

SYSTEMS INTEGRATED

Harnessing The Power of Innovation



Hydro Systems Group

Systems Integrated has been providing innovative automation and control solutions for hydropower plants for over 25 years. Our philosophy is based on solutions that are developed to meet our customers unique needs. The key to our success is in our ability to leverage the latest developments in hardware and software technology and relationships with industry leading partners. This allows SI to maximize the value of our customers investment and provide powerful and reliable systems backed up by a team of experienced professionals.





Capabilities ...

Design - Furnish - Construct - Support

Systems Integrated provides a full range of plant automation and control capabilities for Hydro Plant owners and operators. System design, equipment manufacturing, integration, start-up and commissioning and 24 x 7 support.

- ◆ The SI team includes electrical and mechanical engineers, software engineers, control system engineers, field engineers, CAD designers to support all aspects of the modernization process.
- ◆ All system design, manufacturing, and factory test of our systems are performed in our San Diego engineering campus. We maintain 18,000 ft² of office space with a separate 10,000 ft² UL 508 control panel fabrication and manufacturing facility.
- ◆ SI is a licensed general electrical contractor in many states of the United States. This allows us to provide full turnkey capabilities to our projects.
- ◆ SI engineers are experts in monitoring and control of the entire hydro plant system including turbines, generators, governors, excitation systems, balance of plant systems, protective relays and facility control.
- ◆ We are experts in software development and integration including all of the major software systems offered today and most legacy systems.
- ◆ SI's **onSITE**® SCADA software suite provides a scalable architecture that integrates with leading database systems including Oracle and OSIsoft PI.
- ◆ Integration of plant real-time, control and historical data with ISO and RTOs.

SI offices and support personnel across the globe.



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Representative Projects ...

LADWP Castaic Power Plant Control System Upgrade Project—In Progress

- ◆ The purpose of the CPP Control System Upgrade Project is to replace and improve the existing controls with modern, state of the art hardware and software. The Project will increase the overall generating capacity, improve reliability, and increase the plant availability.
- ◆ SI is prime contractor responsible for the system design, furnishing equipment, start-up and commissioning for the new control system.
- ◆ Key elements of the upgrade include new unit controls, digital governors, exciters, balance-of-plant, redundant fiber optic communications and control room upgrade.
- ◆ Key system suppliers include American Governor, GE Power Systems and Siemens.

U.S. Army Corps of Engineers, Omaha District. States of Montana, North & South Dakota

- ◆ Upper Missouri River Control System. Four plants listed among largest volume dams in the US, top 25 largest volumes in the world.
- ◆ Modernization of six Hydro Plant's automation systems. Installed primary & backup regional control center computer systems.
- ◆ Installed servers, workstations and plant communication LANs using fiber optic cable. Interfaced SCADA LAN with Corps microwave to form interplant WAN.
- ◆ SI's **onSITE**® SCADA provides the real-time visualization, control, alarm annunciation and historian data functions.
- ◆ SI has provided support for the system since 2001.

Nasional Berhard Hydroelectric Automation, Kaula Lumpur, Malaysia

- ◆ Five Hydro Plants modernized for AGC, unit and generator control.
- ◆ Two new Hydro Plant automation systems based on a Bailey control system.
- ◆ Installed servers, workstations and LAN equipment at each plant and in local and national dispatch centers.
- ◆ SI's **onSITE**® SCADA provides the real-time visualization, control, alarm annunciation and historian data functions.
- ◆ SI has maintained service contract for entire system since 2000.

Contact Us ...

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