

AURIGA CORPORATION TRACTION POWER SERVICES



Since 1990, Auriga Corporation has developed an industry-wide reputation for high quality and value-added consulting services. Auriga is recognized as a premier provider of professional consulting services in Traction Power in the USA.

Auriga's Traction Power design and engineering services are based on industry standards and practices that have been successfully applied in many past projects in the USA. Auriga Corporation has leveraged this experience to provide a wide variety of design and engineering services to both transportation agencies and electric power utilities in the United States and internationally.



EXPERIENCED TEAM

Auriga maintains a team of highly qualified and experienced subject matter specialists in Traction Power Substations (TPSS) Design Engineering, Installation, Testing, and Field Inspection.

Auriga's highly qualified and experienced Electrical Engineering consultants are recognized in their respective professional subject matter specialties. In addition, our firm has Licensed Professional Electrical Engineers (PE) in California. Principal consultants at Auriga have an average of twenty-five years of prior experience working for public and private sector organizations such as engineering firms, system suppliers, and electric power utilities.

SCOPE OF SERVICES

Auriga Corporation provides a complete range of Traction Power consulting services including:

- Design and Engineering
- Stability Analysis
- Blocking Schemes
- Installation, Staging, and Equipment
- Transfer Trip Design
- Requirements Definition
- Technical Specifications
- Procurement Documents
- Bid Evaluation
- Contract Negotiations
- Field Inspection
- Design Review
- Testing and Training
- Commissioning

Bay Area Rapid Transit

Design/Engineering for Traction Power

Auriga Corporation is currently providing the following services to the Bay Area Rapid Transit District (BART):

Transient Stability Analysis for Transformers

- Develop the outline of the Transient Studies for the Transformer
- Created a Schedule/Budget for the Transient Studies
- Developed the Specifications for the Transient Studies of Transformers

Blocking Scheme Project

- Developed the logic Drawings for each substation Circuit Breakers to perform the Blocking Scheme
- Developed the Wiring Drawings for the Control Circuits of the Circuit Breakers at each Traction Power Substation
- Created the Input/output List for the Control Processors at Substations
- Schematics of the Control Processors
- Created the Presentation for the Blocking Scheme Project (Working Concept/Logic Explanation)

Installation of New Traction Power Substations at MTF, AUC, KTE and ASL

- Planning of the New Traction Power Substation (TPSS) Layouts
- Staging of the Portable TPSS
- Equipment Removal Plan
- Design of the Installation of New TPSS
- Design of 34.5kV Protection Control Circuits of the New TPSS

Transfer Trip Design for BART Traction Power Substations

- Developed the New Transfer Trip design for the Substations using SEL devices
- Created the modifications for the Wiring Diagrams
- New fiber Communication Drawings for the Transfer Trip

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TYPICAL APPROACH AND WORK PLAN

Auriga Corporation works closely with the client's staff to develop a detailed work plan and deliverables at the beginning of the project. Typical steps for system studies include:

- Gather and analyze data
- Prepare base cases
- Define reliability criteria
- Perform system studies
- Conduct sensitivity analysis
- Evaluate alternate scenarios, if required
- Identify potential problems
- Determine practical and cost-effective solutions
- Summarize findings and recommendations

TRACTION POWER PROJECT REFERENCES

Auriga has or is currently providing Traction Power or related consulting services for the following Projects:

Transit Traction Power

- BART – General Engineering Services (GES) Projects – Design/Engineering for TPSS
- BART GES – TPSS Electrical Inspection
- BART GES – Field Supervision for Traction Power Fiber Optics

Utilities Substation Design

- City of Lodi – Westside Substation Design 60/12kV
- City of Roseville West Plan Substation Design 60/12kV
- SMUD – Upgrade Relay Protection for 230/69kV Transformer for Multiple Substations
- PG&E – Midway Substation Automation Project

For additional information and inquiries, contact:

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Bay Area Rapid Transit

Auriga Corporation is currently providing or has provided the following services to the Bay Area Rapid Transit District (BART):

Traction Power Field Supervision

Auriga performed the following scope of services:

- Conduct field investigation and survey to determine requirements for traction power
- Develop preliminary and final design documents for traction power according to the BART standards
- Coordinate meetings with BART personnel (Principal Engineer and Project Manager) for review and approval of design documents

Deliverables:

- Preliminary Design Documents
- Final Design Documents

Traction Power Field Inspection

Auriga performed the following scope of services:

- Inspect Medium and Low Voltage electrical installation work at BART traction power substations (TPSS's) ACO and KOW, and adjacent facilities
- Assist design development of TPSS ASL and KTE installation drawings and specifications

Deliverables:

- Inspector's daily reports
- Contract inspection check sheet documentation
- RFI, Submittal responses
- Lessons learned documentation
- Punch-list and punch-list resolution documentation
- NCR's (Non Conforming Report), if required
- Contract Drawing and Specification comments