



NOR-CAL CONTROLS
ENERGY SOLUTIONS

Your Project. Our Passion.

SCADA Systems

Supervisory Control and Data Acquisitions
Systems for Utility-Scale Solar PV and Energy
Storage Systems (Including Power Plant Controller/
Energy Management System/Master Plan Controller)

**NOR-CAL'S SCADA SYSTEMS
ARE ALL OPEN-ARCHITECTURE
(OPEN SOURCE)**

Open Architecture

Our SCADA solutions are built as open architecture with off the shelf hardware and software. Different control schemes are custom built to meet project specific requirements and are non-proprietary. No special tools required to maintain, alter, or modify to meet evolving needs.

Local Human Machine Interface

HMI screens are custom built, with intuitive screen navigation, to empower operators with complete visibility and control of on-site IEDs. Real-time and historical alarms are customized using predefined categorizations. Options available for remote operator monitoring and control via secure VPN connection available upon request.

Local Historian

Local historian server comes configured for recording data at 1 second time stamps, logging all events and alarms for all defined device data points, including logging charging or discharging cycles of the BESS for tax credit claims. This enables operators and other stakeholders to generate reports and analyze historical trends to keep track of plant performance.

Alarm Notification

Automatic alarm notifications are configured via email to any recipients provided by the customer. Escalation schemes are designed based on customized alarm priority. SMS text notifications capability available upon request.

Field Network

A reliable and robust communication network is imperative for the success of your project. Our dedicated network engineering team adheres to a NERC-CIP compliant network design, enabling effective control of on-site devices and quality data acquisition.

Enterprise Performance Analytics

Fleet and site level Analytics for Operators. Nor-Cal Controls has partnered with Flow to provide the ultimate PV and BESS analytics solution, centered around reliable data and critical insights for plant operations.

Seamless 3rd Party Integration

Harmonious integration to meet expectations of stakeholders and any third party off-takers, i.e., utilities and O&Ms, via industry standard protocols such as OPC-UA, Modbus, and DNP3.

Full Control PPC/EMS/MPC Control

Meets all site-specific control requirements and ensure optimal synchronization of resources to meet POI requirements.

Components

SCADA RACK ENCLOSURE

- SCADA server
- Historian server
- Power Plant Controller (PPC)/
Energy Management System (EMS)/
Master Plant Controller (MPC)
- BOP equipment data concentrator/
protocol converter
- Redundant Firewall
- Substation Data Concentrator
- Managed Fiber/Ethernet Network Switches
- Patch panels
- Universal Power Supply

INVERTER SKID NETWORK ENCLOSURE (NEMA 4X)

- Managed Fiber/Ethernet Network Switch
- Power supply with UPS & Battery Backup
- Option to include I/O modules



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 4790 Golden Foothill Parkway El Dorado Hills, CA 95762



norcalcontrols.net



916.836.0800



BDGroup@norcalcontrols.net



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