

CLEAN ENERGY CAREER PATHWAYS CATALOG

Energy Storage



CAREER
MAP

CAREER
LIST

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

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

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

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

Energy Storage Career Pathways Catalog

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

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



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

Clean Energy Sectors

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

LEVEL 1

Industry Segments

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

LEVEL 2

Industry Sub Segments

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

LEVEL 3

Occupational Groups/Job Families

[Groups may also include supervisor & manager roles]

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

LEVEL 4

Explanation of Career Maps

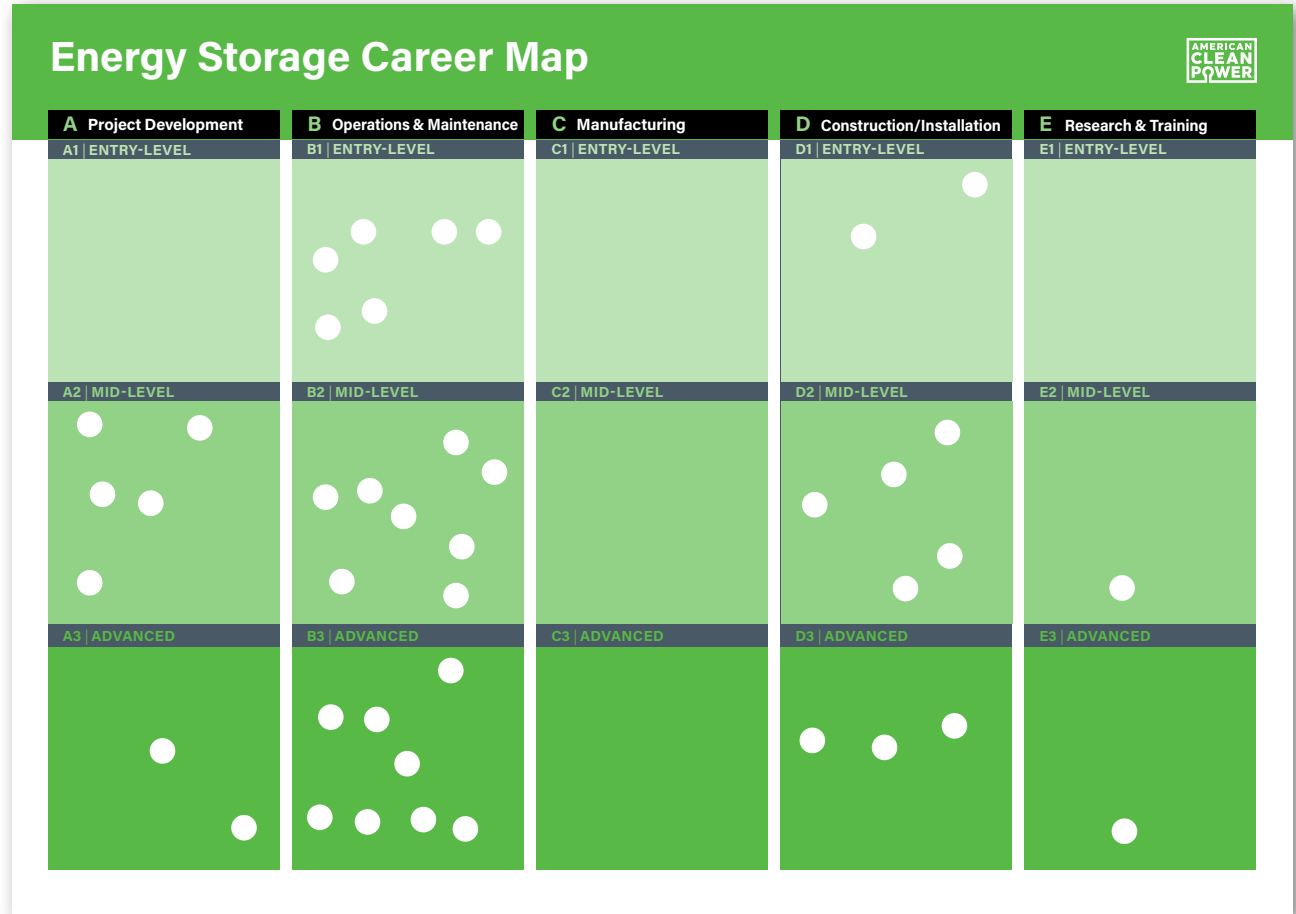
Each catalog includes an interactive Career Map that illustrates potential pathways for career growth within the Sector and within five specific Industry Segments.

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

- Entry Level
- Mid-Level
- Advanced

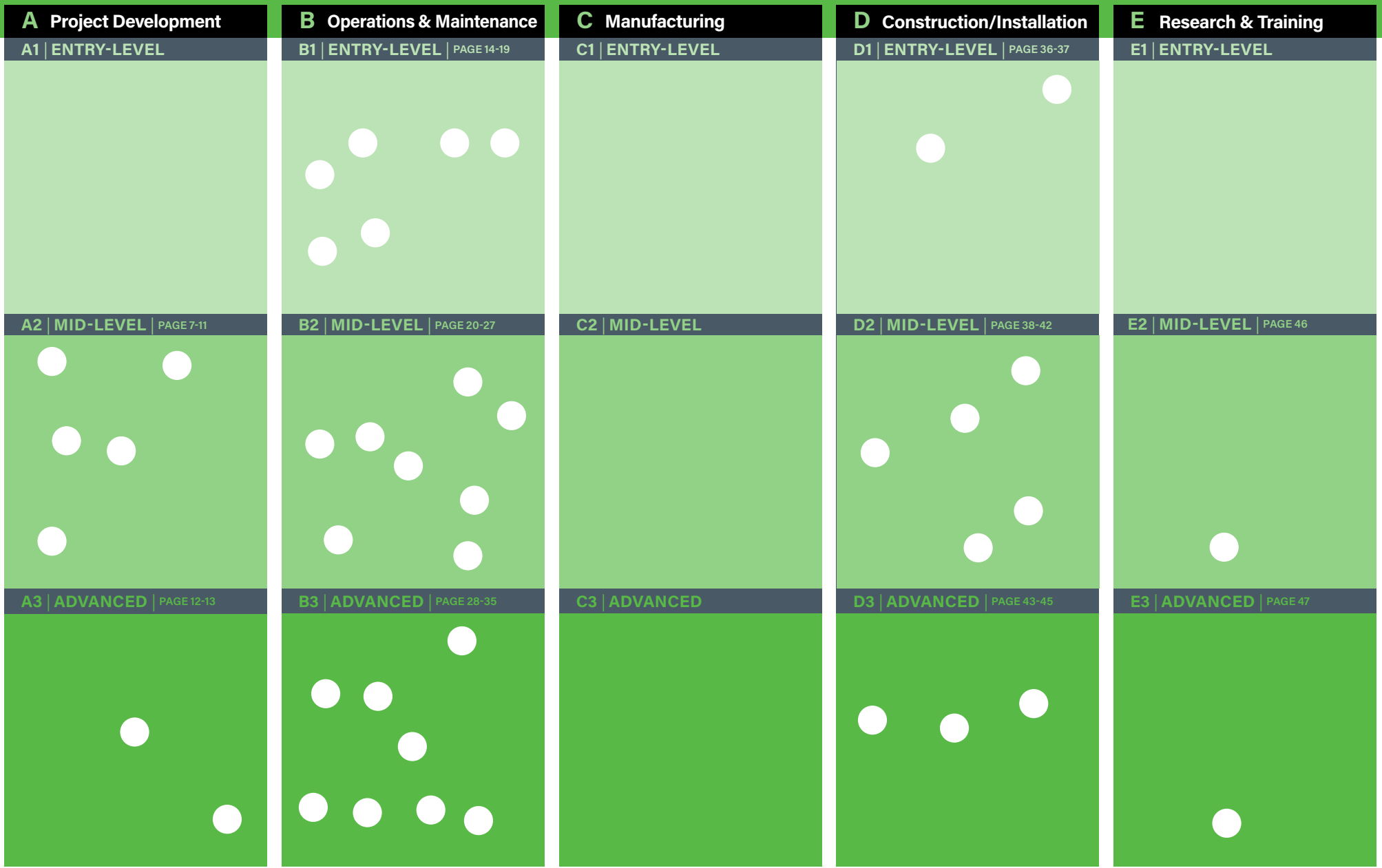
Dots placed in vertical lines or nearby spaces up through the career levels represent the career progression in a particular field or Industry segment.

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



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

Energy Storage Career Map



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



Energy Storage Career List



A Project Development

A1 ENTRY-LEVEL

- N/A

A2 MID-LEVEL PAGE 7-11

- 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 12-13

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

B Operations & Maintenance

B1 ENTRY-LEVEL PAGE 14-19

- 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 20-27

- 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 28-35

- 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 36-37

- Commissioning Technician
- Site Surveyor

D2 MID-LEVEL PAGE 38-42

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

D3 ADVANCED PAGE 43-45

- Commissioning Manager
- Construction Manager III
- Project Manager

E Research & Training

E1 ENTRY-LEVEL

- N/A

E2 MID-LEVEL PAGE 46

- Technical Trainer, Technical Instructor

E3 ADVANCED PAGE 47

- Training & Development Manager

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





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)

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

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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



American Clean Power Occupations & Career Maps

Additional Research Sources:

BLS – Bureau of Labor Statistics

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

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

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/>

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

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

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

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

NAICS/SOC codes

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

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

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



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



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