

Electrical Design Engineer (Solar Energy)

Location: Gurgaon/Site

Department: Design & Engineering

Experience: 5 to 8 Years

Domain: Solar PV | BESS | Hybrid & Microgrid Projects

We are seeking an Electrical Engineer with 7-8 years of strong, hands-on experience in renewable energy projects, including Solar PV, Battery Energy Storage Systems (BESS), Hybrid and Microgrid solutions. The role is positioned as a core technical contributor reporting to the Head of Engineering and is responsible for delivering safe, compliant, optimized and bankable electrical designs across the full project lifecycle from concept, tendering, execution, to commissioning and handover. The ideal candidate demonstrates strong engineering reasoning, high emotional intelligence (EQ), an ownership mindset, and the ability to work in fast-paced, multi-stakeholder environments. Readiness to travel or relocate for project needs is essential.

Key Responsibilities -

Engineering & Design

- Develop and review Single Line Diagrams (SLD), Protection Schemes, Metering Schemes and Interconnection Drawings.
- Prepare overall electrical layouts for PV plants, BESS containers, inverters/PCS, transformers, MV/HV switchgear and substations.
- Design DC collection systems, AC collection systems, auxiliary power systems and evacuation schemes (11kV/33kV/66kV/132kV).
- Perform detailed electrical calculations: cable sizing, short circuit, voltage drop, losses, earthing, lightning protection and aux load assessment.
- Coordinate with civil and structural teams on foundations, trenches, equipment layouts and interfaces.
- Support SCADA/EMS/PMS integration philosophy, including IEC 61850, Modbus TCP/IP and fiber optic communication.

Software & Tools

- AutoCAD - preparation of electrical layouts, SLDs, routing and construction drawings.
- PVsyst - plant sizing, DC/AC ratio assessment, loss analysis and layout coordination.
- ETAP / STAAD Pro or equivalent - electrical studies or structural coordination as applicable.
- MS Excel - engineering calculations, BOQs, technical comparisons.
- MS Project / Primavera - basic project planning, scheduling and progress tracking.

Tendering & Technical Support

- Prepare tender-stage designs, technical specifications, BOQs and equipment datasheets.
- Support technical clarifications, deviation statements and value engineering proposals.
- Provide engineering justifications for equipment selection, system architecture and design philosophy changes.

- Participate in technical bid evaluation (TBE) of vendors and OEMs.
- Coordinate with procurement, vendors and consultants during tender and post-award phases.

Project Execution & Coordination

- Review IFC drawings, vendor drawings and ensure alignment with the approved design basis.
- Support site teams during construction, testing and commissioning phases.
- Participate in FAT/SAT, inspections, design reviews and technical audits.
- Prepare and review as-built drawings and handover documentation.
- Act as technical interface between client, consultant, OEMs and EPC teams.

Compliance, Standards & Quality

Ensure all designs comply with IEC, IEEE, IS, BS standards, local grid codes, utility requirements and client technical specifications. Promote best engineering practices, safety and quality across projects.

Key Skills

Solar PV, BESS, Wind Energy, Hybrid Systems, Microgrid, AutoCAD, PVsyst, ETAP, STAAD Pro, Single Line Diagram, Electrical Layout, Cable Sizing, Protection System, SCADA, EMS, IEC 61850, Tender Engineering, BOQ, Technical Justification, Project Management, MS Project

Soft Skills & Behavioural Competencies

- High Emotional Intelligence (EQ) and stakeholder management ability.
- Strong analytical thinking and engineering reasoning.
- Ownership mindset with accountability for deliverables.
- Clear communication and documentation skills.
- Adaptability, mobility and readiness to travel or relocate.