



Company Profile

EHV, HV & MV Electrical Power Engineering

READY TO TAKE CHARGE OF YOUR POWER ENGINEERING NEEDS

Interconnection, substation design, power system studies, NERC compliance and owner's engineering for utilities, developers, EPCs and data center operators across the United States.

Tampa

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Austin, TX 78731

Sacramento

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Ste R
Sacramento, CA 95811

Baltimore

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STE 200
Baltimore, MD 21201

ABOUT THE FIRM

A power engineering firm built for the grid we are building now

Keentel Engineering is a United States electrical power engineering firm specializing in extra high voltage, high voltage and medium voltage systems. We take generation, transmission and large load projects from first interconnection screening through energization and long-term reliability compliance — and we stay with the asset afterward.

30+

YEARS OF HANDS-ON POWER
SYSTEMS EXPERIENCE

51

ELECTRICAL ENGINEERS ON
STAFF

4

U.S. OFFICES ACROSS FOUR
TIME ZONES

11

INTEGRATED ENGINEERING
SERVICE LINES

Our Mission

To deliver high-quality technical services tailored to the unique needs of every client — combining precision, compliance and value engineering on work that has to be right the first time.

Our Vision

To become the preferred engineering partner within the renewable energy and transmission & distribution sectors, growing our capability and reach alongside the clients who build America's grid.

WHAT SETS US APART

01 Specialists, not generalists

Fifty-one electrical engineers in three dedicated groups — design, studies and regulatory compliance — so the person modeling your plant in PSCAD does that work every day, not occasionally.

02 The whole lifecycle, one engineering record

Models, ratings, assumptions and protection philosophy carry forward from interconnection screening to NERC evidence packages instead of being rebuilt — and reinterpreted — at every handoff.

03 Independent by instinct

As owner's engineer we answer to the asset owner alone. We verify transmission provider study results rather than accept them, and we tell clients when a project cannot be saved.

04 Compliance built in, not bolted on

Our regulatory group works alongside design and studies, so NERC, IEEE, NESC and NFPA requirements shape the design rather than surfacing as findings on an operating asset.

05 Nationwide reach, local presence

Offices in Tampa, Austin, Sacramento and Baltimore give us working familiarity with ERCOT, WECC, CAISO, PJM, MISO, SPP, SERC and FRCC — and coverage in your business hours.

NSPE
MEMBERIEEE
SENIOR MEMBERD-U-N-S
REGISTEREDBBB A+
ACCREDITED BUSINESSLicensed PEs
ACROSS ACTIVE MARKETS

CAPABILITY AT A GLANCE

Eleven service lines, one engineering team

Most clients engage two or three of these together. They are built to combine — the study that supports the design, the design that satisfies the compliance obligation.

POI Interconnection Engineering Support

Pre-application screening, application and model submittals, independent verification of transmission provider study results, and design of the interconnection facilities through energization.

Substation Design Services

Complete physical and electrical packages from 4.16 kV collector stations to 500 kV switchyards — layout, grounding, protection and control, SCADA, metering and construction support.

EHV, HV & MV Power System Studies

Load flow, short circuit, arc flash, protective device coordination, stability, EMT, harmonics, grounding, insulation coordination and motor starting analysis.

Owner's Engineer Services

Independent technical representation across technology selection, design review, procurement, construction monitoring, factory and field testing, and commissioning oversight.

NERC O&P 693 Compliance Services

Applicability and gap analysis, PRC / FAC / MOD / VAR remediation engineering, RSAW evidence packages, Align portal support, mock audits and mitigation plans.

Utility-Scale Solar Farm Engineering

DC and AC collector design, inverter and transformer sizing, cable ampacity, plant controller and SCADA architecture, and independent review of energy yield models.

Utility-Scale BESS Engineering

Bidirectional protection and controls, augmentation planning, auxiliary and thermal load engineering, NFPA 855 and UL 9540A coordination, and hybrid plant design.

Utility-Scale Wind Farm Engineering

Long-radial collector network design, turbine electrical interface coordination, site-wide SCADA and fiber, and repowering assessments of existing collector infrastructure.

Transmission Line Design Services

Conductor selection and ampacity, sag and tension, NESC clearances, shield wire and OPGW design, EMF profiles, and plan-and-profile development coordinated with terminal protection.

MEP Engineering Services

HVAC, plumbing, fire protection and fire alarm, building power and lighting, emergency and standby systems — for control buildings, e-houses and full commercial facilities.

Nuclear Power Plant Services

Offsite power and switchyard interface, safety and non-safety distribution studies, degraded voltage setpoint analysis, and support for modifications and uprates.

Data Center Power Engineering

Interconnection and substation engineering for powered land, hyperscale and AI campus loads — large load studies, redundancy design and utility coordination.

Standards and codes we design and verify to

NERC Reliability Standards

FERC Order 2023

IEEE Std 2800

IEEE Std 80

IEEE Std 1584

IEEE 519

IEEE C37 series

IEEE C57 series

NESC (ANSI C2)

NFPA 70 (NEC)

NFPA 70E

NFPA 855

UL 9540 / 9540A

ANSI

OSHA

ASHRAE

IBC / IMC / IPC

HOW THE TEAM IS BUILT

Three specialist groups, 51 electrical engineers

Fifty-one electrical engineers, organized so every project is staffed by people who do that specific work every day. The groups work the same job together — which is why a design decision here accounts for a study constraint there.

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The Designers

POWER SYSTEM DESIGN GROUP

They turn lines into lifelines — calculating, modeling and detailing substations, collector systems, transmission lines and balance of plant so the system works the first time. Tools: AutoCAD, Revit, CAD 3D, ETAP, PVSyst.

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The Grid Whisperers

POWER SYSTEM STUDIES GROUP

They speak the language of large-scale plants and grid dynamics, ensuring your project plays well with the utility and the future. Tools: PSCAD, PSS®E, DigSILENT PowerFactory, ETAP, SKM PowerTools.

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The Watchdogs

REGULATORY COMPLIANCE GROUP

They live and breathe compliance — OSHA, NFPA 70 (NEC) and NFPA 70E, IEEE, NERC and FERC — so your systems are ready for inspection, audit and everything in between.

Work is performed by our engineering staff and issued under the seal of a **Professional Engineer licensed in the state where the project is built**. Keentel maintains PE licensure across our active markets; if we do not hold a license in your state, we say so before contract rather than after.

Software and modeling environment

Licensed, current, and used daily — not learned per project.

ETAP

PSCAD

PSS®E

DigSILENT PowerFactory

SKM PowerTools

AutoCAD

Revit

CAD 3D

PVSyst

Analyses we perform

Load flow & voltage

Short circuit & device duty

Protective device coordination

Relay settings

Arc flash / incident energy

Transient stability

EMT / control interaction

Sub-synchronous oscillation

Harmonics & power quality

Reactive capability

Grounding grid (IEEE 80)

Insulation coordination

Motor starting

Cable ampacity

Model verification (MOD-025/026/027)

Ride-through (PRC-024/029)

GIC assessment

Load shedding / RAS

Markets and interconnection regions

Working familiarity with the tariffs, queue processes and study conventions of each.

ERCOT

CAISO

PJM

MISO

SPP

WECC

SERC

FRCC / Florida

NYISO

ISO-NE

Non-ISO utilities & co-ops

Voltage classes

4.16 kV

13.8 kV

34.5 kV

69 kV

115 kV

138 kV

161 kV

230 kV

345 kV

500 kV

Representative deliverables

What a client actually receives at the end of an engagement.

Design

Stamped drawing sets — general arrangement, plan and section, one-line, three-line, AC/DC schematics, wiring and connection diagrams, grounding and raceway plans, panel layouts, bills of material and technical specifications for procurement.

Studies

Report documenting the modeled system, assumptions, base cases, results against the governing standard, and specific actionable recommendations — plus the native model files, so the analysis is yours to carry forward.

Compliance

Completed RSAW responses, evidence packages indexed to each requirement, calculation records, test procedures and results, and mitigation plans where a gap is identified.

WHO WE WORK WITH

Trusted by utilities, developers, EPCs and hyperscalers

Our clients range from investor-owned utilities and global OEMs to renewable developers, engineering firms and the data center operators reshaping American load growth.

- **Arizona Public Service**

Reliable electric service and modern grid infrastructure across Arizona.

- **Siemens Energy**

Advanced power engineering and grid modernization solutions across the U.S.

- **Avangrid**

Renewable energy and utility infrastructure engineering projects nationwide.

- **EDF Power Solutions**

Utility-scale renewable energy integration and grid interconnection services.

- **Anthropic**

Electrical infrastructure and power system engineering for data-center energy requirements.

- **Pike Engineering**

Transmission and distribution engineering support across utility networks nationwide.

- **RRC Companies**

Electrical engineering partner for utility transmission and infrastructure projects.

- **PAE Engineers**

Advanced power system solutions for complex energy and infrastructure projects.

- **AYPA Power**

Battery storage and renewable energy interconnection engineering support.

- **Fisher Associates**

Power engineering and grid support for utility and renewable energy projects.

- **Brasswater**

Integrated development for industrial, office, retail and data-center infrastructure across North America.

- **OCTA Data Center**

Powered land and infrastructure-ready sites for hyperscale, cloud, AI and large-scale data centers.

- **Tenova**

Industrial engineering, electrification and decarbonization for advanced infrastructure projects.

- **NLine Energy**

Steam-to-power energy recovery converting excess steam pressure into electricity.

- **XUTILITY**

Utility consulting, grid modernization, transmission planning and electrical engineering.

- **Risk Work**

Safety-focused engineering and compliance support for critical infrastructure projects.

Industries served

Utilities & Co-ops

IOUs, municipals, electric cooperatives

Renewable Developers

Solar, wind, BESS and hybrid IPPs

Data Centers

Hyperscale, AI campuses, powered land

EPC Contractors

Design support and constructability

Industrial & Manufacturing

Electrification and decarbonization

Oil, Gas & Petrochemical

Facility power and safety studies

Nuclear Generation

Offsite power and plant electrical

Public Agencies

Municipal and institutional facilities

ENGAGEMENT

Scoped honestly, priced three ways

We would rather tell you that you need less engineering than you thought than sell you a study you do not yet need. Scope conversations are free and specific.

Fixed Fee

For well-defined deliverables — a named study, a substation package to a defined milestone, a compliance evidence package. Price certainty where scope is clear.

Time & Materials

For advisory, owner's engineering and support work where scope evolves with the project and the utility's responses.

MSA / Retainer

For developers and utilities with recurring work. Standards alignment and mobilization happen once, not per project — usually the most economical route.

How an engagement runs

- Scoping call**
 Technology, capacity, POI voltage, utility and status. We map what you need and in what order.
- Proposal**
 Defined deliverables, assumptions, data requirements, schedule and fee. No open-ended scope.
- Data & kickoff**
 Single-lines, datasheets, agreements and standards. Field verification where records are thin.
- Engineering**
 Milestone reviews at 30 / 60 / 90 percent so there are no surprises at issue.
- Issue & support**
 Stamped deliverables, plus construction, commissioning and audit support afterward.

What we need from you to scope accurately

- Single-line diagram or site plan
- POI voltage & interconnecting utility
- Queue position or project status
- Equipment datasheets or shortlist
- Existing study reports or LGIA
- Owner / utility design standards
- Milestone and COD dates

Missing some of it is not a barrier — data gathering and field verification can be the first phase of the work.

Let's talk about your project.

Tell us the technology, the size, the point of interconnection and where you are today. We will tell you candidly what engineering it needs, what it should cost, and where the schedule risk sits — whether or not you engage us.

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