

# RRC SERVICES

## ELECTRICAL ENGINEERING

The RRC Electrical Engineering Group has extensive experience in collection system and substation design for developers, utilities, and contractors. Our PV and wind design experience includes projects from 1 MW to 500 MW, utilizing all types of turbine, module, and inverter manufacturers. We design and optimize both DC layouts and AC collection systems based on advancing industry technology and our extensive knowledge base.

Our Substation Group has a broad range of utility and EPC experience across the United States in all aspects of protection, control, relaying, physical design, and studies. Our collection system and substation teams work seamlessly with all engineering disciplines to provide a comprehensive project. We maximize efficiency and quality while minimizing overall management and project schedule for our clients.

### Electrical Substation Design (4 kV-500 kV)

- Calculation and Drawing Packages
- Distribution, Transmission, and Industrial Substations
- 3D Physical Modeling and AutoCAD Electrical Drawings
- Equipment Specifications
  - Power Transformers, Switchgear, Control Houses, Breakers, Capacitor Banks, etc.
  - Factory Acceptance Testing
  - Procurement Support and Vendor Drawing Review
- Protection and Control Design
  - Integration
  - Relay Setting and Programming
- Full Panel and Control Building Wiring Package
- Substation SCADA Engineering
- Substation Automation
- Substation Studies: Grounding, Lightning, Illumination, Insulation Coordination
- Interface and Coordinate with Structural and Civil Engineering for Optimization and Design

### Distribution, Sub-transmission, and Transmission Line Design (15 kV to 345 kV)

- Detailed Stamped Packages
- Right-of-Way Support

### Wind and Solar Collector System Designs

- Detailed Design Packages
- Medium Voltage Optimized Cable System Design
- Equipment Specifications, Approval, and Procurement Support
- System Studies

### PV Solar Utility Scale Collector System Designs

- Fixed Tilt and Tracker Optimized Designs
- Site Layout and Optimization
- Inverter Selection and Equipment Integration
- Energy Modeling and Post Processing
- DC Cabling Design and Routing
- Preliminary Packages for Bidding

### SCADA Designs

- Substation SCADA
- PV Solar SCADA and Power Plant Controller Design
- Communication Networks
- Power Plant Controller and HMI
- MET Station, Inverter, and Sensor Integration
- SCADA System Commissioning
- Procurement of Hardware, Panels, and Software
- Customized Sensor Mounting Solutions





## CAPABILITIES:

### Industries

- Public and Private Generation, Transmission, and Distribution Utilities
- Wind Generation
- PV Solar Generation
- Oil and Gas Facilities

### Project Development

- Conceptual Designs
- Project Request for Proposal (RFP) Development
- Interconnection Support
- Interconnection Studies
- Independent Engineering Support
- Economic Due Diligence

### Project Execution

- Design Review
- Procurement Support
- Detailed Design
- Comprehensive Studies and Calculations
- Construction Support and Monitoring
- Commissioning Support
- NERC Required Reports

### Generation Interconnection Support

- Preliminary System Layouts
- Modeling Information
- Utility Coordination
- ERCOT, CAISO, MISO, WECC, etc.
- Documentation and Studies
- System Studies

## PROJECT MANAGEMENT SERVICES

At RRC, we value innovation and offer a unique, concurrent engineering package that allows for various engineering disciplines to occur simultaneously. The package, which includes electrical engineering, saves valuable overall project time and enhances interaction between engineering disciplines.

Our streamlined **Multi-Discipline Project Management** package offers one point of contact managing various disciplines needed in your project. Our concurrent engineering packages can often save weeks on the project schedule. Contact us today for an assessment of your project needs.

## CONTACT US

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