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# FERC Orders New Reliability Standards for Data Centers and Other Computational Loads

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On July 16, 2026, the Federal Energy Regulatory Commission ("FERC") issued an order in Docket No. RD26-7-000, directing the North American Electric Reliability Corporation ("NERC") to develop mandatory Reliability Standards[1] to integrate "computational loads" into the Bulk-Power System.[2] Computational loads, including data centers and other technology-driven facilities, can affect grid operations because of their size and sensitivity to voltage and frequency deviations.

FERC's order does not immediately set requirements for computational loads. Rather, it directs NERC to address reliability concerns stemming from computational loads by developing measurable and enforceable Reliability Standards by dates certain. For example, by **December 31, 2026**, NERC must file new or modified Reliability Standards, to address computational-load integration, Glossary changes, and revisions to its Rules of Procedure,

1 Reliability Standards are compliance requirements developed by NERC and approved by the Commission, under section 215 of the Federal Power Act, that are intended to ensure the reliable operation of the Bulk-Power System. Reliability Standards address the planning, operation, and security of Bulk-Power System facilities, including cybersecurity protection. 18 C.F.R. Pt. 39.1 (2026).

2 *Reliability Standard(s) Pertaining to Computational Load Integration*, 196 FERC ¶ 61,031 (2026). The "Bulk-Power System" refers to facilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof) and electric energy from generation facilities needed to maintain transmission system reliability.

including registration criteria that will establish which computational-load entities will become subject to the requirements and obligations of the newly developed Reliability Standards. NERC must also make a subsequent informational filing outlining its next steps for additional computational-load Reliability Standards by **March 1, 2027**.

**Background**

FERC's order is part of a broader regulatory response to the rapid growth of large loads.[3] According to the Lawrence Berkeley National Laboratory, data centers consumed approximately 4.4% of total electricity in 2023 in the U.S. and could consume approximately 6.7% to 12% by 2028.[4] The Department of Energy found that total data center electricity usage increased from 58 TWh in 2014 to 176 TWh in 2023 and is estimated to increase to between 325 TWh and 580 TWh by 2028.[5] In other words, and unsurprisingly, data centers consume and will continue to consume significant amounts of power.

This increased power use creates a reliability issue: some large loads rapidly reduce or disconnect in response to voltage disturbances, causing sudden demand changes that can affect grid frequency, voltage, and system stability. NERC has documented multiple grid disturbances involving computational loads, including a July 2024 Virginia event in which approximately 1,500 MW of data center load was lost across 60 points and 25 substations following a transmission line fault, causing abnormal voltage levels.[6] Similarly, Texas, whose ERCOT system peak is roughly half that of PJM, has faced more than 25 incidents where the system has lost between 100 MW and 450 MW of large computational loads.[7]

NERC responded to these events with Level 2[8] and Level 3 Alerts[9]. These alerts mark the early stages of NERC's efforts to identify and address issues caused by the operational characteristics of large computational loads.

ERCOT responded to these incidents by implementing the Batch Zero study process, a transitional process that evaluates qualifying large-load interconnection requests on a system-wide instead of individual-project basis. Further, ERCOT proposed voltage and frequency ride-through requirements for large computational loads, which are intended to prevent those loads from tripping or rapidly reducing consumption during temporary voltage or

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3 *See, e.g.*, *Interconnection of Large Loads to the Interstate Transmission Sys.*, Advance Notice of Proposed Rulemaking (Oct. 23, 2025); *see also* Letter from Chris Wright, Sec'y, U.S. Dep't of Energy (Oct. 23, 2025) (Secretary's Letter).

4 Arman Shehabi et al., *2024 United States Data Center Energy Usage Report*, Lawrence Berkeley National Laboratory (December 20, 2024), https://escholarship.org/uc/item/32d6m0d1.

5 *DOE Releases New Report Evaluating Increase in Electricity Demand from Data Centers*, Department of Energy (December 20, 2024), https://www.energy.gov/articles/doe-releases-new-report-evaluating-increase-electricity-demand-data-centers.

6 For example, NERC recently detailed that it has observed customer-initiated large-load reductions and significant oscillations occurring in seconds, leaving little or no room for real-time operator response. *See NERC Issues Level 3 Alert, Reliability Guideline Focused on Large Load Challenges*, NERC (May 4, 2026) https://www.nerc.com/newsroom/nerc-issues-level-3-alert-reliability-guideline-focused-on-large-load-challenges. *See also Incident Review Considering Simultaneous Voltage-Sensitive Load Reductions*, NERC (Jan. 8, 2025) https://www.nerc.com/globalassets/our-work/reports/event-reports/incident_review_large_load_loss.pdf.

7 Jeff Billo and Nathan Bigbee, *Item 15.1.1.3: ERCOT Comments on NOGRR282 and NPRR1308*, ERCOT (June 1-2, 2026) https://www.ercot.com/files/docs/2026/05/22/15.1.1.3-ERCOT-Comments-on-NOGRR282-and-NPRR1308.pdf.

8 *Industry Recommendation: Large Load Interconnection, Study, Commissioning, and Operations*, (September 9, 2025) https://www.nerc.com/globalassets/programs/bpsa/alerts/2025/nerc-alert-level-2--large-loads.pdf.

9 *Essential Action to Industry: Computational Load Modeling, Studies, Instrumentation, Commissioning, Operations, Protection, and Control*, NERC (May 4, 2026) https://www.nerc.com/globalassets/programs/bpsa/alerts/level-3-computational-load-alert.pdf.

frequency fluctuations.[10] To verify that computational loads are able to comply with its ride-through requirements, ERCOT implemented detailed dynamic modeling requirements.[11]

Like ERCOT, NERC has taken these challenges seriously, and has set voluntary timelines to develop enhanced Reliability Standards, Glossary changes (including defining computational load and computational load entities), and registration criteria revisions. NERC also anticipated that it would make additional revisions to Reliability Standards applicable to large loads in 2027.

**FERC's Directive to NERC**

FERC expressed satisfaction with NERC's efforts but recognized that this effort cannot rely on NERC following its own internal deadlines. The order therefore turns NERC's proposed voluntary deadlines into a mandatory filing timeline: by December 31, 2026, NERC must file new or modified Reliability Standards to address reliability risks associated with the integration of large computational loads into the Bulk-Power System, finalize any associated NERC Glossary changes, and develop revisions to its Rules of Procedure, including registration criteria for computational-load entities. FERC also required NERC to submit an informational filing detailing its work plan regarding these additional revisions by March 1, 2027. These deadlines follow NERC's voluntary timelines, but ensure NERC will remain accountable for these efforts.

Beyond establishing mandatory deadlines for these filings, FERC did not prescribe any substantive requirements for the Reliability Standards, such as a specific size threshold or registration criteria, leaving these issues up to NERC's discretion and existing standards development process.

**What Matters for Industry Participants**

The order characterizes large computational loads as a widespread issue of reliability, rather than a traditional load-growth planning issue. FERC signals that, as data centers and similar facilities scale, planners and operators will need better information about how those loads behave and impact the transmission system. That could mean closer scrutiny of load data and models, coordination with transmission planners and operators, and facility performance during grid disturbances.

The effect is that large-load projects may face more detailed technical review earlier in development. NERC's forthcoming Reliability Standards and Rules of Procedure will likely require large computational loads, including data centers, to register as functional entities with NERC. This registration would impose compliance obligations on computational loads independent of those applicable to their transmission service providers and load-serving entities and would expose them to FERC's current and increasing civil penalty authority of $1,584,648 per violation

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[10] Elec. Reliability Council of Tex., *Nodal Operating Guide Revision Request (NOGRR) 282, Board Priority – Large Computational Load Ride-Through Requirements*, PUCT Project No. 54445, *Review of Protocols Adopted by the Independent Organization* (Pub. Util. Comm'n of Tex. July 9, 2026).

[11] Elec. Reliability Council of Tex., Reliability and Operations Subcomm., *Planning Guide Revision Request (PGRR) 144*, *Dynamic Model Submission and Review Requirements for Large Loads Including Large Computational Loads*, ROS Report (July 9, 2026).

per day.[12] These requirements will impact data center developers, utilities, and investors and lenders. For these stakeholders, technical and operational considerations—such as dynamic stability, frequency response, protection coordination, and real-time operational visibility—may take on greater importance in interconnection studies, transmission planning, operating requirements, equipment procurement, and project documentation. ERCOT's dynamic modeling and ride-through requirements illustrate the types of planning, operational, and technical requirements that NERC may consider as it develops its own computational load Reliability Standards. The order also fits within FERC's broader focus on large-load interconnection and co-located load, including clearer rules for transmission service, behind-the-meter arrangements, cost allocation, operational limits, and penalties, evidenced through its six show-cause orders targeting interconnection of large loads and its order directing tariff updates for co-located loads.

These potential Reliability Standards may also have practical engineering and operational consequences. If NERC adopts ride-through or similar performance requirements, computational-load facilities may need to reassess protection settings, load-management systems, backup-power configurations, equipment specifications, and operating protocols to ensure they can remain connected during or resume demand promptly following specified voltage or frequency disturbances. These requirements could affect compliance planning, facility design, equipment procurement, commissioning, interconnection studies, project financing models, and large-load operation.

Key questions include whether a project could fall within future computational-load registration criteria, which operational obligations apply, whether studies will require more robust modeling of load behavior, and how any new requirements could affect project timing, cost, and contractual risk allocation.

**Key Takeaway**

Stakeholders should monitor NERC's standards-development process closely through the end of 2026 before NERC's first required filing.[13] Participation could be important for entities whose facilities may need to provide modeling or operational information or whose projects could be directly affected by NERC's Reliability Standards and registration criteria.

This order is a step towards a more formal compliance framework for large data centers and other fast-growing computational loads. NERC's filings will show how regulators intend to address reliability concerns and create enforceable obligations. Companies developing, financing, owning, operating, or supplying power to large computational loads should anticipate NERC's filing and treat the remainder of 2026 as a window to interface with regulators and prepare for a more structured reliability regime.

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12 Federal Power Act, 16 U.S.C. § 825o-1(b); *Civ. Monetary Penalty Inflation Adjustments*, 190 FERC ¶ 61,006 (2025).

13 NERC, Project 2026-02 Computational Loads, available at https://www.nerc.com/standards/reliability-standards-under-development/2026-02-computational-loads. NERC, Large Loads Action Plan, available at https://www.nerc.com/initiatives/large-loads-action-plan.

**If you have any questions regarding this client alert, please contact the following attorneys or the Willkie attorney with whom you regularly work.**


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