultants and permitting and regulatory agencies. This includes project conceptualization, management of design engineering, development fatal flaw analysis, equipment and vendor selection analysis, vendor, negotiation and management, construction management, and operations and maintenance planning and analysis. This position will collaborate with an interdisciplinary team involved in all stages of project development and commercialization. Lead teams in proposal development and management presentations. Support existing project expansions and new generation development. Ensure EHS in engineering and design. Manage all functional areas through first level of management including HR, accounting, budgeting. Serve as advisor to senior management.

## KNOWLEDGE/SKILLS

Contracting, technical analysis, directing all aspects of energy area—technical and support, engineering requirements, energy storage, business development, project development, construction, operations & maintenance. National Electric Code.

## REQUIREMENTS

### Education/Training

BS degree in engineering; masters or PhD a plus.

### Experience

Experience in renewable energy systems; minimum 5+ years project execution experience including deal and contract negotiation. Energy storage solutions experience.

### Credentialing Required/Optional

Ideally PE (Professional Engineer) registration.

## POSITION REPORTS TO

COO Chief Operating Officer or VP Operations, Engineering, Projects or Construction

## CAREER PATH MOVES FROM THIS ROLE

VP Operations, Engineering, Projects or Construction





# Director, Operations & Maintenance

Director O&M

## DESCRIPTION

Manage overall strategic and operational activities for O&M projects in energy storage. 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 energy storage and renewables industry.

## REQUIREMENTS

### Education/Training

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

### Experience

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

## POSITION REPORTS TO

Vice President Operations, VP Storage Business

## CAREER PATH MOVES FROM THIS ROLE

Vice President Operations, VP Storage 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

Vice President Operations, VP Storage Business

## CAREER PATH MOVES FROM THIS ROLE

Vice President Operations, VP Storage 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 3 years of storage 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





# Maintenance 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 Storage facility. 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 Storage facilities, 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 facility systems and computerized maintenance management systems (SAP).

### Credentialing Required/Optional

"Journeyman" electrician preferred and NESC.

## POSITION REPORTS TO

Maintenance Director, Storage Director, Facility Manager

## CAREER PATH MOVES FROM THIS ROLE

Maintenance Director, Construction Manager, Facility Manager





# Operations Manager

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

## DESCRIPTION

Manage all storage 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, storage 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

5 years' 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





# Systems Engineering Manager

## DESCRIPTION

Administer and support the storage technology infrastructure—installation, deployment, performance testing, upgrades, problem diagnosis, and troubleshooting. Support the computing, networking, and storage systems (electro-chemical, thermal and/or mechanical). Apply systems analysis techniques and procedures, including consulting with users / customers to determine hardware, software or system functional specifications. Design, develop, document, analyze, create, test, optimize or modify storage computer systems or programs, including prototypes, based on and related to user or system design specifications. Coordinate with vendors to resolve hardware and software problems. Lead storage related projects with internal and external representatives. Serve as subject matter expert for storage resources. Lead system design, facility integration, deployment, upgrades, issues resolution, and decommissioning. Manage a group of systems engineers.

## KNOWLEDGE/SKILLS

Identifying requirements and matching to energy storage solutions; Installation, operation and maintenance of storage systems & facility, managing priorities and people, research and development

## REQUIREMENTS

### Education/Training

Bachelor's degree in engineering, technical field, or storage system technology.

### Experience

5+ years experience in renewable energy, preferable energy storage technologies.

### Credentialing Required/Optional

PE (Professional Engineer) a plus.

## POSITION REPORTS TO

Energy Storage Solutions Director, Operations Manager or Director

## CAREER PATH MOVES FROM THIS ROLE

Engineering Director, Operations Manager or Director, Project Manager





# Commissioning Technician

## DESCRIPTION

Work with team to perform required system inspections on utility energy storage facilities. Perform visual and mechanical inspections and electrical testing to specifications of construction documents, prior to the energization date. Document all inspection findings and test results, and communicate the findings and test results with Commissioning Lead. Document and assist with storage system troubleshooting and corrective actions. Oversee third party testing and inspections (Transformers, audits, 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

Storage 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 storage systems preferred.

### Experience

Minimum 1 year storage installation experience.

## POSITION REPORTS TO

Commissioning Manager

## CAREER PATH MOVES FROM THIS ROLE

Commissioning Engineer





# 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





# 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. 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 storage 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, Procurement Manager or Director





# Construction Manager

## DESCRIPTION

Responsible for directing, planning, and managing Storage 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, Storage 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 Storage Projects

## CAREER PATH MOVES FROM THIS ROLE

Construction Manager II or Project Manager or Superintendent





# Construction Manager II

## DESCRIPTION

Responsible for directing, planning, and managing Storage 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, Storage 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.

## 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 Storage Projects

## CAREER PATH MOVES FROM THIS ROLE

Construction Manager III or Project Manager or Superintendent





# 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





# Optimization Engineer

## DESCRIPTION

Support production and design optimization throughout development process, and mid to late stage projects. Help to assess early stage design trade-offs for site specific and regional factors (e.g. equipment, land cost). Lead cross-functional optimization efforts. Review technical requirements to guide negotiation and project risks. Identify production and design levers to quantify risk and opportunities on project development and profitability. Work on LCOE (Levelized Cost of Energy) initiatives around design configuration land utilization, equipment. Analyze data during commissioning and support performance testing activities.

## KNOWLEDGE/SKILLS

LCOE (Levelized cost of energy), engineering calculations, analyzing equipment performance, analyzing energy storage optimization, quantifying risk and opportunities around unknowns in design and technology

## REQUIREMENTS

### Education/Training

Bachelor's degree in engineering or technical discipline.

### Experience

3+ years in renewable energy optimization. Data analytics and statistics, building models. Experience working with large data sets, conducting root cause analyses, and visualizing data in a variety of trends.

### Credentialing Required/Optional

PE (Professional Engineer) ideally.

## POSITION REPORTS TO

Energy Development Manager or Director,  
Engineering Manager or Director

## CAREER PATH MOVES FROM THIS ROLE

Engineering Manager or Director,  
Project Manager





# Commissioning Manager

## DESCRIPTION

Oversee regional installation and commissioning operations from the Storage project kickoff through customer acceptance. Responsible for planning, checking, quality assurance, monitoring, evaluation, and preparation of commissioning reports to management. Staff, train, and manage Storage commissioning team personnel. Create guidelines and procedures to ensure all project activities are completed according to a standard process, project plan and budget. Conduct routine audits as necessary. Interact with engineering to troubleshoot any technical issues. Manage budgets.

## KNOWLEDGE/SKILLS

Electrical and mechanical theory. Team supervision. Budgeting procedures. Commissioning operations and practices for Storage projects. Interpret engineering drawings.

## REQUIREMENTS

### Education/Training

Bachelor's degree in electrical engineering, electronics engineering or technical related field and five to seven years of experience.

### Experience

5-7 years experience with power generation equipment and commissioning procedures. Construction and commissioning experience in structural assembly, electrical protection and control systems related to the site work.

### Credentialing Required/Optional

Optional: REP- Renewable Energy Professional" and "Certified Energy Manager" from the Association of Energy Engineers ([aeecenter.org](http://aeecenter.org))

## POSITION REPORTS TO

Director, Storage Commissioning;  
Director, Storage

## CAREER PATH MOVES FROM THIS ROLE

Project Manager—Commissioning,  
Director, Storage Commissioning





# Construction Manager III

## DESCRIPTION

Responsible for directing, planning, and managing Storage 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, Storage 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 Storage Projects

## CAREER PATH MOVES FROM THIS ROLE

Director of Storage Projects





# Project Manager

## DESCRIPTION

Lead project team. Develop scope of project, specifications for procurement and installation of the storage project, and project timelines. Coordinate interconnection process. Manage subcontractors, technical consultants, designers and engineers. Develop and maintain file management, organize data collection and track progress toward project objectives. Serve as the lead on-site manager during the development of the project into the operation phase of the project. Develop procedures and work instructions. Oversee EHS protocols.

## KNOWLEDGE/SKILLS

Energy systems, storage systems; Collecting / organizing and analyzing data from energy project, Team leadership, Project management, Writing reports

## REQUIREMENTS

### Education/Training

Bachelor's degree in related area—project management, engineering, design, construction

### Experience

Depending on level, 1-2 years of experience (with a bachelor's degree) OR 5-6 years of experience. Leading projects from start to finish

### Credentialing Required/Optional

PMP (Project Management Professional) desired; potential Engineering certification or license depending on project requirements

## POSITION REPORTS TO

Director of Storage Operations or Engineering or Construction

## CAREER PATH MOVES FROM THIS ROLE

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





# Technical Trainer

Technical Instructor

## DESCRIPTION

Educate employees about energy storage 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





# 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



## CLEAN ENERGY CAREER PATHWAYS CATALOG

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# Energy Transmission


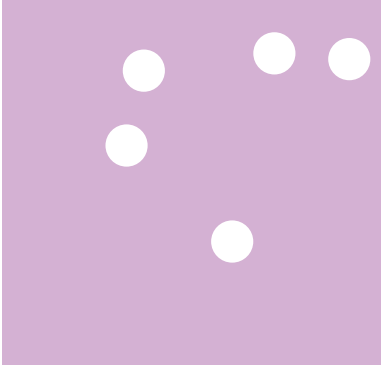

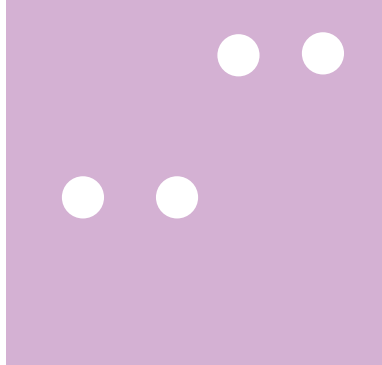
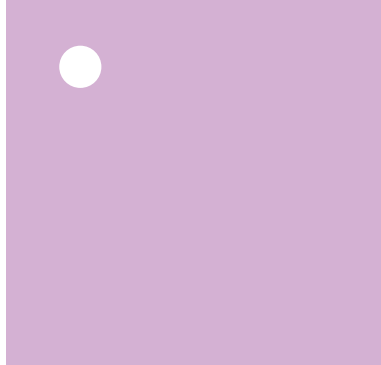
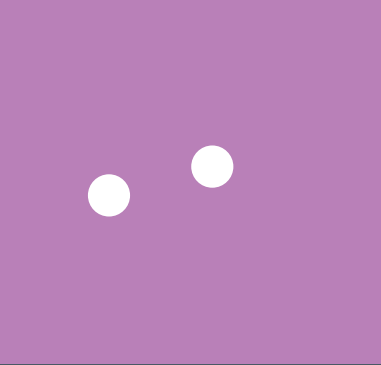
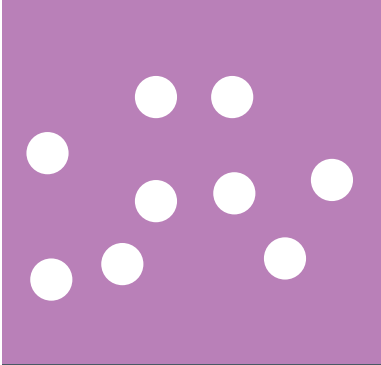

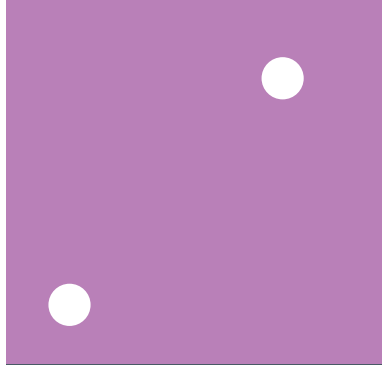
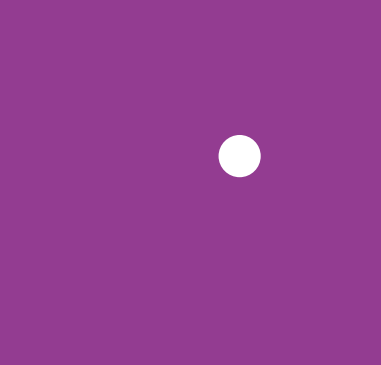
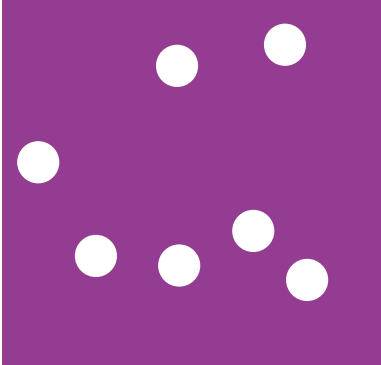

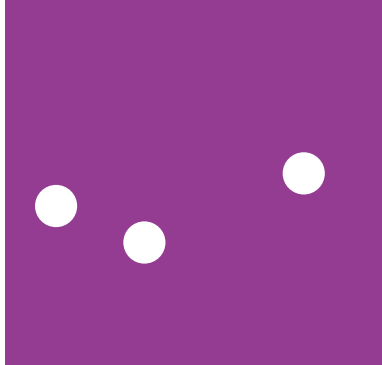

HOME

CAREER  
MAP

CAREER  
LIST



# Energy Transmission Career Map

A Project Development	B Operations & Maintenance	C Manufacturing	D Construction/Installation	E Research & Training
<b>A1   ENTRY-LEVEL</b> 	<b>B1   ENTRY-LEVEL</b>   PAGE 287-291 	<b>C1   ENTRY-LEVEL</b> 	<b>D1   ENTRY-LEVEL</b>   PAGE 308-311 	<b>E1   ENTRY-LEVEL</b>   PAGE 317 
<b>A2   MID-LEVEL</b>   PAGE 284-285 	<b>B2   MID-LEVEL</b>   PAGE 292-300 	<b>C2   MID-LEVEL</b> 	<b>D2   MID-LEVEL</b>   PAGE 312-313 	<b>E2   MID-LEVEL</b> 
<b>A3   ADVANCED</b>   PAGE 286 	<b>B3   ADVANCED</b>   PAGE 301-307 	<b>C3   ADVANCED</b> 	<b>D3   ADVANCED</b>   PAGE 314-316 	<b>E3   ADVANCED</b> 

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

HOME

CAREER  
LIST



# Energy Transmission Career List



## A Project Development

### A1 | ENTRY-LEVEL |

- N/A

### A2 | MID-LEVEL | PAGE 284-285

- Strategic Procurement Manager
- Transmission Line Engineer, Transmission Engineer, Electrical Power Engineer, Electrical Interconnection Engineer, Electrical Design Engineer

### A3 | ADVANCED | PAGE 286

- Planner—Renewable Energy

## B Operations & Maintenance

### B1 | ENTRY-LEVEL | PAGE 287-291

- High Voltage Technician
- Operations Specialist I
- Power Distributor / Dispatcher, System Operator, Remote Control Operator
- Transmission Associate Technician, Mechanical Assistant
- Transmission Technician or Field Service Specialist

### B2 | MID-LEVEL | PAGE 292-300

- Analyst
- Electrical Engineer—Powerhouse, Substation or Relay
- High Voltage Reliability Engineering Specialist
- Mechanical Engineer, Design Engineer, Product Engineer, Equipment Engineer
- Operations Specialist II
- Power and Transmission Scheduler
- Reliability Engineer
- Safety Manager I
- Safety Manager II

### B3 | ADVANCED | PAGE 301-307

- Director Operations & Maintenance; Director O&M
- Director, Quality & Operations Support
- Director, Transmission
- Engineering Manager
- Operations Manager, O&M Manager, Site Manager, Facility Manager—Transmission
- Reliability Engineering Manager
- Transmission Manager, Transmission & Interconnection Manager, Transmission Operations Manager

## C Manufacturing

### C1 | ENTRY-LEVEL |

- N/A

### C2 | MID-LEVEL |

- N/A

### C3 | ADVANCED |

- N/A

## D Construction/Installation

### D1 | ENTRY-LEVEL | PAGE 308-311

- Commissioning Technician
- Construction Manager
- Electrical / Electronic Line Installer & Repairer, Journeyman Lineman—powerhouse, substation, relay (including lines & towers)
- Site Surveyor

### D2 | MID-LEVEL | PAGE 312-313

- Buyer; Procurement Specialist; Procurement Associate
- Construction Manager II

### D3 | ADVANCED | PAGE 314-316

- Commissioning Manager
- Construction Manager III
- Project Manager

## E Research & Training

### E1 | ENTRY-LEVEL | PAGE 317

- Technical Trainer, Technical Instructor

### E2 | MID-LEVEL |

- N/A

### E3 | ADVANCED |

- N/A

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

HOME

CAREER  
MAP





# 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 energy Transmission solutions, tracking systems and other key technologies with a focus on energy Transmission. 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, Energy Transmission

## CAREER PATH MOVES FROM THIS ROLE

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





# Transmission Line Engineer

Transmission Engineer, Electrical Power Engineer, Electrical Interconnection Engineer, Electrical Design Engineer

## DESCRIPTION

Plan routes for power transmission and follow environmental regulations and laws to ensure the development does not encroach on protected land. Evaluate interconnection standards and transmission feasibility, system impact and facility studies or testing new electrical components or designs. Examine maps and GIS files to ensure that the topography is suitable for the new power system. Check for utilities to ensure proper planning. Look for environmental issues, potential engineering safety hazards, and logistical problems. Ensure maximum efficiency from the finished product. May also be on site during a building phase to watch for potential problems that may not have been obvious during the research phase. The role is a mix of office based research and reporting and construction supervision. May also include working on transmission and/or distribution systems.

## KNOWLEDGE/SKILLS

Digital systems design, differential equations, electrical power circuits, power transmission.

## REQUIREMENTS

### Education/Training

Bachelor's degree in electrical or electronics engineering or related field.

### Experience

Ideally at least 2-3 years' experience in energy transmission or distribution.

### Credentialing Required/Optional

PE (Professional Engineer) This is not required for entry-level engineer roles but is required by some employers.

## POSITION REPORTS TO

Engineering Manager

## CAREER PATH MOVES FROM THIS ROLE

Senior Engineer or Lead Engineer





# 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, hazardous materials or environmental law a plus.

### Experience

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





# High Voltage Technician

## DESCRIPTION

Provide electrical transmission, high voltage (HV), collection system, and substation support and emergency response. Lead maintenance, service, and repair of HV assets in conjunction with other technicians and HV Reliability Engineers. Perform testing, repairs, switching, and construction activities. Provide technical expertise for start-up and initial operating activities. Maintain HV spare parts inventory and warehouse. Perform HV switching. Operate heavy machinery—trucks, forklifts, aerial lifts, and overhead cranes. Report on inspections and maintenance. Perform substation and transmission inspections in accordance with compliance requirements. Work closely with site Operations Managers to ensure day-to-day reliability. Serve as the first responder for emergency and routine repairs on HV equipment. Provide remote HV support to the HV Reliability Engineers for troubleshooting, testing, and proof checking. Ensure adherence to safety requirements. Write reports and use root cause analysis.

## KNOWLEDGE/SKILLS

Medium and high voltage substation electrical equipment, collection systems, transmission design, and operations; power factor test sets, AC/DC hi-pots, low res ohm meters. Electronic communication systems (SCADA), Order to operate (OTO) and Lock-out Tag-out (LOTO) procedures.

## REQUIREMENTS

### Education/Training

HS Diploma or equivalent, plus continuing education in the electro-mechanical field. Valid driver's license.

### Experience

5+ years of relevant technical experience. Experience in power generation or distribution preferred.

### Credentialing Required/Optional

Qualifications required to operate HV (high voltage) equipment.

## POSITION REPORTS TO

High Voltage Operations Manager,  
Regional Operations Manager

## CAREER PATH MOVES FROM THIS ROLE

HV Reliability Engineer or Transmission Engineer





# Operations Specialist I

## DESCRIPTION

Support day to day Reporting, Performance, and Monitoring (RPM) Center Transmission 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

Transmission 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 Transmission 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 Specialist II





# Power Distributor / Dispatcher

Control Center Operator, Power System Operator,  
Electrical System Operator

## DESCRIPTION

Control the systems that generate, control the flow, and distribute electric power between power generation sites to substations and distribute to users/customers. Read charts, meters, and gauges to monitor voltage and electricity flows. Check equipment and indicators to detect evidence of operating problems. Monitor complex controls and intricate machinery to ensure that everything is operating properly. Adjust controls to regulate the flow of power. Start or stop generators, and other equipment as necessary. In exercising control, monitor and operate current converters, voltage transformers, and circuit breakers over a network of transmission and distribution lines. Prepare and issue switching orders to route electrical currents around areas that need maintenance or repair. Detect and respond to emergencies, such as transformer or transmission line failures, which can cause cascading power outages over the network. May work with plant operators to troubleshoot electricity generation issues.

## KNOWLEDGE/SKILLS

Mechanical and analytical skills. Science, and math, especially algebra and trigonometry. Controlling and operating electrical power distribution. Once hired, long-term on-the-job training and technical instruction. Several years of onsite training and experience necessary to become fully qualified. Regular refresher training and updates.

## REQUIREMENTS

### Education/Training

HS diploma or equivalent. College or vocational school degree preferred (technical, math or science field).

### Experience

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

### Credentialing Required/Optional

Power plant operators, distributors, and dispatchers who are in positions which could affect the power grid may need to be certified through the North American Electric Reliability Corporation's (NERC) System Operator Certification Program. PJM or other ISO Certifications, as required, or ability to obtain within 6 months.

## POSITION REPORTS TO

Control Center Manager

## CAREER PATH MOVES FROM THIS ROLE

Senior Control Center Operator, Control Center Manager, Power Marketing, Performance Management





# Transmission Associate Technician

Mechanical Assistant

## DESCRIPTION

Perform all preventive, scheduled, and unscheduled maintenance on mechanical equipment in safe & efficient manner. Read and follow work procedures, operation and maintenance instructions / manuals, blueprints and schematics. Provide assistance in troubleshooting, installing, replacing, and repairing transmission equipment and components. (This position is not qualified to independently perform Electrical technician work). Align machines and equipment, dismantle and move machinery / equipment. Perform work according to EHS practices, including LOTO procedures. Complete required reports and paperwork, including inputting information into a computer / device.

## KNOWLEDGE/SKILLS

Mechanical / technical general skills. Strong mechanical aptitude. Comfortable working in confined spaces. Able to lift repeated weight up to 50 lbs.

## REQUIREMENTS

### Education/Training

High school diploma. Valid driver's license.

### Experience

0-1 year of relevant experience. Industrial maintenance desired. Operations and upgrade of equipment. Hands on mechanical position in industrial environment desired. Using handheld and power tools including mechanical troubleshooting equipment.

## POSITION REPORTS TO

Electrical Technician, Field Technician, Maintenance or Operations Manager

## CAREER PATH MOVES FROM THIS ROLE

Mechanical Technician, Other Technician Roles





# Transmission Technician

Field Service Specialist

## DESCRIPTION

Perform all preventive, scheduled, and unscheduled maintenance on mechanical equipment in safe & efficient manner. Read and follow work procedures, operation and maintenance instructions / manuals, blueprints and schematics. Troubleshoot, install, replace and repair transmission equipment and components. Troubleshoot complicated mechanical, hydraulic, and electrical problems and performance maintenance with transmission equipment / facility. Perform some diagnostic/troubleshooting electrical and mechanical analysis and equipment inspections. Write reports and procedures. Assist with installation and commissioning. Provide training and direction to others. Follow Environmental, Health & Safety (EHS) procedures.

## KNOWLEDGE/SKILLS

SCADA or transmission management system; Mechanical, hydraulic, and electrical knowledge for troubleshooting, repair, installation, commissioning; EHS practices; PCAT and FCAT commissioning, electrical test equipment; electrical and mechanical schematics, project management, team leadership, using hand tools.

## REQUIREMENTS

### Education/Training

Depending on Level: HS Diploma or GED, Assoc degree or diploma in electrical or mechanical field, technician or technical field.

### Experience

Depending on level of Technician (I-IV), 2+ to 4+ years' experience in construction, installation or commissioning, mechanical engineering helpful; maintenance experience. Preferably experience working around all levels of voltage.

### Credentialing Required/Optional

Certified to perform commissioning on SCADA or transmission management system.

## POSITION REPORTS TO

Engineer or Construction / Project /  
Commissioning Manager

## CAREER PATH MOVES FROM THIS ROLE

Other Technician roles, Transmission  
Engineer, Construction Manager / Project  
Manager, Commissioning Manager





# Analyst

## DESCRIPTION

Perform regional energy transmission analysis to find regions with available transmission capacity for possible projects. Submit transmission requests to transmission providers. Analyze and comment on interconnection studies. Perform power flow analysis to estimate potential congestion and curtailment. Advise developers of potential transmission issues and make recommendations related to added project costs or upgrade requirements. Monitor regional transmission expansion activities. Make recommendations for strategic development based on transmission availability. Model and monitor transmission lines and services. Maximize revenue and efficiency for energy customers. Assist in the development of forecasts and pro-forma analyses.

## KNOWLEDGE/SKILLS

Business analysis, power flow analysis, strategic business development, energy transmission. 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. Data analytics and statistics, building models.

## REQUIREMENTS

### Education/Training

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

### Experience

3+ years in asset management and/or field operations. 3+ years' experience in energy Transmission. Experience working with large data sets, conducting root cause analyses, and visualizing data in a variety of formats for identifying trends and outliers.

### Credentialing Required/Optional

PE (Professional Engineer) a plus

## POSITION REPORTS TO

Senior or Lead Analyst, Transmission Manager, Transmission Director

## CAREER PATH MOVES FROM THIS ROLE

Senior or Lead Analyst, Transmission Manager, Project Manager





# Electrical Engineer—Powerhouse, Substation or Relay

## DESCRIPTION

Responsible for correct and safe performance of electrical equipment involved in Powerhouse, Substation or Relay – energy transmission. Support energization of new or modified equipment and testing activities. Direct phase-out activities and/or coordinate with appropriate personnel. Verify ready to start procedures are complete prior to energizing equipment. Coordinate with construction managers and operations managers on various new projects, upgrades, or modifications. Read electrical design documents and work with other personnel and vendors on maintaining energy transmission.

## KNOWLEDGE/SKILLS

Control systems, protective relay systems, equipment inspection and test methods, electrical equipment, electrical engineering, reading schematics

## REQUIREMENTS

### Education/Training

Bachelor's degree (engineering) preferred or equivalent combination of training & experience.

### Experience

3-5 years' experience replacing transmission line relays, writing up reports.

### Credentialing Required/Optional

PE (Professional Engineer) preferred.

## POSITION REPORTS TO

Transmission Manager, Transmission Director, Engineering Manager

## CAREER PATH MOVES FROM THIS ROLE

Senior Electrical Engineer,  
Transmission Manager, Project Manager





# High Voltage Reliability Engineering Specialist

## DESCRIPTION

Provide electrical transmission, high-voltage (HV), collection system, and substation support. Provide feedback regarding electrical design, engineering, testing, and construction. Support and coordinate commissioning, start-up, and initial operating activities. Optimize scheduled maintenance with consideration of fuel resources, weather, and reactive maintenance activities. Report problems and update activities in SAP. Maintain inventory, inspection, and calibration of all tooling and equipment. Manage spare parts inventory. Perform safe switching and grounding of HV equipment. Develop and implement site betterment projects. Support and coordinate electrical equipment maintenance at company facilities with LOTO and outage planning. Serve as an example to others of safe work practices. Perform equipment inspections and testing and store the reports in respective depository to ensure compliance with applicable standards. Perform emergency and routine repairs. Train subordinates and other field personnel.

## KNOWLEDGE/SKILLS

Medium and high voltage substation electrical equipment including relay protection systems, collection systems, transmission designs and operations. MS Office, project software, SEL equipment. Relay and protection fundamentals. Operation of capacitor banks, transformer load tap changers, circuit breakers, and motor/manually operated or disconnect switches.

## REQUIREMENTS

### Education/Training

Bachelor's degree in Electrical Engineering or equivalent combination of training & experience.

### Experience

5+ years relevant technical experience. Experience with power generation or distribution preferred. Experience establishing High Voltage field service preferred.

### Credentialing Required/Optional

Qualifications to operate HV (high voltage) equipment.

## POSITION REPORTS TO

High Voltage Operations Manager, Regional Operations Manager

## CAREER PATH MOVES FROM THIS ROLE

High Voltage Operations Manager, Project Manager





# Mechanical Engineer

Design Engineer, Product Engineer, Equipment Engineer

## DESCRIPTION

Design, develop, analyze and test Transmission equipment and products. Design mechanical and electromechanical systems and components for Transmission 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 energy Transmission designs to improve efficiency and reliability, and to reduce costs.

## KNOWLEDGE/SKILLS

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

## REQUIREMENTS

### Education/Training

BS in Engineering or higher degree

### Experience

Experience with design of mechanical or electromechanical transmission assemblies and mechanisms. Ideally 3D cad modeling and variety of software.

### Credentialing Required/Optional

May require engineering license,  
PE Professional engineer

## POSITION REPORTS TO

Engineering Manager or Director

## CAREER PATH MOVES FROM THIS ROLE

Engineering Manager or Director,  
Materials Scientist





# Operations Specialist II

## DESCRIPTION

Support day to day Reporting, Performance, and Monitoring (RPM) Center Transmission 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

Transmission 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 Transmission 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





# Power and Transmission Scheduler

## DESCRIPTION

Manage real-time operations including forecasting, scheduling of generation resources, scheduling of contract purchases and sales, real-time purchases and sales of energy/capacity and procurement and management of transmission resources. Monitor real-time transmission positions, analyze forecasts and market obligations to optimize transmission redirects, transmission purchases, and scheduling coordination. Record transactions in relevant deal capture system. Maintain summary of available transmission reservations; manage reservations including performing trans-assignments and redirects as needed. Coordinate with the control center to ensure proper real-time monitoring and alarming of key scheduling, tagging and transmission parameters. Work with analysts to develop tools that track and analyze current and anticipated transmission outages as well as forecasts.

## KNOWLEDGE/SKILLS

Maintain understanding of the energy markets where Company assets are located and understand commercial practices as they relate to managing merchant power pricing and scheduling.

## REQUIREMENTS

### Education/Training

Bachelor's degree preferred in technical / analytical field. Minimum HS diploma.

### Experience

Minimum 1+ year of experience related to energy dispatch and/or hourly trading preferred. Recent college graduates with relevant technical / analytical field will be considered.

## POSITION REPORTS TO

Scheduling Manager, Power Manager

## CAREER PATH MOVES FROM THIS ROLE

Scheduling Manager, Control Center Supervisor, Remote Control Operator





# Reliability Engineer

## DESCRIPTION

Assess transmission 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 transmission lines.

## 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. Renewable energy power operations or Electric Utility operations preferred.

## POSITION REPORTS TO

Engineering Manager

## CAREER PATH MOVES FROM THIS ROLE

Engineering Manager, Project Manager





# 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





# 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

## CAREER PATH MOVES FROM THIS ROLE

EHS Senior Leadership





# Director, Operations & Maintenance

Director O&M

## DESCRIPTION

Manage overall strategic and operational activities for O&M projects in energy transmission. 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 energy transmission and renewables industry.

## REQUIREMENTS

### Education/Training

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

### Experience

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

## POSITION REPORTS TO

Vice President Operations, VP Transmission Business

## CAREER PATH MOVES FROM THIS ROLE

Vice President Operations, VP Transmission 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

Vice President Operations, VP Transmission Business

## CAREER PATH MOVES FROM THIS ROLE

Vice President Operations, VP Transmission Business





# Director, Transmission

## DESCRIPTION

Oversee regional transmission screening analysis to find regions with available transmission capacity for possible projects. Review power flow analysis to estimate potential congestion and curtailment. Advise developers of potential transmission issues and make recommendations related to added project costs or upgrade requirements. Coordinate project design, materials, and contract management for transmission projects. Monitor regional transmission expansion activities and make recommendations for transmission ownership and/or long-term transmission service rights on merchant transmission projects. Participate in the planning strategy for development, advising the team of transmission availability.

## KNOWLEDGE/SKILLS

Laws and regulations related to Transmission. Transmission systems operation.

## REQUIREMENTS

### Education/Training

Bachelor's or Master's degree in Business or Energy Management.

### Experience

10-15 years in the power industry; helpful to have related real estate sales, development or leasing.

## POSITION REPORTS TO

Senior Director—Transmission or VP Operations

## CAREER PATH MOVES FROM THIS ROLE

Senior Director—Transmission or VP Operations





# 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 3 years of transmission 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





# Operations Manager

Transmission & Interconnection Manager,  
Transmission Operations Manager

## DESCRIPTION

Lead all aspects of electrical interconnection, delivery strategies, strategic transmission acquisition and analysis for company generation and transmission projects. Assess transmission opportunities, prepare and file interconnection documents and manage the Company's overall transmission positions. The position will be responsible for analysis that informs the company's view and forecast of congestion on various transmission systems. Track transmission projects and overall transmission development within the various markets. Assist Development, Regulatory, Construction, Engineering, Operations, and Dispatch teams with multiple aspects of project development, design and operation. Develop and maintain strong working knowledge of regional transmission systems and providers. Participate in and act as an advocate for the company and the industry in the transmission regulatory process.

## KNOWLEDGE/SKILLS

Transmission systems. Construction and field experience. Developing power flow base cases and evaluating results. 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.

## REQUIREMENTS

### Education/Training

Bachelor's degree in electrical engineering with emphasis on Power Systems is required. Thorough knowledge of FERC transmission tariffs and interconnection processes.

### Experience

Minimum 4 years transmission and interconnection experience. Construction and field experience. Developing power flow base cases and evaluating results.

### Credentialing Required/Optional

Professional Engineering (PE) Registration encouraged.

## 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  
Manager/Director, Director, Transmission





# 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 transmission assets. And 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 that may foster design trade-off decisions. Improve analytics tools to provide reliability insights specific to components, suppliers, and failure modes in order 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. Transmission experience in design, installation, operation and maintenance.

## POSITION REPORTS TO

Reliability Director, Head of Transmission

## CAREER PATH MOVES FROM THIS ROLE

Reliability Director, Installation or Design Engineer





# Transmission Manager

Transmission & Interconnection Manager,  
Transmission Operations Manager

## DESCRIPTION

Lead all aspects of electrical interconnection, delivery strategies, strategic transmission acquisition and analysis for company generation and transmission projects. Assess transmission opportunities, prepare and file interconnection documents and manage the Company's overall transmission positions. The position will be responsible for analysis that informs the company's view and forecast of congestion on various transmission systems. Track transmission projects and overall transmission development within the various markets. Assist Development, Regulatory, Construction, Engineering, Operations, and Dispatch teams with multiple aspects of project development, design and operation. Develop and maintain strong working knowledge of regional transmission systems and providers. Participate in and act as an advocate for the company and the industry in the transmission regulatory process.

## KNOWLEDGE/SKILLS

Transmission systems. Construction and field experience. Developing power flow base cases and evaluating results. Energy interconnection. Forecasting. Regulations related to energy transmission. Energy transmission design.

## REQUIREMENTS

### Education/Training

Minimum 4 years transmission and interconnection experience. Construction and field experience. Developing power flow base cases and evaluating results.

### Experience

Bachelor's degree in electrical engineering with emphasis on Power Systems is required. Thorough knowledge of FERC transmission tariffs and interconnection processes.

### Credentialing Required/Optional

Professional Engineering (PE) Registration encouraged.

## POSITION REPORTS TO

Director, Transmission

## CAREER PATH MOVES FROM THIS ROLE

Director, Transmission; Director Operations & Maintenance





# Commissioning Technician

## DESCRIPTION

Work with team to perform required system inspections on utility energy Transmission. 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 transmission system trouble shooting and corrective actions. Oversee third party testing and inspections. (Transformers, audits, 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

Transmission 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 transmission systems preferred.

### Experience

Minimum 1 year transmission installation experience.

## POSITION REPORTS TO

Commissioning Manager

## CAREER PATH MOVES FROM THIS ROLE

Commissioning Engineer





# Construction Manager

## DESCRIPTION

Responsible for directing, planning, and managing transmission 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, transmission 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 Transmission Projects

## CAREER PATH MOVES FROM THIS ROLE

Construction Manager II or Project Manager or Superintendent





# Electrical / Electronic Line Installer & Repairer

Journeyman Lineman—powerhouse, substation, relay (including lines & towers)

## DESCRIPTION

Line installers and repairers install or repair electrical power systems, specifically working with power lines and towers on powerhouse, substation or relay. Install, maintain, or repair the power lines that move electricity. Identify defective devices, voltage regulators, transformers, and switches. Inspect and test power lines and auxiliary equipment. String power lines between poles, towers, and buildings. Climb poles and transmission towers and use truck-mounted buckets to get to equipment. Line workers face hazards on the job, including high-voltage electricity, and working at great heights. The work also can be physically demanding. Although most work full time during regular business hours, some work irregular hours on evenings, nights, weekends, and holidays when needed. Journeyman Linemen may supervise Apprentice Linemen.

## 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

HS Diploma; algebra and trigonometry. Technical knowledge of electricity or electronics from military service, vocational programs, or community colleges can also be helpful. Electrical trade school community college courses, or 2-year degree in electrical / electronics can be helpful.

### Experience

None or Apprenticeship as Lineman before or just after job hire.

### Credentialing Required/Optional

May require "Journeyman Lineman" credential.

## POSITION REPORTS TO

Electrical Engineer Powerhouse, Substation or Relay (Transmission Line Engineer)

## CAREER PATH MOVES FROM THIS ROLE

Electrical Engineer Powerhouse, Substation or Relay (Transmission Line Engineer)





# 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





# 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. 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 transmission 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, Procurement Manager or Director





# Construction Manager II

## DESCRIPTION

Responsible for directing, planning, and managing transmission 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, transmission 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 Transmission Projects

## CAREER PATH MOVES FROM THIS ROLE

Construction Manager III or Project Manager or Superintendent





# Commissioning Manager

## DESCRIPTION

Oversee regional installation and commissioning operations from the transmission project kickoff through customer acceptance. Responsible for planning, checking, quality assurance, monitoring, evaluation, and preparation of commissioning reports to management. Staff, train, and manage transmission commissioning team personnel. Create guidelines and procedures to ensure all project activities are completed according to a standard process, project plan and budget. Conduct routine audits as necessary. Interact with engineering to troubleshoot any technical issues. Manage budgets.

## KNOWLEDGE/SKILLS

Electrical and mechanical theory. Team supervision. Budgeting procedures. Commissioning operations and practices for Transmission projects. Interpret engineering drawings.

## REQUIREMENTS

### Education/Training

Bachelor's degree in electrical engineering, electronics engineering or technical related field and five to seven years of experience.

### Experience

5-7 years' experience with power generation equipment and commissioning procedures. Construction and commissioning experience in structural assembly, electrical protection and control systems related to the site work.

### Credentialing Required/Optional

Optional: REP—Renewable Energy Professional and Certified Energy Manager from the Association of Energy Engineers ([aeecenter.org](http://aeecenter.org))

## POSITION REPORTS TO

Director, Transmission Commissioning;  
Director, Transmission

## CAREER PATH MOVES FROM THIS ROLE

Project Manager—Commissioning, Director,  
Transmission Commissioning





# Construction Manager III

## DESCRIPTION

Responsible for directing, planning, and managing transmission 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, transmission 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 Transmission Projects

## CAREER PATH MOVES FROM THIS ROLE

Director of Transmission Projects





# Project Manager

## DESCRIPTION

Manage transmission 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. 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. Coordinate environmental assessment and the necessary regulatory approvals (federal, state and local) needed to begin construction. Mentor Associate Project Managers.

## KNOWLEDGE/SKILLS

Investigating and solving problems, analyzing data, writing effective reports and making presentations. Managing time, setting and managing priorities. Running meetings, motivating others. Managing multiple transmission 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.

## POSITION REPORTS TO

Manager of Transmission Projects,  
Manager-Construction—Transmission

## CAREER PATH MOVES FROM THIS ROLE

Manager of Transmission Projects,  
Manager-Construction—Transmission,  
Manager Commissioning





# Technical Trainer

Technical Instructor

## DESCRIPTION

Educate employees about energy transmission 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



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Research and Report Completed by:  
Center for Individual & Organizational Effectiveness (C4IOE.com)

**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](mailto:tvinson@cleanpower.org)





## American Clean Power Occupations & Career Maps

### Additional Research Sources:

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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>

Department of Energy (DOE) <https://www.energy.gov/eere/wind/wind-career-map>

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.solarenergy.jobs>

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](http://www.cleanpower.org).



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