

AURIGA CORPORATION DESIGN AND ENGINEERING SERVICES



Since its establishment in 1990, Auriga Corporation has developed an industry-wide reputation for high quality and value-added services. Auriga is recognized as a premier provider of professional engineering services in electric power systems. Auriga's electrical engineering professionals focus on providing high- and medium- voltage electrical systems design and engineering services. These services include planning, design, and engineering of transmission and distribution facilities, substations, overhead and underground distribution systems, reactive power compensation and relay upgrades. We also provide design and engineering services for renewable technologies such as solar and wind, including interconnection studies.

Auriga's licensed electrical engineering professionals are experienced in providing support from development to commissioning and energization to ensure a successful project implementation. We prepare electrical designs that optimize site conditions and deliver maximum power from your project development site to the grid.

REPRESENTATIVE DESIGN AND ENGINEERING PROJECTS:

- National Electric Grid of Kyrgyzstan (NEGK) – Feasibility Study: 500 kV Datka Kemin Transmission Line
- California Independent System Operator (CAISO) - Transmission Grid Operations and Congestion Management
- Pacific Gas and Electric Company – Midway Substation Automation Project
- Southern California Edison – Design and Engineering Services: Distribution System Management
- Sacramento Municipal Utility District – Design and Engineering Services for 230 kV Substations
- City of Lodi – 60 kV Transmission Planning Study
- City of Lodi – New 60/12 kV Westside Substation Design
- City of Roseville – West Plan 60 kV Substation Design
- City of Glendale – Power System Stabilizer Study
- Kentucky Public Service Commission - AEP Transmission Interconnection Study
- Plumas Sierra Rural Electric Cooperation (PSREC) - Power System Interconnection Study



NEGK, Kyrgyzstan – 500kV Datka Kemin Transmission Line Project

Scope of Services:

- Identify Alternative Right-Of-Ways
- Select Optimum Right-Of-Way
- Establish Required Line Capacity
- Electrical Study: Load Flow, Voltage Variation, Short Circuits, Equipment Loadings, Active and Reactive Power Margins, and Energy Loss
- 500kV Transmission Line Design
- Prepare Bill Of Materials
- Equipment Specifications
- Environmental and Development Impact Analysis
- Estimate Project Capital And Operating Costs
- Evaluate Ownership Structures
- Conduct Financial and Sensitivity Analysis

SCOPE OF SERVICES:

Auriga's Professional Engineering team successfully designed and implemented many power system infrastructure projects. Our design engineers are experienced in projects for commercial, industrial, and utility applications. Auriga has extensive experience in design and engineering of high voltage (230 kV and 500 kV) substations, electric power transmission lines (60 kV, 230 kV and 500 kV) and electric distribution line projects (2.4 kV to 34.5 kV). Auriga offers a complete range of engineering services for electric power transmission and distribution systems such as:

- Transmission & Distribution System Planning
- Transmission System Design and Engineering
- Distribution System Design and Engineering
- Substation Design and Engineering
- Substation Automation
- Relay Protection and Control Schemes
- Supervisory Control and Data Acquisition (SCADA) System
- Energy Management System
- Communications Systems

TYPICAL DESIGN AND ENGINEERING TASK:

Some of the typical design and engineering services we provide include:

- Control and protection design for substation automation
- Replacement of electromechanical relays with microprocessor based digital relays
- Develop construction design package
- Provide implementation support services
- Design and engineering services for the overhead and underground electrical distribution facilities
- Design and implementation of Telecommunications System
- AC and D.C. schematic diagrams
- RTU Replacements - 230/115 kV Substations
- Ground Grid Design for the 60kV/12kV Substation
- Perform Arc Flash Studies and Coordination Studies

For additional information and inquiries, contact:

Auriga Corporation
Attn: Director, Business Development
890 Hillview Court, Suite 130
Milpitas, CA 95035-4573
www.aurigacorp.com
Tel: (408) 946-5400
Fax: (408) 942-9625
Email: marketing@aurigacorp.com



Design/Engineering Services

Pacific Gas & Electric

- SCADA/Protection Improvements
- RTU Replacements – San Mateo and Contra Costa 230/115 kV Substations
- Midway Substation (115, 230 and 500kV)

Southern California Edison

- Design and engineering services for distribution system
- Underground conversion of distribution feeders:
 - a. Apple Valley Road
 - b. Tussing Ranch Road

Sacramento Municipal Utility District

- Relay replacements for the transmission lines:
 - a. 230kV Pocket – Lake
 - b. 230kV Orange Vale – White Rock
 - c. 230kV White Rock – Hedge
 - d. 230kV White Rock – Camino
 - e. 230kV Camino – Lake
- Mather Substation – 12kV Demand Metering Design