How DOE's Proposed Large Load Interconnection Process Could Unlock the Benefits of Load Flexibility

Considerations for Rulemaking

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On October 23, Department of Energy (DOE) Secretary Chris Wright issued a letter directing the Federal Energy Regulatory Commission (FERC) to consider an Advanced Notice of Proposed Rulemaking (DOE ANOPR) to establish rules for the interconnection of large electricity loads to the transmission system. DOE seeks to ensure that "all Americans and domestic industries have access to affordable, reliable, and secure electricity."[1] Unlike FERC's primary and longstanding role regulating generator interconnection to the transmission system, FERC has not asserted jurisdiction over load interconnections to date. The DOE ANOPR will therefore set off intense debate on the legal basis for FERC's jurisdiction over large load interconnections in addition to its substantive proposals.

This policy brief focuses on one aspect of the DOE ANOPR that is critical to delivering on its objectives: large load flexibility commitments. As used here, a *large load flexibility commitment* is the commitment by a load to cease drawing energy at the direction of the relevant system operator on terms specified in advance. Large load flexibility can be enabled

1 Department of Energy, Letter to the Federal Energy Regulatory Commission (Oct. 23, 2025), https://www.energy.gov/sites/default/files/2025-10/403%20Large%20Loads%20Letter.pdf. (DOE Letter).

both by curtailment and, for hybrid facilities, the use of co-located or adjacent electricity supply.[2]

DOE Secretary Wright issued the DOE ANOPR under Section 403 of the DOE Organization Act, which authorizes the Secretary of Energy to propose rules for consideration and final action by FERC.[3] Here, DOE has issued an *Advanced* Notice of Proposed Rulemaking, an optional step in the regulatory process in which an agency outlines general concepts and solicits public input on scoping and structural matters that can form the basis of a more concrete and specific Notice of Proposed Rulemaking. As such, the DOE ANOPR includes a short legal defense of FERC's jurisdiction over large load interconnection, and presents 14 principles to guide FERC's rulemaking.

While many of the principles reference or implicate flexibility through curtailment or use of dispatchable hybrid resources, the DOE ANOPR's seventh principle addresses it directly, recommending that "the interconnection study of large loads that agree to be curtailable and hybrid facilities that agree to be curtailable and dispatchable … should be expedited."[4] In this brief statement, DOE has opened the door to a powerful concept. As several analysts have noted, rules that enable large loads to curtail their consumption of energy from the grid at key times can unlock important benefits, from faster interconnection times to avoided infrastructure and, therefore, lower rates.[5]

But while DOE has opened the door to the concept of load flexibility (including through both load curtailments and dispatchable hybrid facilities), the details of its implementation are far from certain. The DOE ANOPR provides little guidance on how its seventh principle could be executed. Significant further development of this principle will be required by FERC and transmission providers to realize the benefit that load flexibility promises.

This brief describes the open questions that FERC and participants in its rulemaking process must confront to achieve the benefits of large load flexibility. First, we describe the concept of a *large load flexibility commitment*. To enable adoption, large load flexibility commitments

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2 *Curtailment* may involve total or partial reduction or transfer of loads to remotely located facilities. *Co-located* or *adjacent* supply may be owned and operated by the large load customer or contracted for with a third party.

3 42 U.S.C. § 7173.

4 DOE Letter (2025).

5 Norris, T. H., T. Profeta, D. Patino-Echeverri, and A. Cowie-Haskell. *Rethinking Load Growth: Assessing the Potential for Integration of Large Flexible Loads in US Power Systems*. Report NI R 25-01. Nicholas Institute for Energy, Environment & Sustainability, 2025. https://nicholasinstitute.duke.edu/publications/rethinking-load-growth; Cox, C., A. Schwartz, and D. Stenclik. *Bringing Data Center Flexibility into Resource Adequacy Planning: A Case Study of NV Energy*. GridLab, Telos Energy, 2025. https://gridlab.org/portfolio-item/data-center-flexibility-nv-energy-case-study-report/; EPRI. *Powering Data Centers: U.S. Energy System and Emissions Impacts of Growing Loads*. EPRI, 2024. https://www.epri.com/research/products/000000003002031198; Kirchstetter, T. W., S. J. Smith, A. Shehabi, and D. Sartor. *DOE Data Center Load Flexibility Workshop Summary*. Lawrence Berkeley National Laboratory, 2025. https://eta-publications.lbl.gov/sites/default/files/2025-03/final_doe_data_center_load_flexibility_workshop_summary.v0307.pdf.

should be structured as transactions with clearly defined terms.[6] Both the interconnecting load and the system operator must understand exactly what their commitment entails. Within the right regulatory paradigm, large load flexibility commitments can achieve three key benefits: (1) faster interconnection times for large loads, (2) avoided or deferred transmission investments, and (3) avoided generation capacity investments, and/or near-term reliability and affordability for all customers as supply catches up with rising demand.

Next, this brief explains the questions FERC would have to address to ensure that flexibility commitments by large transmission-connected loads deliver on their promise. To achieve the full set of benefits large load flexibility can enable, FERC will need to evaluate rules that:

1. Enable large load flexibility commitments to avoid or defer transmission upgrades
2. Enable large load flexibility commitments to reduce capacity procurements
3. Enable flexible large loads to obtain non-firm withdrawal and, as applicable, injection rights
4. Clarify study timelines, queue priority, and interconnection process for large load customers, as well as load-supply hybrid facilities and pairings

Roselle LLP and former FERC Commissioner Allison Clements have been investigating the concept of large load flexibility commitments as part of the Advanced Load Integration for Grid Needs (ALIGN) initiative, a joint initiative with Duke University's Nicholas Institute for Energy, Environment & Sustainability; the GRACE Lab within Duke's Nicholas School of the Environment; the Center for the New Energy Economy at Colorado State University; and the Georgetown Climate Center at Georgetown University. This examination is informed by policy research and analysis, as well as a series of interviews with developers of large load resources, energy supply resources that serve these large loads, and industry experts.

WHAT ARE LARGE LOAD FLEXIBILITY COMMITMENTS?

Large load flexibility commitments can be defined as commitments by a load to cease drawing energy from the grid in whole or in part (through curtailment or use of co-located or adjacent supply) at the direction of the relevant system operator on terms specified in advance. Large load flexibility commitments can be designed to provide resource adequacy benefits, transmission system benefits, distribution system benefits, or all three at once. (In cases contemplated by the DOE ANOPR where a large load connects directly to the transmission system, only resource adequacy and transmission system benefits are relevant.)

Large loads can reduce their grid demand through three technical approaches.

6 The structured, transactional approach to flexibility described in this brief contrasts with emergency curtailment provisions such as those contained in Texas's SB 6, which authorizes ERCOT to remotely curtail or disconnect large load customers only during a declared energy emergency. See *Tex. Util. Code* § 39.170, https://statutes.capitol.texas.gov/Docs/UT/htm/UT.39.htm#39.170.

1. First, loads can reduce energy consumption—although to varying degrees depending on ownership model and activity type.[7] Data centers can modulate compute-related consumption by scaling down computing power for tasks that are less performance-sensitive (including some artificial intelligence [AI] training tasks), postponing tasks that are less time-sensitive, or shifting sites of tasks that are less location-sensitive (like financial transactions or emergency services).[8] They may also be able to reduce consumption in certain circumstances by modulating cooling system use, which makes up a significant portion of the electricity used in a conventional data center.[9] However, for most data centers seeking to interconnect today, the opportunity cost of reducing electricity consumption by curtailing operations is so high that they would agree to it only if doing so were the sole path to interconnecting on a timely basis.[10, 11] One exception is cryptocurrency operations, which have a lower value of lost load than other data centers applications.[12]
2. Second, data centers can switch their power supply to backup (most commonly, though not necessarily, diesel-powered) generators to reduce or eliminate the data center's demand from the grid. However, most data centers would be reluctant to base a large load flexibility commitment in reliance on backup generation. Backup generation is designed for use in emergencies, not to run for long periods of time.

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7 For example, data centers owned and operated by their users may have greater ability to facilitate flexible consumption than data center leased by owners to one or multiple users (EPRI 2025).

8 Some companies are already offering services to help data centers curtail along these lines, including EmeraldAI (advertising the ability to provide load flexibility through temporal AI flexibility, spatial AI flexibility, and resource flexibility) and Verrus ("Our electrical system architecture and energy management system allow us to deliver continuous power when needed and more elastic power for flexible AI training models and other forms of batch computing").

9 EPRI. *Grid Flexibility Needs and Data Center Characteristics*. EPRI, 2025. https://www.epri.com/research/programs/063638/results/3002031504.

10 Luminary Strategies. "Powering AI with Flexible Energy." LinkedIn Article. April 2, 2025. https://www.linkedin.com/pulse/dont-take-tablecloth-you-four-types-flexibility-n5ybe/; Spry, G. "Why the Grid Can't Afford a GPU: The Economic Delta Behind Data Center Dispatch Decisions." LinkedIn Article. April 25, 2025. https://www.linkedin.com/pulse/why-grid-cant-afford-gpu-economic-delta-behind-data-center-glen-spry-eybee/; US DOE Secretary of Energy Advisory Board. *Recommendations on Powering Artificial Intelligence and Data Center Infrastructure*. US Department of Energy, 2024. https://www.energy.gov/sites/default/files/2024-08/Powering%20AI%20and%20Data%20Center%20Infrastructure%20Recommendations%20July%202024.pdf;

11 Luminary Strategies suggests that AI data centers' value of lost load could be roughly $250,000/MWh, compared to $20,000/MWh for large industrials, $10,000/MWh for midsized commercial and industrials; and $5,000/MWh for residential customers. Spry suggests that the value of compute commonly exceeds $750 to $2000/MWh, while compensation for grid services might range from $155 to $340/MWh. The DOE Secretary of Energy Advisory Board notes that, despite the technical possibility of temporal and spatial computational flexibility, the authors were unable to identify any examples of grid-aware flexible operation at data centers in response to economic incentives.

12 Sward, J., L. Shwisberg, K. Stephan, and J. Becker. *Get a Load of This: Regulatory Solutions to Enable Better Forecasting of Large Loads*. RMI, 2025. https://rmi.org/insight/get-a-load-of-this/.

Further, frequent use of backup diesel generation may cause an exceedance of air permit requirements, create community health impacts, and generate noise complaints.[13] As such, while the availability of backup generation adds a limited measure of flexibility, in many cases, and especially as data center load growth scales significantly, backup generation on its own will be insufficient to provide significant capacity, transmission, or distribution value through a flexibility commitment.

3. Third, large load flexibility commitments can be realized using co-located or adjacent energy supply resources, including utility-scale generation, storage, distributed energy resources, or a combination thereof.[14] *Energy parks* can integrate load and supply in a single campus.[15] Energy supply resources may also be located adjacent to (but not behind the meter of) load, integrating with load to provide joint value (reducing net capacity market impacts for the combined load-supply pair and, largely, the transmission impact), but otherwise operating independently.[16] Data center developers have indicated that these types of arrangements are often more commercially workable than the fully-integrated energy park model. Unlike energy parks, they do not require load and supply project development to be as tightly coordinated, restrict direct retail sales of electricity to the data center (often limited to the monopoly franchise), or necessitate the two facilities to be on the same or adjoining parcels (often a requirement of self-supply within an energy park). Further, the commercial relationship between load and supply can be arranged later in the development process, after site ownership and permits have been acquired. Importantly, when co-located or adjacent electricity supply resources are considered as part of a large load's flexibility profile, the services available from the combined facilities may vary over time.[17]

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13 Pampaloni, H. "Heat Wave Prompts Increased Data Center Generator Use; Turner Pushes for Tier 4 Upgrades." News. *Loudoun Now* (Leesburg, VA), July 16, 2025. https://www.loudounnow.com/news/heat-wave-prompts-increased-data-center-generator-use-turner-pushes-for-tier-4-upgrades/article_60a48bda-dc50-4d1a-8b16-399cd4340350.html.

14 Khaldi, M. "Voltus Launches 'Bring Your Own Capacity' Product to Support Data Center Growth and Grid Resiliency." *Voltus* (San Francisco), September 30, 2025. https://www.voltus.co/press/bring-your-own-capacity-data-centers.

15 Gimon, E., M. Ahlstrom, and M. O'Boyle. *Energy Parks: A New Strategy to Meet Rising Electricity Demand*. Energy Innovation Policy & Technology, 2024. https://energyinnovation.org/wp-content/uploads/Energy-Parks-Report.pdf.

16 Levitt, A., J. Pfeifenberger, A. Mohan, S. Patel, and A. Yan. *Proposed Options for Bilateral Integration of Generation Portfolios and Load (BIGPAL)*. Eolian, 2025. https://www.pjm.com/-/media/DotCom/committees-groups/cifp-lla/2025/20251014/20251014-item-03b---eolian-brattle-proposed-options.pdf.

17 For some data centers, for example, it is typical to develop based on a power ramping schedule. A data center's customers may initially need a certain level of compute, but want assurance that the data center can expand service over time at that same location. This sort of modular, ramping schedule is less typical of generation development. Thus, it is possible that a load-supply pair may initially be capable of injecting more grid services, then have fewer excess services available for the system as data center load ramps up.

HOW CAN LARGE LOAD FLEXIBILITY COMMITMENTS BE USED TO ADDRESS CURRENT CHALLENGES?

The current system for interconnecting large loads has left all sides frustrated. Data centers are struggling to connect to the grid as overwhelmed load interconnection processes slow to a crawl.[18, 19] Utilities and regional grid operators face scrutiny from regulators as existing processes prove unable either to tame fast-growing grid upgrade costs or to bring new supply online fast enough to meet demand. Meanwhile, the median generation project now takes roughly five years to enter commercial operation from the time it submits an interconnection request.[20] In addition, uncertainty about the extent of growing demand from large load customers could increase risk that transmission providers will build stranded assets. The result of these forces has been that rates are rising—including both rates for large load customers seeking grid interconnection and rates for existing customers, large and small. At the same time, the potential inability of new supply to keep pace with demand growth has raised the specter of resource adequacy shortfalls and rolling outages.[21]

Under the right regulatory framework, large load flexibility commitments are a policy tool that can ease all aspects of this problem: faster interconnection times for large loads, lower infrastructure costs, and mitigation of reliability impacts. Table 1 summarizes three types of large load flexibility commitments and the benefits that flow from each.

18 St. John, J. "One Way Data Centers Can Help the Grid? By Being Flexible." *Canary Media*, February 27, 2025. https://www.canarymedia.com/articles/utilities/one-way-data-centers-can-help-the-grid-by-being-flexible; Kleckner, T. "Large Loads Slow to Interconnect in ERCOT." *RTO Insider*, October 26, 2025. https://www.rtoinsider.com/118099-ercot-stakeholders-talk-large-loads/.

19 St. John reports that, according to one utility executive, the backlog for connecting large data centers to the grid is now at least five years. Kleckner notes that, of the 130 GW of large load interconnection requests in ERCOT over the past 10 months, "only about 6.5 GW have been energized or approved for energization, with an additional 4.7 GW being studied."

20 Rand, J., N. Manderlink, W. Gorman, et al. *Queued Up: 2024 Edition—Characteristics of Power Plants Seeking Transmission Interconnection As of the End of 2023*. Lawrence Berkeley National Laboratory, 2024. https://emp.lbl.gov/sites/default/files/2024-04/Queued%20Up%202024%20Edition_R2.pdf.

21 "Absent decisive intervention, the Nation's power grid will be unable to meet projected demand for manufacturing, re-industrialization, and data centers driving artificial intelligence (AI) innovation." [DOE. *Resource Adequacy Report: Evaluating the Reliability and Security of the United States Electric Grid*. US Department of Energy, 2025. https://www.energy.gov/sites/default/files/2025-07/DOE%20Final%20EO%20Report%20%28FINAL%20JULY%207%29.pdf.]

Table 1. Types of Large Load Flexibility Commitments

Flexibility Commitment Type	Operational Pathway	Potential Benefit to Large Load	Potential Benefit to System
Transmission	Load makes flexibility commitment to transmission provider scaled to avoid, minimize, or defer transmission system upgrades.	• Faster interconnection from avoiding or deferring transmission upgrades. • Reduced transmission charges. • Reduced minimum billing and financial security.	• Lower risk of stranded transmission assets. • Less potential for cost-shifting from large load to other loads. • Increased utilization of transmission system puts downward pressure on rates.
Distribution*	Load makes flexibility commitment to the distribution utility scaled to avoid, minimize, or defer distribution system upgrades.	• Faster interconnection from avoiding or deferring distribution upgrades. • Reduced minimum billing and financial security.	• Lower risk of stranded distribution assets. • Increased utilization of distribution system leads to downward pressure on rates.
Capacity	Load makes flexibility commitment to balancing authority. Scale of flex commitment determine s the scale of the reduction in capacity obligation.	• Faster interconnection in circumstances where load serving entity must secure additional generation resources before interconnecting new large loads. • Reduced capacity/demand charges.	• Load flexibility reduces capacity procurement and/or adds capacity, and therefore lowers capacity price and mitigated risk of rolling blackouts. • Lower risk of stranded generation assets. • Ability to meet reliability requirement.

** Out of scope for FERC's implementation of the DOE ANOPR.*

Each type of commitment could be structured as a *bridge* commitment—used on a short-term basis as capacity supply and network infrastructure are built and integrated into the system to serve large loads—or as a *permanent* commitment. Both can provide value to customers: bridge flexibility can accelerate site energization, defer major upgrades, and help ensure affordability and reliability in the near-term, while permanent flexibility supports enduring grid optimization.

The potential benefits of large load flexibility are profound. In *Rethinking Load Growth: Assessing the Potential for Integration of Large Flexible Loads in US Power Systems*, researchers at Duke University's Nicholas Institute for Energy, Environment and Sustainability and Nicholas School of the Environment estimated that "76 GW of new load—equivalent to 10% of the nation's current aggregate peak demand—could be integrated with

an average annual load curtailment rate of 0.25%".[22] Thus, at even very low rates of curtailment, large load flexibility could allow new load to expand significantly without an expansion of the existing US power system.

Existing regulatory frameworks have not allowed these benefits to be realized. While the concept of using load flexibility to support resource adequacy is relatively mature, it has not been leveraged for this context.[23, 24] For more than a decade, FERC has required RTO/ISOs[25] to offer demand response market participation rules.[26] However, the capacity benefits of flexibility commitments have not been integrated into load interconnection processes. A recent joint proposal made during a PJM Interconnection stakeholder process by four states and the Data Center Coalition provides for "expedited load interconnection timelines in exchange for matching their load with generation." [27] But to date, while several states have initiated relevant proceedings, there are no apparent state laws or regulations that implement such a framework. Thus, under the current regulatory paradigm, large load customers cannot yet receive a speed-to-power benefit in exchange for making a flexibility commitment that creates a resource adequacy benefit.

Using load flexibility commitments to avoid or defer transmission or distribution investments is not new either, though it has received less attention than using flexibility to achieve resource adequacy. For example, Con Edison prominently leveraged a portfolio of demand-side resources, including demand flexibility, to defer a major substation upgrade through its Brooklyn-Queens Demand Management project.[28] But transmission service frameworks do not yet exist to allow for load flexibility to avoid network upgrades. Network Integration Transmission Service at the wholesale level is noninterruptible under FERC's

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22 Norris et al. (2025), *Rethinking Load Growth: Assessing the Potential for Integration of Large Flexible Loads in US Power Systems*.

23 DOE. *Recommendations on Powering Artificial Intelligence and Data Center Infrastructure*. US Department of Energy, 2024. https://www.energy.gov/sites/default/files/2024-08/Powering%20AI%20and%20Data%20Center%20Infrastructure%20Recommendations%20July%202024.pdf.

24 This report notes that, despite the technical possibility of temporal and spatial computational flexibility, the authors were unable to identify any examples of grid-aware flexible operation at data centers in response to economic incentives.

25 Regional transmission organizations/independent system operators.

26 *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719, 125 FERC ¶ 61,071 (2008), https://www.ferc.gov/media/order-no-719; *Demand Response Compensation in Organized Wholesale Energy Markets*, Order No. 745, 134 FERC ¶ 61,187 (2011), https://www.ferc.gov/sites/default/files/2020-06/Order-745.pdf.

27 DCC, Maryland, New Jersey, Commonwealth of Pennsylvania, and Commonwealth of Virginia. "Joint Proposal For CIFP LLA Voluntary, Limited Large Customer Bring Your Own Generation Pathway." 2025. https://drive.google.com/file/d/19gvf80CJnVSEgr-fgsz4IbulHda3ZkzS/view.

28 Girouard, C. "BQDM Program Demonstrates Benefits of Non-Traditional Utility Investments." *UtilityDive*, March 11, 2019. https://www.utilitydive.com/news/bqdm-program-demonstrates-benefits-of-non-traditional-utility-investments/550110/.

pro forma tariff.[29] And, while non-firm point-to-point service does exist, there is no non-firm network option for a load to access and draw upon the full network during times it is not curtailed.

Nor do utilities studying large load interconnection generally provide a pathway through which a curtailable customer can be studied to avoid network upgrades. Utilities generally do not provide a transparent accounting of the study assumptions used in the load interconnection process, but data center developers have noted that the common approach among utilities is to assume that load may draw its non-coincident peak at any time. This means that, under the current framework, load cannot easily make flexibility commitments that avoid the need for costly and time-consuming network upgrades. The principles announced in the DOE ANOPR, if developed and implemented in a robust and workable manner, create an opportunity to address these shortcomings of the current framework.[30]

LARGE LOAD FLEXIBILITY COMMITMENTS: ISSUES TO ADDRESS IN THE FORTHCOMING RULEMAKING

The DOE ANOPR states as its seventh principle that "the interconnection study of large loads that agree to be curtailable and hybrid facilities that agree to be curtailable and dispatchable should be expedited." With respect to the enforcement of these commitments, it states that the "system operator's ability to control such facilities through curtailment and/or dispatch must be sufficient for the system operator to integrate the facility into *both operations and system planning*."[31] Apart from these statements, the DOE ANOPR leaves to FERC the task of creating a policy framework that realizes the benefits of load flexibility. To achieve those benefits, FERC would need to develop rules that:

1. Enable large load flexibility commitments to avoid or defer transmission upgrades
2. Enable large load flexibility commitments to reduce capacity procurements
3. Enable flexible large loads to access non-firm withdrawal and, as applicable, injection rights
4. Clarify study timelines, queue priority, and interconnection process for large load customers, as well as load-supply hybrid facilities and pairings

Enable Large Load Flexibility Commitments to Avoid or Defer Transmission Upgrades

The DOE ANOPR does not state explicitly that load flexibility commitments should result in avoided or deferred network upgrades, only that such commitments should result in

29 *Pro Forma Open Access Transmission Tariff*, § 28.3 (2008), https://www.ferc.gov/sites/default/files/2020-06/Order-745.pdf. ("The Transmission Provider will provide firm transmission service over its Transmission System to the Network Customer for the delivery of capacity and energy from its designated Network Resources to service its Network Loads.")

30 State regulators could institute complementary reforms to address large load interconnections within their own sphere of jurisdiction.

31 DOE Letter (2025) at P 24 (emphasis added).

expedited studies. But the DOE ANOPR's statement that the system operator's control over load curtailment "must be sufficient for the system operator to integrate the facility into *both operations and system planning*" strongly suggests that they should.[32] Moreover, network upgrades frequently add years to the interconnection process and complicate interconnection studies (especially interactions among disparate requests). Thus, the DOE ANOPR's goal of facilitating timely interconnection counsels for allowing flexibility commitments to avoid or defer network upgrades.

To achieve that result, FERC would need to (1) provide clear expectations around the terms of the large load flexibility commitments and (2) require large load flexibility commitments to be incorporated into load and hybrid interconnection studies.

1. First, FERC would require transmission providers to set clear rules governing large load flexibility commitments: under what system conditions would the load be curtailed or the hybrid generator be deployed, with how much notice, and whether the system operator's right to flexibility would be subject to aggregate limits (such as MWh curtailed per year). Our interviews revealed that data center developers, who often need to arrange hundreds of millions or billions of dollars in financing, would be far more likely to take up a flexibility commitment if the terms of the commitment were detailed in advance.[33]
2. Further, studies for loads and hybrids interconnecting to the transmission system—which today largely occur under the auspices of state regulation[34]—would need to incorporate large load flexibility commitments. As explained previously, when modeling loads in current interconnection and transmission planning processes, utilities typically assume that an interconnecting load could draw its full peak demand at any time. While FERC has often been reluctant to impose detailed requirements on utility study assumptions, here no detailed prescription is

32 *Id.*

33 We note that not all transmission upgrades for integrating a large load can be avoided through flexibility commitments. The transmission network needs to be robustly stable to a variety of sometimes esoteric contingencies, and in certain cases may require traditional network upgrades to mitigate reliability issues.

34 There are some limited exceptions to state jurisdiction over load interconnection in the current framework. For example, Southwest Power Pool (SPP) evaluates transmission customers' requests to add, modify, or abandon delivery point facilities. See, e.g., *SPP, Tariff, Part II,* § 17.9 (0.0.0); Part III, §31.2 (1.0.0); Attachment AQ Section 1 (1.0.0).

required.[35] FERC need only require that the study reflect the flexibility commitment that the interconnecting load has made.[36]

Finally, if this approach is pursued, FERC should consider whether an enforcement framework is needed. How will transmission providers ensure that large load customers abide by the commitments made in the interconnection process?

Enable Large Load Flexibility Commitments to Reduce Capacity Procurements

Many regions of the United States are experiencing dramatic spikes in capacity procurement costs stemming from expectations of large volumes of inflexible data center demand.[37] At the same time, large load interconnections are often delayed for years as the local utility seeks to procure capacity to support the new demand. To address this issue, FERC could consider market rules that enable large load flexibility commitments to reduce capacity procurements.

There are multiple ways to effectuate this goal, and it is not clear FERC need choose among them. For one, a new flexible load could simply be considered "non-capacity backed" and therefore require no capacity procurement at all—along the lines of a recently withdrawn proposal advanced by PJM in its Critical Issue Fast Path process.38 Alternatively, the flexibility commitment could itself receive a capacity accreditation that negates some or all of the required capacity procurement. In that vein, a recent paper by GridLab analyzing the NV Energy system found that the commitment of a 1 GW load to curtail at an annual rate of

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35 FERC has, however, exhibited some willingness to impose study assumption requirements in recent years. See *Improvements to Generator Interconnection Procedures and Agreements*, Order No. 2023, 184 FERC ¶ 61,014 (2023), P 1509, https://www.federalregister.gov/documents/2023/09/06/2023-16628/improvements-to-generator-interconnection-procedures-and-agreements, (requiring transmission providers, at the request of the interconnection customer, to use operating assumptions in interconnection studies that reflect the proposed charging behavior of electric storage resources).

36 SPP is currently considering the development of a non-firm transmission service offering, which may provide for a study process that allows flexibility commitments to be reflected, depending on how SPP's proposal develops. [SPP. "Markets and Operations Policy Committee Meeting Materials." Southwest Power Pool, October 15, 2025. https://www.spp.org/Documents/74946/MOPC%20Materials%20Zip%20File_G.zip.]

37 The most recent results of PJM's Base Residual Auction cleared at the maximum price of $329.17/MW-day, up from $269.92/MW-day in most of the PJM footprint the year before and $28.92/MW-day the year before that. Similarly, MISO's most recent Planning Resource Auction yielded prices over $200/MW-day on an annualized basis and reached $666.50/MW-day for the summer across all regions—more than 22 times higher than prices the previous year. [Howland, E. "PJM Capacity Prices Set Another Record with 22% Jump." *UtilityDive*, July 23, 2025. https://www.utilitydive.com/news/pjm-interconnection-capacity-auction-prices/753798/; Howland, E. "MISO Summer Capacity Prices Jump to $666.50/MW-Day as Power Supplies Shrink." *UtilityDive*, April 29, 2025. https://www.utilitydive.com/news/miso-capacity-auction/746576/.]

38 Leith-Yessian, S. "PJM Drops Non-Capacity Backed Load, Shifts Focus to Resource Queue, PRD." *RTO Insider*, October 9, 2025. https://www.rtoinsider.com/116845-pjm-drops-non-capacity-back-load/.

0.3% would yield an effective load carrying capacity of 862 MW, an 86% reduction in needed capacity.[39]

Once again, clear rules about the terms of the flexibility commitment would be essential. To that end, FERC would need to make clear that the interconnecting load's flexibility commitment to the transmission provider to avoid network upgrades is independent from its curtailment commitment to the balancing authority to avoid the need for capacity procurement. Direction to curtail for the purpose of avoiding exceedances on the transmission system may not always coincide with direction to curtail in response to a resource adequacy shortfall. But where the transmission provider and the balancing authority are the same entity, as is the case in much of the country, these two flexibility commitments could be rationalized into a single contractual or tariff framework.

Enable Flexible Large Loads to Obtain Non-Firm Withdrawal and, as Applicable, Injection Rights

The DOE ANOPR takes a major step forward by proposing that "load and hybrid facilities should be studied together with generating facilities."[40] For co-located or adjacent supply resources, this approach could improve the efficiency of the generation interconnection process and avoid unnecessary network upgrades.[41, 42] The DOE ANOPR proposes that "hybrid facilities should be studied based on the amount of injection and/or withdrawal rights requested. For example, a hybrid facility consisting of a 500 MW load and a 600 MW generating facility may seek no withdrawal rights and 100 MW of injection rights."[43] In addition, the DOE ANOPR provides that "large loads, including those at hybrid facilities, should be responsible for transmission service based on their withdrawal rights."[44] Together, these provisions allow for a more efficient study process for co-located loads than many transmission providers have at present.[45]

Much of this joint study approach's potential would be lost, however, if hybrid resources cannot obtain withdrawal or injection rights on a non-firm basis. On the withdrawal rights side, data center operators overwhelmingly want access to service from the grid, even when

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39 Cox et al. (2025), *Bringing Data Center Flexibility into Resource Adequacy Planning: A Case Study of NV Energy*.

40 DOE Letter (2025) at P 20.

41 Levitt et al. (2025), *Proposed Options for Bilateral Integration of Generation Portfolios and Load (BIGPAL)*.

42 Levitt et al. (2025) detail how an energy park "can be connected to the grid with fewer transmission upgrades (and thus more quickly) when it is studied as an integrated unit."

43 DOE Letter (2025) at P 22.

44 *Id.* at P 28.

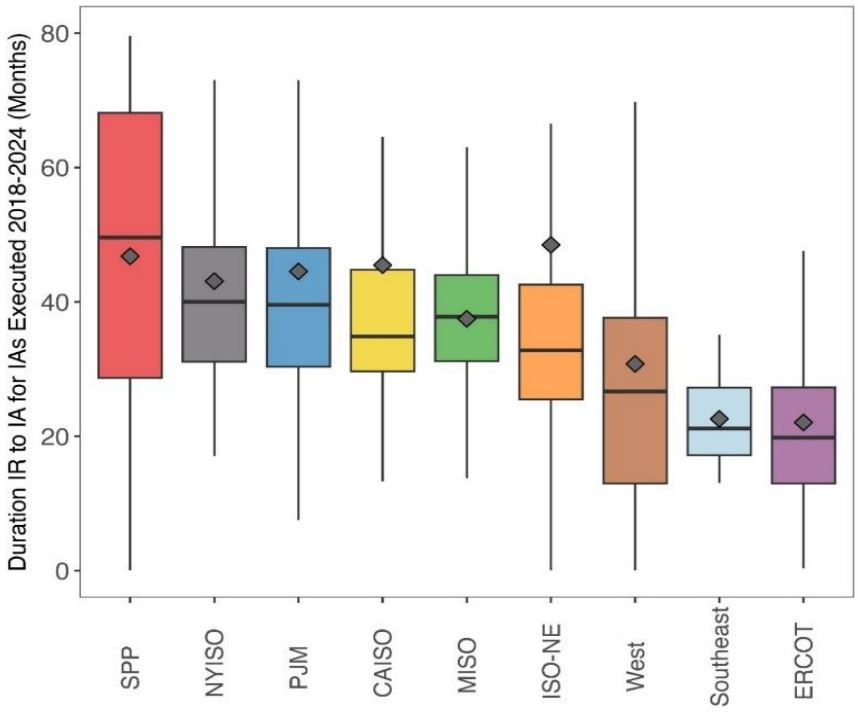
45 PJM's process, for example, is currently "not set up to coordinate outcomes for the separate components of a hybrid facility they study, thus obstructing the ability of any process to study the injections and withdrawals levels on the lower net basis (which relies on successful integration outcomes for all processes), rather than on the gross" (Levitt et al. 2025).

they have co-located or adjacent supply resources. That is because any generation or storage resource has periodic outages for maintenance or refueling (in the case of nuclear facilities). Any generation resource also carries the risk of unforced outages due to mechanical failure or supply chain disruptions. In either scenario, outages at a co-located or adjacent resource could easily extend beyond what backup generation could sustain. To enable large load customers to mitigate these risks, FERC could require transmission providers to offer non-firm withdrawal rights. If the consequence of entering the joint study process outlined in the DOE ANOPR is no withdrawal rights whatsoever above the prespecified net withdrawal amount for a hybrid facility, many large loads will be reluctant to take full advantage of that process. Similarly, rules should accommodate the right of co-located or adjacent storage resources to charge off-peak without triggering the need for network upgrades.

On the injection rights side, value would also be lost if generation resources included in hybrid loads are prevented from injecting to the grid on a non-firm basis. Many grid operators require deliverability studies for a resource to receive injection rights. However, because the load takes the deliverability risk in a hybrid scenario, deliverability analysis should not be a prerequisite to interconnecting these resources in manner that allows them to inject energy to the grid on a non-firm basis. Studying hybrid resources in a manner that omits the deliverability study can greatly streamline the interconnection process, akin to ERCOT's connect-and-manage approach.[46] ERCOT has demonstrated the value of this approach by achieving substantially faster interconnection times than other regions, as the data from Lawrence Berkeley National Laboratory in Figure 1 demonstrates:

46 Levitt et al. (2025), *Proposed Options for Bilateral Integration of Generation Portfolios and Load (BIGPAL)*.

Figure 1. Duration from interconnection request to interconnection agreement (2018–2024), by region[47]



Allowing non-firm injections will increase supply in wholesale energy markets. This will lower wholesale energy prices, mitigating the growing concerns that scenarios of rapid growth in large loads will drive unaffordable increases in energy prices as well as capacity prices.

Such a study approach can be used not only for co-located energy park facilities, but also for load and supply resources that are nearby (i.e., adjacent) even if not behind the same meter.[48, 49] The DOE ANOPR appears to recognize this, providing for integrated study of load and supply not only for integrated hybrid facilities, but also covering supply located *near* load.[50]

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47 *Source:* Rand et al. (2024), *Queued Up: 2024 Edition—Characteristics of Power Plants Seeking Transmission Interconnection As of the End of 2023.*

48 Levitt et al. (2025), *Proposed Options for Bilateral Integration of Generation Portfolios and Load (BIGPAL).*

49 Levitt et al. note that in defining "adjacent" supply, such an approach could draw from the definition in SPP's recently proposed High Impact Large Load—Generation Assessment, which allows for generation located within two substations of the relevant load).

50 DOE Letter (2025) at P 24. ("To the extent practicable, load and hybrid facilities should be studied together with generating facilities. Such an approach will allow for efficient siting of loads and

Further, it is important to recognize that various facility configurations are possible. For example, a large load may seek rights to draw its full capacity during most hours of the year, pairing with the supply resource only during critical hours when the system is stressed. Such an approach could provide that the load has no net resource adequacy impact on the system, thereby delivering reliability and affordability benefits to customers even if it has similar needs to a nonpaired load for transmission service.[51]

More broadly, FERC could consider requiring transmission providers to offer non-firm network transmission service. Such an offering would allow a greater array of hybrid facility and adjacent load-supply arrangements to facilitate additional speed-to-power benefits, perhaps using technical approaches and business models we cannot currently foresee. As more load connects to the system and load interconnection studies more frequently identify network upgrades, such service arrangements could be valuable tools in providing speed-to-power.

Clarify Study Timelines and Queue Priority

The DOE ANOPR's proposal to expedite the study process for curtailable loads will need further clarification. Unlike FERC-jurisdictional generator interconnection, load interconnection processes generally do not currently follow a formal interconnection queue process written into tariffs. Many states have adopted or are considering this type of tariff reform.[52] Yet there is no single leading model that FERC and the transmission providers it regulates could readily adopt. Thus, the FERC rulemaking would likely first need to create rules around the queuing of load interconnections and then provide for flexible loads to be expedited within that process. In doing so, FERC would need to resolve questions about what level of flexibility commitment triggers prioritization and whether expedited studies

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generating facilities and thereby minimize the need for costly network upgrades. For example, siting a large load near or at the same point of interconnection as a new generating facility could reduce the network upgrades needed to interconnect only the load or only the generating facility.")

In implementing DOE's directive to study load and hybrid facilities together with generating facilities, FERC should consider how transmission providers should define "near" or "adjacent" facilities to be studied together. SPP's High Impact Large Load—Generation Assessment proposal provides one model for doing so.

51 Levitt et al. (2025), *Proposed Options for Bilateral Integration of Generation Portfolios and Load (BIGPAL)*.

52 For example: New Jersey's *An Act Requiring the Board of Public Utilities to Study the Effects of Data Centers on Electricity Costs in the State*, (2025), https://pub.njleg.gov/Bills/2024/AL25/98_.HTM, requiring the Board of Public Utilities to assess "various policy alternatives, including use of a special tariff to be applied to data centers within the State."; State of North Carolina Utilities Commission, Order Initiating Proceeding and Requesting Comments, Docket No. E-100, Sub 208, at App. A PP 5-7 (June 6, 2025) (requesting comment on the need for and substance of a potential new tariff for large load customers); Pennsylvania Public Utility Commission, En Banc Hearing Concerning Interconnection and Tariffs for Large Load Customers, Directed Questions of Vice Chair Kimberly Barrow, Docket No. M-2025-3054271, at 1-2 (May 1, 2025) (directing comment on design of large load customer model tariff).

would be administered through a "serial interconnection study process or by some other means"—a question on which the DOE ANOPR requests comment.[53]

NEXT STEPS

FERC has docketed the DOE ANOPR (RM26-4) and requested an initial round of comments by November 14, 2025, and reply comments by November 28, 2025. Under Section 403 of the DOE Organization Act, FERC need not finalize a rule based on DOE's ANOPR.[54] Assuming it chooses to proceed, however, FERC's next step after reviewing comments on the DOE ANOPR would be to issue a notice of proposed rulemaking (NOPR), which also would be made available for comment. After reviewing comments on the NOPR, FERC would issue a final rule, which would include deadlines for transmission providers to submit compliance filings. Then, affected parties may request rehearing of the final rule. FERC would then respond to those rehearing requests in a rehearing order that could include changes to the original rule. Parties would then have the option to challenge FERC's rulemaking in court.

For past rulemakings of this breadth and novelty, the process described above would reliably take at least two years to complete, even before compliance filings are received or court cases are resolved. Moreover, FERC generally provides utilities with ample time to submit compliance filings and, once approved (which could take multiple rounds of review), to implement any necessary operational changes.

DOE's transmittal letter requested that FERC take final action by April 30, 2026. If "final action" means issuance of a final rule, it will be extremely difficult for FERC to meet the deadline while fully considering the breadth of issues raised. In any event, the potential for an expedited process makes it even more important for rulemaking participants to engage on the issues described above as concretely as possible.

53 DOE Letter (2025) at P 24.

54 42 U.S.C. § 7173.

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