



GE VERNOVA

CONSULTING SERVICES

DE-RISKING POWER SYSTEMS FOR DATA CENTERS

We help energy leaders mitigate risk in their most critical power system investments and operational decisions. In a landscape defined by accelerating load growth, shifting regulation, and rapid technical change, the team brings the insight, tools, and experience needed to address complexity with clarity.

OUR ROLE: ENGINEERING OUT RISK

We help de-risk the the power systems that keep data centers online. Our expertise helps to ensure:

- Smarter site selection with reliable grid access, long-term scalability, and balanced economics
- Grid-code compliance from day one
- Dynamic stability under fast load swings
- Protection schemes that shield equipment from destructive forces
- Future-proof architectures designed to meet evolving standards



SITE SELECTION STUDIES

Evaluating grid proximity, interconnection feasibility, and infrastructure readiness. By analyzing power accessibility, environmental risks, and scalability, we ensure sites are viable before investment is committed.



GRID INTEGRATION & STABILITY STUDIES

Electromagnetic transient (EMT) and dynamic simulations validate how systems perform under real-world load conditions.



PROTECTION SOLUTIONS

Torsional stress relay design, advanced fault detection, and engineered safeguards protect equipment and extend asset life.



SYSTEM ARCHITECTURE & INTERCONNECTION DESIGN

Compliant, resilient configurations aligned with global and local grid codes.



ADAPTIVE GRID RESPONSE ENGINEERING

Engineered inertia, stabilizing devices, and coordinated controls that keep systems reliable as demand grows and standards evolve.

OUR SOLUTIONS

Key Risks We Help Mitigate

- Poor site selection that locks in high costs, weak grid access, or limited scalability
- Torsional stress on turbine-generator drive trains
- Sub-synchronous resonance (SSR) and oscillatory instabilities
- Poor damping leading to instability under variable loads
- UPS-induced fluctuations triggering overspeed events or sudden load drops

The Result

- Reduced risk of costly equipment failure
- More reliable operation through dynamic and extreme conditions
- Sites selected and designed for long-term resilience
- Compliance better secured for current and future codes
- Confidence to scale as demand grows

WHY CUSTOMERS CHOOSE GE VERNOVA'S CONSULTING SERVICES



Proactive Perspective – looking beyond the immediate scope to anticipate challenges and opportunities before they impact timelines or returns.



Specialized Expertise – offering deep, technology-agnostic insight across generation, transmission, and market operations, informed by real-world project experience.



Consistency Across the Project Lifecycle – providing a single trusted partner from early studies through execution, ensuring alignment and continuity.



Global Experience, Local Insight – with proven capability in markets worldwide and recommendations tailored to local conditions.



High-Fidelity Modeling – drawing on continuously updated market, policy, and technical data for accurate, actionable decision support.

ABOUT GE VERNOVA'S CONSULTING SERVICES

GE Vernova's Consulting Services helps energy leaders mitigate risk in their most critical power system investments and operational decisions. In a landscape defined by accelerating load growth, shifting regulation, and rapid technical change, the team brings the insight, tools, and experience needed to address complexity with clarity. From building the world's first commercial central power station to pioneering modern grid technologies, GE Vernova has spent more than a century shaping how the world generates, transmits, and manages power. That legacy, combined with deep technical expertise and close collaboration with equipment engineers, uniquely positions the team to help customers strengthen performance and protect value in a capital-intensive, high-stakes energy future.



Move your project from opportunity to reality
with insights that matter.
Talk to our team today!

Learn more:

vernova.is/powering-whats-next

