

Control Systems



ENGINEERING & TECHNICAL SERVICES

CONTROL SYSTEMS OVERVIEW

For 38 years, Sega Inc. has been providing quality control system services to electric utilities and industrial clients. As a result, we have a unique core group of dedicated control professionals and an open, friendly working relationship with our clients.

We will come to your facility and listen to your ideas, problems, budget, and schedule and will craft a solution that fits your unique situation. We use a unique design, procurement, configuration, and staging process that has proven advantages in cost, schedule and results compared to a traditional A/E firm approach. You will benefit from services such as system integration, high fidelity simulation, panel fabrication, training, maintenance, startup, and loop tuning.

We will work closely with your plant personnel to ensure your project gets undivided attention. We can support any part of the project life cycle from conception to startup and maintenance.

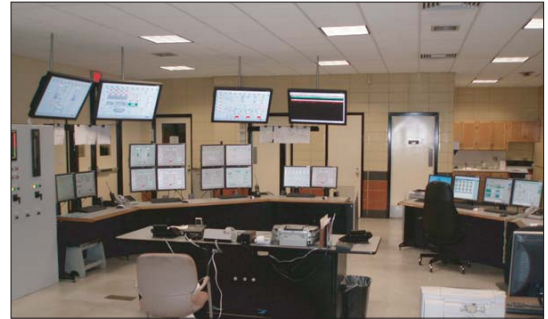


CONTROL SYSTEM SERVICES

A quality control system improves the reliability, maintainability and thermal performance of the plant. Operators receive the information they need when they need it. You will be able to respond to more stringent environmental regulations. The tangible benefit to you is improved overall operating performance and a positive impact on your bottom line. We customize each project for your unique requirements.

Control Upgrade Services:

- Studies
- Conceptual Design
- Control System Specification and Bid Evaluation
- Control Devices Specification and Bid Evaluation
- Instrument Installation Design and Review
- Installation Design (Mechanical/Electrical/Structural)
- Control Room Modification
- Control Logic Development
- Customized DCS and PLC Configuration Services
- In-house Staging and Testing
- High Fidelity Training Simulator Design and Implementation
- Alarm Management
- Custom Communication Links
- Operator and Maintenance training
- Checkout and Start-up
- Tuning



Kansas City Board of Public Utilities, Kansas City, Kansas

Whether you're replacing your entire control system, expanding for a scrubber or you just need a tune-up, our control engineers have experience with all power plant systems. We have developed logic and provided custom configuration for systems including:

Custom Configuration:

- Unit Load Control
- Combustion Control
- Burner Management Systems
- Balance of Plant
- Turbine Water Induction Protection
- SCR
- WFGD
- Ash Handling Systems
- Sootblowers
- Water Treatment
- Combined-Cycle BOP
- Combined-Cycle Bypass Systems



Ameren Rush Island, St. Louis, Missouri

FIELD CONTROL SERVICES

Sega Inc.'s controls specialists provide a top-to-bottom solution for your critical control systems. Equipped with an in-depth knowledge of a wide variety of control system platforms, Sega's controls specialists apply advanced control techniques that help you realize the maximum benefit from your control system. Sega also provides expert calibration, installation, repair, and maintenance services for a wide variety of electronic, pneumatic, and mechanical control instrumentation. The field control specialists are supported by an application and design staff consisting of control, mechanical, and electrical engineering disciplines.

Industries Served:

- Electric Utility
- Manufacturing
- Colleges and Universities
- Pulp and Paper
- Hospitals
- Food Processing
- Chemical Processing
- Refineries
- Oil and Gas Recovery
- Steel
- Government Agencies
- Commercial Buildings



Field Control Services:

- Boiler Control Services
- Process Controls Services
- Burner Management Compliance Audits
- Performance Testing
- Instrumentation Calibration
- Instrument Installation Review
- NIST Traceable Calibration
- Control System Start-up, Testing and Tuning
- System Maintenance
- Controls Retrofit
- Repair and Refurbishment
- Documentation and Inventory
- Boiler Performance Testing
- Control System Troubleshooting
- Staff Training



Staff Augmentation

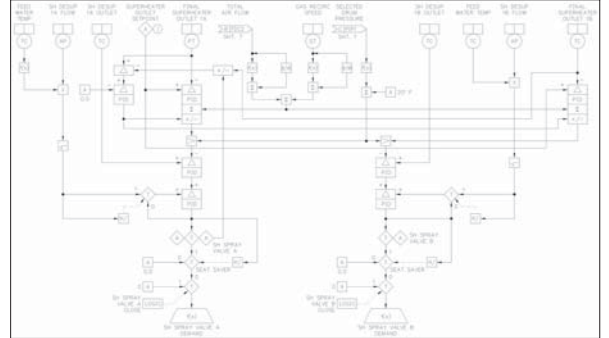
Sega Inc. can provide a cost-effective alternative to permanent hiring for temporary assignments. Whether you require calibration, design review, staff training, or other technical expertise, Sega Inc. can provide well qualified personnel to fulfill your short-term or long-term staffing needs.

THE APPROACH

Sega Inc. offers a unique approach to control system projects that results in lower costs, reduced schedule and great client satisfaction.

Conceptual Design

No one understands your plant's needs better than you. Our engineers will listen to your ideas and produce a design concept based on your input. We will evaluate your existing equipment and offer recommendations to make your unit more stable, responsive and robust.



Detailed Design

The same team will follow through with the detailed design. We will provide an integrated mechanical, electrical and control software document package that eases troubleshooting and improves system maintenance. All coordination between the design engineer and software engineer happens under one roof producing an integrated hardware and software design.

System Configuration

Your plant is unique and your control solution needs to reflect that. Our control engineers and specialists will produce custom designed configuration software to meet the needs of your plant. We will simulate and test the system at our facilities reducing the need for software design and tuning in the field.

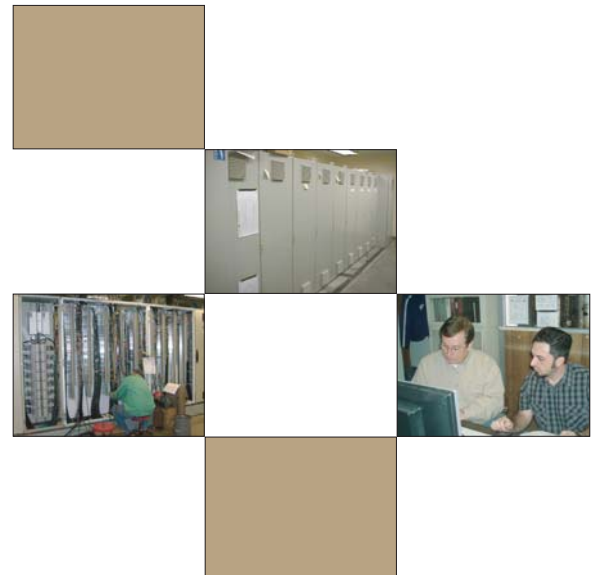


Start-up

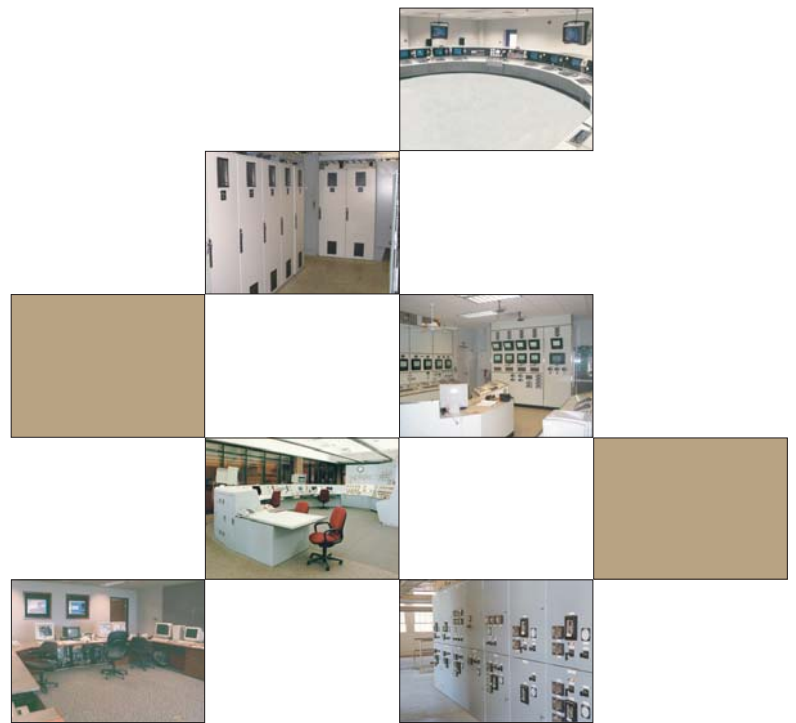
Our control engineers and specialists start up their own designs and have extensive experience on control retrofit projects. This high level of expertise results in fewer problems and delays during start-up.

REPRESENTATIVE CLIENTS

Ameren
Arizona Electric Power Cooperative, Inc.
Associated Electric Cooperative, Inc.
Basin Electric Power Cooperative
Kansas City, Kansas Board of Public Utilities
Central Nebraska Public Power and Irrigation District
City of Ames, Iowa
City of Bryan, Texas
City of Marshall, Missouri
City of Sikeston, Missouri
City Utilities of Springfield, Missouri
Empire District Electric Company
Independence Power & Light
Indianapolis Power & Light Company
Kansas City Power & Light Company
MidAmerican Energy Company
Omaha Public Power District
Plains Electric Generation & Transmission Coop., Inc.
Southern Illinois Power Cooperative
XCEL



Power Generation
Power Delivery
Air Quality & Environmental
Control Systems



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