



We listen. We solve.®



STATEMENT OF QUALIFICATIONS

SYSTEM INTEGRATION AND SCADA/EMS | SOLAR, BATTERY STORAGE AND WIND

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35+ GW
SOLAR & BESS
USING ULTEIG'S
SiteSense®
— SCADA/EMS

WHY ULTEIG SCADA/EMS?

35+ GW SOLAR AND STORAGE

We have completed **35+ GW** of Supervisory Control and Data Acquisition (SCADA) design, programming and commissioning in the United States and Canada. Our focus is utility-scale solar PV and energy storage.

COMPREHENSIVE SERVICES

We offer electrical engineering, PLC programming, SCADA, networking and telemetry, NERC/CIP cyber security, data management and reporting, and commissioning.

INTERNATIONAL SERVICE

We have the capacity to deliver projects across the USA and Canada. We can step in at any point in a project to maximize efficiency, quickly address issues and to aggressively drive projects to closure.

HARDWARE AND SOFTWARE

We supply integrated solutions where we not only design but also supply, configure and install SCADA servers, software, plant control PLC hardware, network panels, network switches, fiber, MET stations, meters and inverter SCADA PCS panels so you can hit the ground running.

PROJECT MANAGEMENT

We begin every project by aligning with our clients' requirements and objectives to ensure accurate delivery. From planning and design, to implementation of control all the way to testing, commissioning and on-going support.

COMMISSIONING EXPERTISE

Our teams leverage extensive project delivery experience in the field and in the office to safely commission projects on time and on budget.



“

You simply do not get this level of support from anyone else. This team is personal and clearly cares about every detail of every project, no matter how big or small.

EPC Client | Project Manager | Solar Division

SiteSense®

— SCADA/EMS

POWERFUL CONTROL

SiteSense® is a Supervisory Control and Data Acquisition (SCADA) system designed for both single installations and portfolios of many utility-scale renewable energy sites such as solar and energy storage plants. SiteSense-SCADA/EMS is modern and flexible, built on industry-standard hardware and software for the best interoperability and maintainability, with powerful core features that are extendable to meet your needs. Whether your goal is to configure a new holistic system or integrate with an existing owned system, we are equipped to meet your needs.



PLANT MONITORING

SiteSense-SCADA/EMS monitors your MET stations, inverters, breakers, substation IEDs, trackers and more. We are vendor agnostic and support all equipment manufacturers.



PLANT CONTROL

Ulteig is known for optimized power plant control strategies and maximized production. Our plant control is used extensively on sites across USA and Canada.



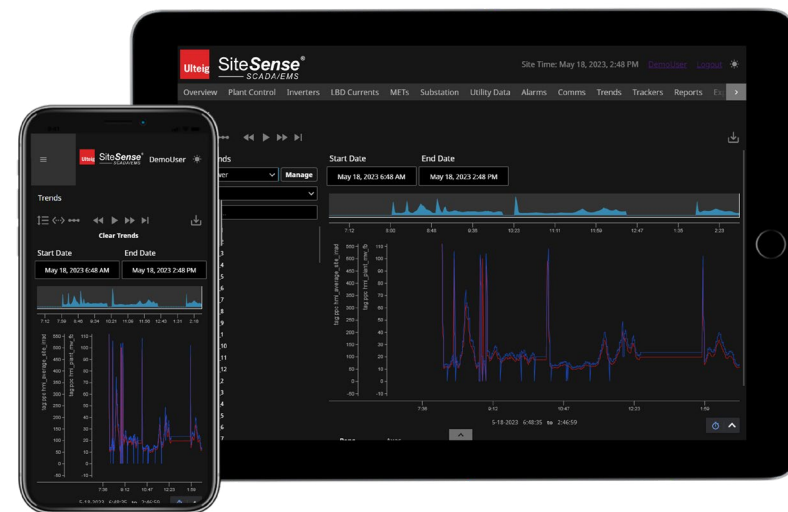
UNLIMITED DATA

SiteSense-SCADA/EMS systems include unlimited field devices and data points with historical logging, giving your operations team an abundance of information for analysis and reporting.



REPORTS AND TRENDS

SiteSense-SCADA/EMS includes a standard suite of email and ad-hoc reports for production, string analysis, downtime, alarms and events. Easily view historical data with built-in trends.



DEPENDABLE HARDWARE

We supply, program and commission all required SCADA and supporting hardware including MET stations, switches, sensors, meters and more.



**REQUEST
A DEMO >**



UTILITY SCALE RENEWABLES

ENGINEERING DESIGN

- Electrical, instrumentation and controls
- SCADA panel design and equipment specifications
- Fiber and copper structured cabling

PLANT CONTROL PROGRAMMING

- Functional needs assessments and regulator/off-taker specifications
- Plant control strategy, optimization and narrative development
- RTU configuration and PLC programming
- Voltage step testing, power factor, reactive power, grid support
- Active power control, automatic voltage regulation and curtailment

UTILITY-SCALE SCADA

- SCADA design specifications, standards
- Process control narrative development
- System audits, Support and Maintenance
- Modern and intuitive HMI development
- Plant simulation and software Factory Acceptance Testing
- Data management and reporting
- Energy Management System
- Corporate systems integration
- Cloud SCADA Infrastructure (AWS, Azure)

NETWORKING AND TELEMETRY

- Fiber/copper/wireless network and telemetry design
- Network and field device equipment specification and configuration
- Fiber termination, testing and certification
- NERC CIP compliance and reporting

COMMISSIONING

- Cold/Hot commissioning test planning document development
- Pre-Commissioning site wiring, communications, server checks and verification
- RTU/Substation and SCADA operational point check-outs and plant tuning

CAISO SERVICES

- Meter and Remote Intelligence Gateway (RIG) engineering
- New Resource Implementation (NRI) process management
- CAISO authorized inspector services
- Meter inspection and maintenance



Ulteig is made up of experts with different combinations of experience across our Renewables **LIFELINE SECTOR**® and throughout our **SOLUTIONS**.
Learn more at [ULTEIG.COM](https://www.ulteig.com)



“ The team performed exceptionally well on our solar project. ”

Andi Kasapi | Project Manager
PCL Construction Inc

UTILITY SCALE SOLAR PROJECTS

LOCATION: TEXAS

420 MW

PERMIAN ENERGY CENTER - SOLAR

Ulteig completed a full SCADA system for this 420 MW solar site. The deliverables included plant control, networking, programming, engineering design and commissioning.



LOCATION: ILLINOIS

200 MW

PRAIRIE WOLF SOLAR PROJECT

Ulteig completed plant control, networking, programming, engineering design and commissioning for this 200 MW solar site.



LOCATION: MINNESOTA

460 MW

SHERCO 1/2 460 MW SOLAR PROJECT

Ulteig completed a full SCADA implementation for this 460 MW solar site. The deliverables included plant control, networking, programming, engineering design and commissioning.



LOCATION: ALBERTA, CANADA

476 MW

TRAVERS 476 MW SOLAR PROJECT

Ulteig developed a full SCADA system for Canada's largest solar project, with deliverables including plant control, networking, programming, engineering design and commissioning.



Photo provided by NRG Systems

RECENT UTILITY SCALE SOLAR PROJECTS

UTILITY SCALE SOLAR PROJECTS

* HYBRID PROJECTS

PROJECT	LOCATION	SIZE (MW)	PROJECT	LOCATION	SIZE (MW)
Hornet	Texas	600	Cavalry *	Indiana	200
Travers	Alberta	476	Mililani I	Hawaii	195
Mockingbird	Texas	471	Azalea Springs	Texas	180
Old 300	Texas	430	Big Star *	Texas	177
Sherco 1/2	Minnesota	460	Rosamond	California	164
Permian *	Texas	420	Unbridled	Kentucky	160
Hill	Texas	405	Copperhead *	Texas	150
Red Tailed Hawk	Texas	350	Peacock	Texas	150
Cottonwood	Texas	350	Elora	Tennessee	150
Tierra Bonita	Texas	306	Willowbrook	Ohio	150
Bright Arrow	Texas	300	Northern Orchard	California	150
Peregrine	Texas	300	Fifth Standard *	California	150
Pine Forest *	Texas	300	Blythe 3 *	California	150
Noble *	Texas	275	Blythe 4 *	California	150
Yellow Bud	Ohio	274	Two Creeks	Wisconsin	150
County Run	Illinois	273	Quitman	Georgia	150
Arica	California	263	Washington	Georgia	150
NEER Sonoran	Arizona	260	Casey Fork	Illinois	150
Wadley	Georgia	260	Clearview	Ohio	145
Driver	Arkansas	250	Wolf Run	Illinois	140
Sparta	Texas	250	Arlington 2 *	California	133
Brazoria 1	Texas	250	Arlington 3 *	California	131
Orion 2	Texas	250	Wild Springs	South Dakota	128
Orion 3	Texas	250	Jackson	Michigan	125
Sherco 3	Minnesota	250	Daugherty	Georgia	120
Neptune *	Colorado	250	Ross	Ohio	120
Fort Bend	Texas	240	Sycamore Creek	Ohio	117
Cool Springs *	Georgia	213	Dodson Creek	Ohio	117
Decatur	Georgia	200	Blue Bell	Texas	115
Solar Nova 2	Texas	200	Polaris	Michigan	110
Stoneridge *	Texas	200	Sol	Texas	103
Big Elm	Texas	200	Crown	Texas	103
Orion 1	Texas	200	West of the Pecos	Texas	100
Victory Pass	California	200	Skyhawk	Tennessee	100
Luna Valley	California	200	Ragsdale	Mississippi	100
Thunder Wolf	Colorado	200	Maple Hill	Pennsylvania	100
Dodge Flat *	Nevada	200	Saint	Arizona	100
Grant County	Wisconsin	200	Wilmot *	Arizona	100
Hillcrest	Ohio	200	Apple River	Wisconsin	100
Prairie Wolf	Illinois	200			

BATTERY STORAGE

BATTERY SITE CONTROL

We control sophisticated grid-tied and behind-the-meter battery systems. Our fully featured plant controller design includes active and reactive power control loops, as well as voltage, PF and reactive power support.

- Plant Control Programming
- Vendor agnostic
- SCADA and Commissioning
- New Sites and Retrofits

STANDALONE BATTERY STORAGE

We control sophisticated grid-tied and behind-the-meter battery systems. Our fully featured plant controller design includes active and reactive power control loops, as well as voltage, PF and reactive power support.

- Peak Shifting
- Lowered Demand Charges
- Frequency Regulation
- Voltage Support
- Ancillary Services

AC AND DC COUPLED BATTERY

We develop controls for PV or wind-tied battery storage. Clipping capture traps potentially wasted energy, PV smoothing uses batteries to normalize PV output and energy firming stabilizes variable generation.

- Clipping Capture
- PV Smoothing
- Energy Firming

SOLAR+ BATTERY STORAGE USE CASES

BATTERY SITE CONTROL

- AGC integration
- Active Power Ramp Rate control
- Frequency Regulation
- Primary Frequency Support (Hz-Watt via droop and dead band)
- Grid Charge Prevention Logic
- Scheduled Dispatch via schedule and remote control
- Clipped energy capture, AC and DC
- Low power dispatch
- Active SOC balancing
- Site Level SOC and Current Limiting/derating

REACTIVE POWER CONTROL

- Fixed VAR control
- PF control
- Volt-Var Control (Droop + Dead band)
- Nighttime VAR Support (PV)
- PV-Storage Reactive power load sharing and Optimization
- Reactive Power Ramp Rate Control

LINEUP INTEGRATION

- PCS, BMS, Container/Building Integration
 - Fire System, Gas, Environmental, Intrusion Alarm
- Manual/Automatic Lineup Control
- Lineup start/stop sequencing
- Lineup emergency stop/trip sequencing
- Lineup-level SOC Limiting/derating
- Lineup-level Current Limiting/derating
- Experience with varied lineup architectures
 - Multiple PCS tied to Single BMS Bank
 - Multiple BMS tied to Single PCS
 - Multiple BMS paralleled to single bus
 - Split-bus PCS
 - String and Central PCS
 - DC Coupled integration
 - DC/DC Converter based lineups
 - PV Optimizer based lineups

EQUIPMENT EXPERIENCE

BATTERY SYSTEMS

- Samsung SDI
- LG Chem
- Lishen
- Tesla
- Narada
- BYD
- CATL
- CLOU
- SYL
- Element

BATTERY PCS

- Power Electronics (DC/DC Converters and Central Inverters)
- SMA
- DynaPower (DC/DC Converters)
- Parker Square (String and Central)
- ABB
- Tesla
- Alencon Systems (DC Optimizers)
- EPC
- SunGrow
- TMEIC

PV INVERTERS

- Siemens Gamesa
- SMA
- GE
- Schneider
- TMEIC
- Power Electronics
- ABB
- SunGrow
- Huawei
- Statcon



I'm very satisfied with the work. Their team was very responsive.

David Stillman
Project Manager
Borea Construction



UTILITY SCALE BATTERY PROJECTS

LOCATION: TEXAS

40 MW / 40 MWhr

PERMIAN ENERGY CENTER - BATTERY

Ulteig developed a Battery Energy Management System (EMS) to interface with a Narada BMS. Use cases included FFR, FRRS, Reg-Up/Down and Arbitrage. Deliverables included programming, engineering design and commissioning.



LOCATION: CALIFORNIA

400 MW / 1600 MWhr

DESERT PEAK BATTERY STORAGE SITE

Ulteig completed this 400 MW BESS plant SCADA system which included EMS and power plant control (PPC). The system can be controlled by the owner at their remote operation control center (ROCC) and the local utility Southern California Edison as well as CAISO ADS.

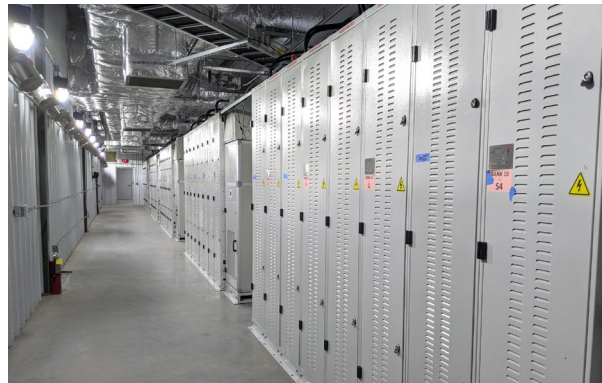


LOCATION: FLORIDA

409 MW / 900 MWhr

MANATEE BATTERY STORAGE SITE

Ulteig developed a Battery Energy Management System (EMS) to control PE inverters and Samsung batteries. The deliverables included networking, programming, engineering design and commissioning.



LOCATION: ONTARIO, CANADA

2 MW / 8 MWhr

ELMIRA BATTERY STORAGE SITE

Ulteig completed plant control, networking, programming, and commissioning for this 2 MW / 8 MWhr battery storage site. The deliverables also included a custom Battery Management System (BMS) to maintain battery health.



RECENT UTILITY SCALE BATTERY PROJECTS

UTILITY SCALE BATTERY PROJECTS

* HYBRID PROJECTS

PROJECT	LOCATION	SIZE (MW/MWhr)	PROJECT	LOCATION	SIZE (MW/MWhr)
Manatee	Florida	409 / 900	Arlington 3 (Phase 1)	California	47 / 188
Desert Peak	California	400 / 1600	Blythe 4 *	California	47 / 188
Desert Sunlight 2	California	230 / 920	Cavalry *	Indiana	45 / 180
McCoy	California	230 / 920	Kupono	Hawaii	42 / 168
Silver State South	Nevada	200 / 800	Cool Springs *	Georgia	40 / 80
Troutdale	Oregon	200 / 800	Permian *	Texas	40 / 40
Pine Forest *	Texas	200 / 400	Wheatridge	Oregon	30 / 120
Dickens	Texas	200 / 220	Echo River	Florida	30 / 75
Hydra	Texas	200 / 220	Sunshine Gateway	Florida	30 / 75
Paleo	Texas	200 / 220	Wilmot *	Arizona	30 / 60
Kapolei	Hawaii	185 / 565	Santa Paula	California	30 / 60
Pavo	Texas	175 / 193	Cascade	California	25 / 117
Cartwheel	Texas	150 / 300	Cascade II	Texas	20 / 40
Crowned Heron	Texas	150 / 300	Frontier	Illinois	20 / 20
Fifth Standard *	California	142 / 568	Connexus	Minnesota	15 / 30
Rosamond	California	135 / 524	Inertia	New Mexico	13 / 50
Arlington 2 *	California	132 / 528	Stratford	Ontario	12 / 40
North Central Valley	California	132 / 528	Rush Springs	Oklahoma	10 / 40
Neptune *	Colorado	125 / 500	Pinal	Arizona	10 / 40
Noble *	Texas	125 / 125	Babcock	Florida	10 / 40
Blythe 2	California	115 / 460	Sierra	Texas	10 / 40
Blythe 3 *	California	115 / 460	Wynwood	Florida	10 / 40
Saint	Arizona	100 / 400	Searcy	Arkansas	10 / 30
Stoneridge *	Texas	100 / 234	Alvin	Texas	10 / 10
Copperhead *	Texas	100 / 100	Torrecillas	Texas	9.9 / 39.6
Storey	Arizona	88 / 264	Dania Beach	Florida	6 / 12
Blythe 1	California	63 / 252	Hampton	New York	5 / 40
Arlington 3 (Phase 2) *	California	63 / 252	Montauk	New York	5 / 40
Ho'Ohana	Hawaii	52 / 248	Agawam	Massachusetts	5 / 10
Ventasso	California	50 / 200	Minute Man	Massachusetts	5 / 10
Dodge Flat *	Nevada	50 / 200	Citrus *	Florida	4 / 16
Tortolas	Texas	50 / 55	SMUD	California	4 / 8
Big Star *	Texas	50 / 50	NWO	Ohio	3 / 6

WHO WE ARE


Ulteig is a leader in the engineering industry. We are a team of forward-thinking, innovative experts who make critical connections, putting together the complex, multi-disciplinary strategies needed in today's changing world.

In over 80 years, the Ulteig team has expanded to more than 1,200 professionals, offering a full range of engineering solutions across 16 offices and various satellite locations throughout North America. We are well-positioned to respond to our clients' evolving needs in a flexible, agile and collaborative manner.


Today, Ulteig manages an average of 2,500 technical and field service projects per year. We are continually expanding our portfolio of projects that serve our core Lifeline Sectors®.




THE VALUES AT OUR CORE




CLIENT SUCCESS:
We create exceptional value through our expertise and collaborative approach




INTEGRITY:
We are authentic and always do what's right




ENTHUSIASM:
We are passionate about the work we do and have fun doing it



INCLUSION:
We seek diverse backgrounds, empower all voices and value all perspectives



AGILITY:
We act with speed, flexibility and balance



INNOVATION:
We leverage ingenuity and foster creative outcomes

AWARDS AND RECOGNITION



RANKING #116 IN ANNUAL TOP 500 DESIGN FIRMS



EC&M TOP 10 ELECTRICAL DESIGN FIRMS



ZWEIG GROUP HOT FIRMS LIST



USA TODAY TOP WORKPLACE



ACEC NORTH DAKOTA ENGINEERING EXCELLENCE



ACEC COLORADO ENGINEERING EXCELLENCE



DENVER TOP WORKPLACE



PRAIRIE BUSINESS 50 BEST PLACES TO WORK



STAR TRIBUNE: MINNESOTA'S TOP WORKPLACES



ENERGAGE EMPLOYEE WELL-BEING



ENERGAGE PROFESSIONAL DEVELOPMENT



Proud Member MILLION WORK HOURS AWARD



HOW WE WORK

Ulteig is committed to designing, planning, building and maintaining the interconnected infrastructure vital to everyday life. Through consultative partnership, we work with you to create and solve for a sustainable, connected and resilient world.

100%
EMPLOYEE OWNED



1,200+
EMPLOYEES



300+ LICENSED
PROFESSIONAL ENGINEERS



300+
SUBSTATION
EMPLOYEES



150+
AUTOMATION,
INTEGRATION AND SYSTEM
PROTECTION EMPLOYEES



120+
T&D
EMPLOYEES



120+
CIVIL EMPLOYEES



240+
ENERGY SOLUTIONS
EMPLOYEES



120+
PROJECT MANAGEMENT AND
FIELD SERVICE EMPLOYEES



An aerial photograph of a vast solar farm. The rows of solar panels stretch across the landscape, leading towards a horizon where the sun is setting, creating a warm orange and yellow glow. The sky transitions from a pale blue to a deep orange near the horizon. The solar panels are arranged in neat, parallel rows, separated by narrow dirt paths.

1944-2024

CELEBRATING 80 YEARS OF SOLVING.

CONTACT US >

The Ulteig logo consists of a solid red square on the left, followed by the word "Ulteig" in a white, sans-serif font.

Ulteig

Ulteig delivers comprehensive engineering/design services, program management, technical services and field services that strengthen infrastructure vital to everyday life. An employee-owned company, Ulteig connects people and resources to develop compelling, integrated solutions across the Lifeline Sectors of Power, Renewables, Transportation and Water. Ulteig leverages its expertise throughout North America with a wide range of public and private clients.