



GridStrong

DATA CENTERS & GRID STABILITY

The biggest execution risk to 403.

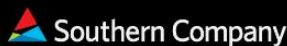
MAY 2026



GRIDSTRONG IS

AI FOR GRID STABILITY

Loads online faster. While strengthening the grid.



WE ARE ALREADY DOING THIS FOR DOE.

OFFICE OF ELECTRICITY. AI4IX. GENERATION INTERCONNECTION.

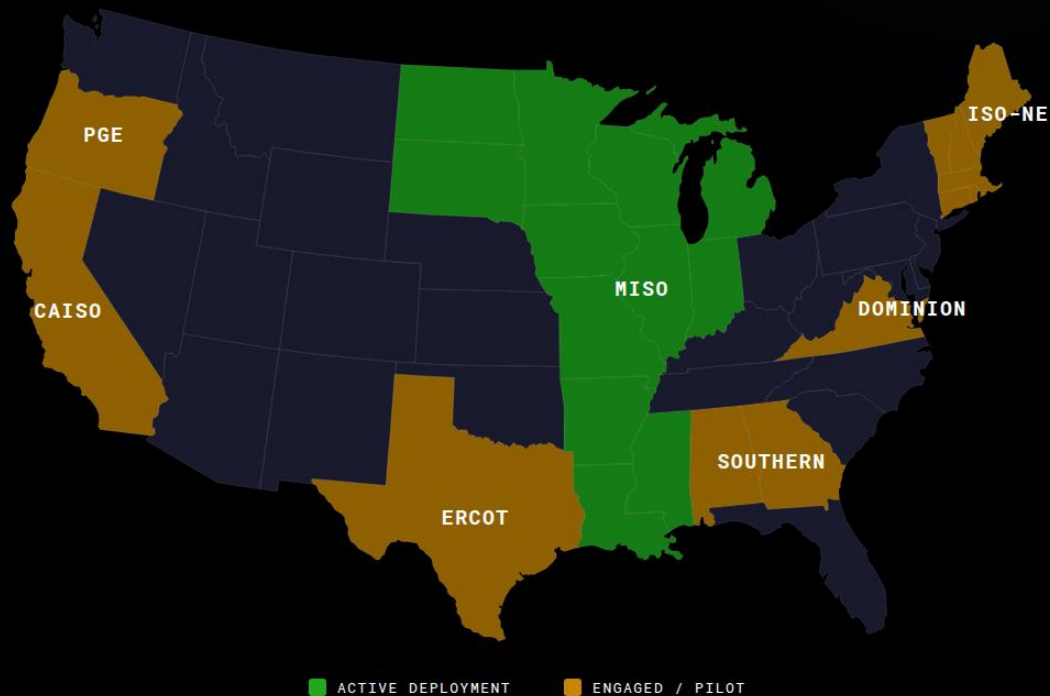
DOE OE CONTRACT CWX-010-030

AI4IX

Automating model quality testing for speed to power.

We compress the engineering workflow that holds up generation interconnection studies, getting more power online faster. The grid operators and utilities on the map are our current AI4IX partners and customers.

**SAME PARTNERS. SAME ENGINE.
NOW EXTENDED TO LOAD.**



403 NEEDS PERFECT EXECUTION.

WHAT STOPS IT: NOBODY KNOWS HOW TO MODEL COMPUTATIONAL LOADS ON THE GRID.

THE TECHNICAL HOLE

THE GRID CAN'T SEE THESE LOADS.

Whatever FERC issues on June 30 directs utilities to model computational loads as dynamic resources. Today, the standard composite load model does not represent power-electronic data centers. Utilities are being asked to build something the industry has not built yet. Without an industrial answer to that modeling problem, 403's signature directive has no implementation arm.

THE CONSEQUENCE

IMPLEMENTATION GAP IS WHAT CREATES LEGAL EXPOSURE.

Section 403 was used sparingly for forty years. The October 2025 letter is the rare exercise. A rule that lands cleanly defends itself. A rule that lands without a deployment partner is the one that draws the courthouse.

**NO ONE EVER COMPLAINED ABOUT
FLAWLESSLY EXECUTED AMERICAN DOMINANCE.**



THE GRID IS STUDIED WITH MODELS THAT CAN'T SEE THESE LOADS.

COMPOSITE LOAD MODEL ASSUMPTIONS VS. COMPUTATIONAL LOAD REALITY

WHAT THE STANDARD MODEL SHOWS

A CLEAN VOLTAGE EVENT

Smooth sag. Clean recovery. No reclose. Phasor domain. 4 ms time step. Aggregated motor-style load.

WHAT ACTUALLY HAPPENED · JUL 10 2024

1,500 MW IN 82 SECONDS

Single 230 kV fault. Six reclose attempts. Voltage sensitive data center loads tripped simultaneously. Many facilities transferred to UPS or backup. Some required manual reconnection.

* VOLTAGE SWELLS

Real grids have both. Swells damage power supplies.

* TIME DELAYS

Real protection has delays. The delays are what matter.

* AUTO RECLOSING

Real faults always reclose. July 10 2024 had six.

* FREQUENCY

Real data centers trip on frequency too, not voltage alone.

* VENDOR LAYERS

Real facilities have layered, vendor-specific protection.



EMT MODELING SEES WHAT PHASOR MODELS CAN'T.

FROM RMS PHASOR SIMULATION TO ELECTROMAGNETIC TRANSIENT

OLD

PSPD · RMS · PHASOR

~4 ms

1 / 4 CYCLE

CAPTURES

Steady state Slow dynamics below 10 Hz

MISSES

Sub cycle transients Harmonic interactions Weak grid behavior

DC link protection trips

NEW

ELECTROMAGNETIC TRANSIENT

10 TO 50 US

SUB CYCLE

CAPTURES

Full waveform Sub cycle transients Harmonics Fast switching

Weak grid behavior

REQUIRED FOR

Power electronic load Ride through proof DC link protection

NOGRR-282 compliance

When NERC says verify ride through, they mean EMT. When ERCOT says demonstrate NOGRR-282 compliance, they mean EMT. What FERC orders on June 30 will require EMT in everything but name.



EVERY REGION IS WRITING ITS OWN RULES.

REGIONAL THRESHOLDS AND MECHANISMS, STATUS AS OF MAY 2026

ERCOT

≥75 MW LLI · ≥25 MW visibility
NOGRR-282 ride-through · NPRR 1308 LLIS

ACTIVE

PJM

Manuals 14H / 14C / 14G
FERC EL25-49 directive (Dec 2025)

RULEMAKING

DOMINION

PEILL ≥ 50 MW
PSS/E dynamic models · six-event ride-through

ACTIVE

SPP

HILL framework
~90-day study, RR696

ACTIVE

MISO

TO-led with MISO planning
MTEP Attachment FF · local TO guides

ACTIVE

NYISO

TEI process
SIS/SR with dynamics + telemetry

ACTIVE

CAISO

Via PTOs (PG&E / SCE / SDG&E)
PG&E TIH primary reference

ACTIVE

ISO-NE

PTO-led
PP5-6 studies · composite load model

EVOLVING

AESO

Phase 1 cap: 1,200 MW DTS
Phase 2 consultations underway

CAPACITY-LIMITED

IESO

≥20 MW step loads recognized
Market Rules Ch. 4

EVOLVING

Utilities will not move forward without dynamic load model standards. Left to their own devices, regions converge in five years. The goals of 403 are dead in the water no matter how loud DOE beats the drum.



RAPID COMMERCIALIZATION. NO MORE SCIENCE PROJECTS.

WE WRAP ACADEMIC AND LAB EXPERTISE INTO UTILITY-GRADE INDUSTRY SOLUTIONS.
OUR EXISTING DOE PARTNERS DELIVER THEM.

ACADEMIC + LAB EXPERTISE

THE SCIENCE SUBSTRATE

MANITOBA HVDC RESEARCH CENTRE

PSCAD tool stewardship. The original EMT platform.

ELECTRANIX

The engineers who built PSCAD. Specialty EMT consulting.

SIEMENS PTI

PSS®E and OEM data authority.

PNNL

Federal research substrate. Potential national-lab partner.

EPRI

Industry research neutrality.

COMMERCIALIZATION LAYER

GRIDSTRONG

We turn lab-grade modeling primitives into production tooling utilities will accept on first review. Audit-ready, vendor-validated, on a 91,000 requirement-indexed regulatory substrate. Your federal dollars do not sit on a shelf. They ship.

OUR EXISTING AI4IX PARTNERS AND CUSTOMERS

**ALREADY DEPLOYED ON
GENERATION. CARRYING
DIRECTLY INTO LOAD.**

MISO ISO-NE CAISO ERCOT

DOMINION PORTLAND GENERAL

SOUTHERN NEXTERA ENGIE INVENERGY



BY 2027, 403'S BIGGEST RISK IS SOLVED.

OPEN A CLEAN, PARALLEL OFFICE OF ELECTRICITY GRANT. THE TEAM AND PARTNERS DELIVERING AI4IX TODAY EXTEND INTO LOAD. AI4IX CONTINUES EXACTLY AS IT IS.

WHAT WE BUILD

VENDOR-VALIDATED EMT MODELING FOR COMPUTATIONAL LOADS.

NERC technical committees adopt. FERC's record cites the consortium's work as the implementation evidence the rule needs. Utilities clear interconnection studies on industry-standard models, not utility-by-utility improvisation.

WHO BUILDS IT

THE TEAM AND PARTNERS DOE IS ALREADY FUNDING.

GridStrong leads commercialization. The science substrate (Manitoba, Electranix, Siemens, EPRI, PNNL) wraps in. The four grid operator partners and three utility customers on slide 2 move into the load track on day one.

HOW IT GETS FUNDED

A NEW OE GRANT. PARALLEL. CLEAN.

Separate contract for load modeling, with its own deliverables, timeline, and budget. The current AI4IX investment continues uninterrupted on its own track.



TWO PATHS. ONE CHOICE.

WHAT THIS LOOKS LIKE WITH THE CONSORTIUM, AND WHAT THE MARKET DOES ON ITS OWN.

WITH THE CONSORTIUM

2027

- ✓ Industry converges on a vendor-validated EMT modeling framework for computational loads. Reviewed and adopted by NERC technical committees.
- ✓ FERC's June order has an implementation arm. CLE-class interconnections close on industry-standard models rather than utility-by-utility improvisation.
- ✓ DOE's signature data-center initiative produces a durable, visible reliability deployment. The Trump administration's energy dominance story is grounded in real infrastructure.
- ✓ U.S. data center buildout proceeds at the pace the AI economy demands. The grid keeps up because the modeling kept up.

WITHOUT IT

2027

- Each utility approaches load modeling on its own timeline. Regional convergence takes three to five years.
- FERC's rule lacks a coordinated implementation record. The legal challenges that are coming have an easier target.
- Hyperscaler buildout shifts toward jurisdictions where the modeling problem is not blocking interconnection.
- DOE still wants the same outcome. It takes longer, costs more, and arrives after the AI window has narrowed.

Left to its own devices, the utility industry takes five years to solve this and the data centers go elsewhere.