

SERVICE PROFILE · 2026

Interconnection & Site Intelligence

know the grid before you commit

Site and market screening, generation interconnection cost screening, large-load headroom analysis and queue due diligence for solar, wind, BESS, hybrid, data center and industrial projects nationwide, modeled by power system engineers and reviewed by a P.E.

Most stranded projects were not bad projects. They were good projects on the wrong bus, filed into the wrong cluster, or priced before anyone checked the upgrades.

Keentel Engineering screens candidate sites, points of interconnection and queue positions before the land, deposits and study fees are committed. We use advanced interconnection modeling and market analytics, then apply the judgment of engineers who perform system impact, EMT, protection and substation work every day. You get a ranked, defensible answer in days, and one firm to carry the winning site from screen to energization.

4

SCREENING SERVICES UNDER
ONE ACCOUNTABLE SCOPE

Nationwide

ALL U.S. RTOs / ISOs AND NON-
RTO REGIONS

4–765 kV

VOLTAGE RANGE OUR ENGINEERS
STUDY AND SEAL

30+

YEARS ACROSS GENERATION,
TRANSMISSION, DISTRIBUTION &
RENEWABLES

COVERAGE | PJM | MISO | SPP | ERCOT | CAISO | NYISO | ISO-NE | SOUTHEAST | WEST

Where to Build

Nodal price, congestion, nearby competing projects, regional load growth and distance to viable POIs, ranked site by site.

What It Will Cost to Connect

Network upgrades, cost allocation, constraint drivers and attrition scenarios for generation in every U.S. RTO and ISO.

Whether the Grid Can Serve the Load

Withdrawal headroom, upgrade exposure and phased-ramp scenarios for data center and large-load sites.



START A SCREEN >> Send your candidate sites or queue position, project type and MW. We return a scoped fee and schedule, usually within a few business days.

NSPE

D·U·N·S REGISTERED

IEEE SENIOR MEMBER

BBB ACCREDITED A+

CONTACT 813-389-7871 · contact@keentelengineering.com · keentelengineering.com · Tampa · Austin · Sacramento · Baltimore

THE SERVICE CATALOG — PART ONE

Site & Market Screening and Generation Cost Screening

Where a project should go and what the interconnection will likely cost, answered before the application, the deposit or the land option.

01 · Site & Market Screening

A candidate site is only as good as the node it settles at and the bus it connects to. We screen sites against the market and grid conditions that decide revenue and risk, then rank them on one consistent basis.

- **Nodal price profile.** Historical price level, shape and volatility at the settlement node, by hour and season, and how the site compares with nearby hubs.
- **Congestion exposure.** Monthly and annual congestion patterns, binding constraints near the site and the direction of basis risk.
- **Competing development.** Projects in the queue or under construction nearby, their size, technology and stage, and what they mean for headroom and cost sharing.
- **Load growth.** Regional demand trends and where new large loads are landing, which shapes future pricing and upgrade need.
- **Transmission access.** Distance to candidate substations and lines, voltage class, and whether a tap, a new switching station or a radial line is realistic.
- **Engineering flags.** Short-circuit strength, weak-grid indicators, right-of-way constraints and anything our study engineers expect to drive cost later.

Outcome

A ranked shortlist with a one-page summary per site: price and congestion context, POI options, competing projects and the red flags to check before land control.

Best for: early-stage developers, land and origination teams, data center site selectors, portfolio planners.

02 · Generation Interconnection Cost Screening

ALL U.S. RTOs

For solar, wind, storage and hybrid projects, we model the RTO cluster study process to estimate the network upgrades a project is likely to trigger and the share it is likely to carry.

- **Upgrade identification.** Thermal and voltage constraints the project is likely to trigger or worsen under the applicable study criteria.
- **Estimated upgrade cost.** Planning-level cost of the upgrades, using the RTO's cost basis and our own substation and line experience.
- **Cost allocation.** The project's likely share of each upgrade, based on its contribution to the constraint.
- **Attrition scenarios.** How cost and allocation move as other projects in the cluster withdraw, so you can see best case, expected and worst case.
- **POI and size sensitivity.** Alternate buses, MW sizes and technology mixes to find the configuration with the lowest exposure.
- **Stay-or-withdraw support.** For projects already in a cluster, a view of exposure ahead of the next decision point and deposit.

Outcome

An upgrade and cost-allocation summary with the constraints driving it, attrition cases, recommended POI and size, and the questions to raise in the RTO scoping meeting.

Best for: developers preparing applications, projects in active clusters, teams facing a withdrawal or deposit milestone.

THE SERVICE CATALOG — PART TWO

Large-Load Headroom Screening and Queue Due Diligence

Whether the grid can actually serve the load, and whether a queue position is worth what someone is asking for it.

03 · Large-Load & Data Center Headroom Screening

For data centers, industrial expansions, hydrogen and electrification projects, power availability is the schedule. We screen candidate sites for how much load the grid can take today and what it would take to serve the rest.

- **Withdrawal headroom.** Load the grid can serve at candidate substations and buses without triggering upgrades, under normal and contingency conditions.
- **Upgrade exposure.** Planning-level upgrades and cost to serve the full requested load where headroom falls short.
- **Multi-site comparison.** Candidate sites and markets ranked on headroom, cost and timeline on one consistent basis.
- **Phased ramp scenarios.** Initial, interim and full build-out loads, so energization can start before the last upgrade is in service.
- **Co-location and on-site generation.** How on-site generation, storage or a co-located plant changes the net withdrawal and the upgrade picture.
- **Utility engagement prep.** The load profile, single-line concept and questions to bring to the utility's load interconnection process.

Outcome

A headroom map of candidate sites, upgrade exposure for the full load, a phased ramp recommendation and a package ready for the first utility meeting.

Best for: hyperscale and colocation developers, powered-land developers, industrial and manufacturing expansions.

04 · Queue Due Diligence

Before you buy, finance or sell a project, you need an independent view of the interconnection position, which is often the largest unknown in the valuation.

- **Position review.** Queue number, cluster, study phase, milestones met and milestones still ahead.
- **Study document review.** Feasibility, system impact and facilities study results read by engineers who write those studies.
- **Cost exposure.** Current upgrade allocation, sensitivity to attrition and the realistic range still ahead.
- **Schedule risk.** Remaining study phases, upgrade in-service dates and their effect on the commercial operation date.
- **Technical red flags.** Model gaps, ride-through or EMT issues, POI configuration problems and anything likely to come back in review.
- **Buy-side and sell-side.** Independent reports for acquirers, lenders and tax equity, or pre-sale packages for sellers.

Outcome

A due diligence memo with a risk-rated summary, cost and schedule ranges, red flags and recommended conditions or next steps.

Best for: investors, IPPs, lenders, tax equity and M&A teams, and developers preparing a project sale.

SCREEN TO STUDY

Screening That Feeds the Real Study

A screen is only useful if the next engineer can build on it. Ours are run by the same team that performs the formal studies and designs, so nothing is thrown away.

WHAT HAPPENS AFTER EACH FINDING

SCREENING FINDING	DECISION IT SUPPORTS	KEENTEL SERVICE THAT CARRIES IT FORWARD
Best site identified	Land control and POI selection	POI interconnection engineering, one-line concept, application package
Upgrade cost looks acceptable	File the interconnection application	Model build and QC, system impact study support, RTO comment response
Weak-grid or low-SCR flag	Confirm plant can meet ride-through	EMT model build, weak-grid and SSCI studies, IEEE 2800 compliance
POI needs a new switching station	Budget and schedule the substation	Substation and transmission line design, 30/60/90/IFC packages
Large load exceeds headroom	Phase the ramp, engage the utility	Load interconnection studies, campus MV design, harmonics and PQ
Queue position under review	Close, re-price or walk away	Owner's engineer, restudy review, facilities study review
Project advances to COD	Energize and stay compliant	Protection and relay settings, NERC PRC/MOD, commissioning support

WHAT A SCREEN TELLS YOU

- **Relative ranking.** Which sites, POIs and sizes carry the least risk, on one consistent basis.
- **Planning-level cost range.** The likely order of magnitude of upgrades and your share of them.
- **The drivers.** Which constraints, contingencies and nearby projects are behind the number.
- **Where to look harder.** The questions to take into the RTO or utility scoping meeting.

WHAT A SCREEN DOES NOT REPLACE

- **The formal study.** RTO, transmission owner and utility studies set the final requirements and costs.
- **A guarantee.** Results are engineering estimates. Queue changes, model updates and new projects move them.
- **Detailed design.** Final upgrade scope and cost come from facilities studies and engineering design.
- **Plant-level compliance.** EMT, ride-through and protection studies still follow for the selected project.

One team, one model lineage

The engineer who flags a weak-grid bus in the screen is on the team that later builds the EMT model for it. Assumptions, POI choices and red flags are documented once and carried forward, not rediscovered.

NOTE Screening results are engineering estimates intended to support planning and decisions. They do not replace studies performed by ISO/RTOs, transmission owners or utilities, and do not guarantee final costs, capacity or timelines.

SCOPE TO DECISION

How the Work Runs

A defined question, a fixed scope and a report built for the decision in front of you, usually delivered within days, not months.

01	02	03	04	05	06
Define	Data	Screen	P.E. Review	Report	Advance
Project type, MW, technology, candidate sites or queue position, and the decision date.	Site coordinates, POI options, load profile or plant configuration. We can start from partial data.	Market, capacity and interconnection cost analysis on a consistent basis across all options.	A licensed engineer checks results against utility and RTO practice and flags anomalies.	Ranked findings, cost ranges, drivers, red flags and a recommended pathway.	Walkthrough call, then Keentel carries the selected site into studies and design.

WHAT YOU RECEIVE

- › Executive summary with site, POI or project rankings
- › Estimated upgrade requirements, costs and allocation share
- › Constraint and contingency drivers behind each result
- › Withdrawal headroom and phased-load findings for large loads
- › Nodal price and congestion context for each site
- › Competing projects near each site and their stage
- › Attrition, size and POI sensitivity cases
- › Risk register with red flags and recommended mitigations
- › Recommended next steps and study pathway
- › P.E. review of findings and documented assumptions
- › Walkthrough call with the engineering team

WHY CLIENTS BRING THIS TO US

The answer arrives before the commitment

Screening happens while land, deposits and study fees are still decisions, not sunk costs.

Engineers read the results

Numbers are reviewed by people who run system impact, EMT and protection studies, so anomalies get caught.

Built for one client

Every screen is run for one client only and never resold or reused for another.

No handoff gap

The team that screens the site designs the interconnection, so assumptions carry straight through.

ENGAGEMENT MODELS

Single screen

One site, POI or queue position. Fixed scope, fixed fee, a focused report for one decision.

Portfolio screen

Multiple sites or markets ranked on one basis, for origination, land and siting programs.

Retained advisor

Ongoing screening and queue monitoring across a pipeline, with a named engineering lead.

SCOPING REFERENCE

What a Project Usually Needs

A starting point, not a menu. The screen is shaped around the decision you need to make and the market you are in.

TYPICAL SCREEN BY CLIENT AND DECISION

CLIENT	QUESTION	SCREEN	PRIMARY OUTPUT
Early-stage developer	Where should we build?	Site & market screening	Ranked shortlist, POI options
Developer, pre-filing	Which POI and size should we file?	Generation cost screening	Upgrade and allocation estimate
Project in a cluster	Stay in, resize or withdraw?	Attrition and sensitivity cases	Exposure range by scenario
Data center developer	Where can we get power, and when?	Large-load headroom screening	Headroom map, ramp plan
Powered-land developer	Which parcels can be marketed as powered?	Headroom and site screening	Site ranking, capacity basis
Investor, lender or seller	Is the queue position worth the price?	Queue due diligence	Risk-rated DD memo

MARKET COVERAGE

Generation interconnection cost screening

Nationwide, all RTOs/ISOs: PJM · MISO · SPP · ERCOT · CAISO · NYISO · ISO-NE. Cluster-based upgrade and cost-allocation screening for solar, wind, storage and hybrid projects.

Site, market and large-load screening

Nationwide: PJM · MISO · SPP · ERCOT · CAISO · NYISO · ISO-NE, plus the Southeast and West non-RTO utilities. Tell us the location, utility or balancing area.

COMMON REASONS A SITE DISAPPOINTS

- **Chosen for land, not the grid.** Cheap acreage next to a congested or weak bus.
- **Nearby projects ignored.** Competing queue positions share, or claim, the same headroom.
- **Single-scenario cost.** Upgrade estimates that assume no one else withdraws, or everyone does.
- **Load ramp assumed, not studied.** Full load planned for day one when headroom supports a phase.
- **Price risk missed.** Congestion and basis that erode revenue after COD.
- **No path to the formal study.** A screen that cannot be carried into the application package.

WHEN TO SCREEN

Before land control

Rank parcels before options and leases are signed.

Before filing

Pick the POI and size with the lowest upgrade exposure.

Before each decision point

Re-check exposure ahead of deposits and withdrawal windows.

Before close

Price the queue position before an acquisition or financing.

SECTORS AND THE FIRMS WE WORK FOR

Where the Screening Lands

The same screening discipline serves developers deciding where to build, data center teams chasing power, and investors pricing a queue position.



Solar, Wind & BESS

Site ranking, POI selection and upgrade exposure before filing.



Substations & Transmission

POI configuration, switching station and line needs flagged early.



Data Centers & Large Load

Headroom, upgrade exposure and phased ramp for hyperscale sites.



Industrial Facilities

Capacity checks for manufacturing, hydrogen and electrification.



Investors & Lenders

Independent queue due diligence for acquisitions and financings.



Utilities & Co-ops

Independent screening support for planning and customer requests.

TYPICAL ENGAGEMENT TYPES

Solar or storage portfolio

Candidate parcels screened on price, congestion and POI access, with the strongest advanced to land control and cost screening.

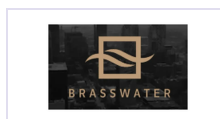
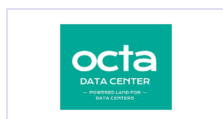
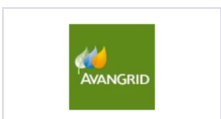
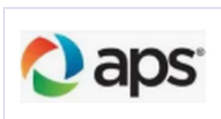
Data center campus

Several markets compared on headroom and upgrade exposure, with a phased ramp that lets energization start ahead of full upgrades.

Queue acquisition

Buy-side review of a position: allocation range under attrition, schedule risk and recommended conditions for close.

OUR CLIENTS



START HERE

Three Things and We Can Scope It

1 The sites

Coordinates, parcels or a region to search, or the queue number for an existing position.

2 The project

Technology, MW or load size, target COD or energization date, and any POI already in mind.

3 The decision

What you need to decide and by when: land, filing, withdrawal, acquisition or utility request.

WHY KEENTEL ENGINEERING

- **Engineers, not just analysts.** Our team performs interconnection, EMT, protection and substation work, so screening reflects how projects are actually studied and built.
- **4 kV to 765 kV.** Study and design experience from distribution through extra-high voltage transmission.
- **Screen to stamped design.** One accountable firm from first site screen to P.E.-sealed deliverables.
- **Florida-registered engineering firm** (Reg. No. 36853) with multi-state P.E. licensure and four U.S. offices.
- **Independent and confidential.** One client per screen, no reuse, no conflicts.

When the site looks good

We carry it straight into the interconnection application, model build, system impact and EMT studies, and substation and line design, under one scope and one accountable team.

Part of a larger service line

Interconnection & Site Intelligence sits alongside Keentel's Power System Studies, Substation & Transmission Design, Utility-Scale Renewables, Owner's Engineer and NERC Compliance services.

ASKED AT KICKOFF

Can you start with only coordinates and a MW size?

Yes. Most screens start that way. We tell you what additional data would sharpen the result and what it would change.

Is this the same as the RTO's study?

No. It is an engineering estimate built to support your decision. The RTO or utility study sets final requirements and costs, and we can support you through it.

How fast is a screen?

Most single screens are delivered within days. Portfolio screens depend on the number of sites and markets.

Will our project data stay confidential?

Yes. Each screen is performed for one client only, under confidentiality, and is never reused for another client.

Which markets do you cover?

Nationwide: PJM • MISO • SPP • ERCOT • CAISO • NYISO • ISO-NE, and the non-RTO utilities of the Southeast and West, for both generation and large-load screening.

START A SCREEN >> contact@keentelengineering.com • 813-389-7871 • keentelengineering.com

NSPE

D-U-N-S REGISTERED

IEEE SENIOR MEMBER

BBB ACCREDITED A+

TAMPA — HQ

400 N Ashley Dr, Ste 2600
Tampa, FL 33602
813-389-7871

AUSTIN

5900 Balcones Dr, Ste 100
Austin, TX 78731
512-591-0752

SACRAMENTO

1401 21st St, Ste R
Sacramento, CA 95811
916-913-4524

BALTIMORE

306 W Redwood St, Ste 200
Baltimore, MD 21201
410-225-2181