Accelerating Speed to Power/Winning the Artificial Intelligence Race: Federal Action to Rapidly Expand Grid Capacity and Enable Electricity Demand Growth

REQUEST FOR INFORMATION

90 Fed. Reg. 45032 (Sept. 18, 2025)

Department of Energy
Grid Deployment Office

COMMENTS OF THE ELECTRICITY CONSUMERS RESOURCE COUNCIL (ELCON)

Submitted by:

ELECTRICITY CONSUMERS RESOURCE COUNCIL
700 12th Street, NW, Suite 700
Washington, DC 20005

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I. Introduction

The Electricity Consumers Resource Council ("ELCON") appreciates the opportunity to provide the following comments in response to the Department of Energy ("DOE") Grid Deployment Office's September 15, 2025 Request for Information ("RFI") on large-scale generation, transmission, and grid infrastructure projects that can accelerate speed to power to support manufacturing, industrial, and artificial intelligence/data center electricity demand growth. The DOE also seeks recommendations on how to best utilize its funding programs and authorities to rapidly expand energy generation and transmission grid capacity to meet electricity demand growth across the country in a reliable and affordable manner.

II. ELCON's Interest in the Proceeding

ELCON is the national association representing large industrial consumers of electricity. ELCON member companies create a wide range of products from virtually every segment of the industrial community. ELCON members own and operate hundreds of major facilities and are significant consumers of electricity in the footprints of all organized markets and other regions throughout the United States. Reliable electricity supply at just and reasonable rates is essential to our members' operations. As discussed below, ELCON members are one of the drivers of this demand growth as we expand our manufacturing operations in the U.S. and ensure our nation's economic and global leadership.

U.S. Manufacturers are projected to increase electricity demand by 36 gigawatts ("GW") in the next five years.[1] Over the next decade, the manufacturing sector is expected to need 3.8 million workers. This significant growth, though challenging in its energy demands, is vital to our nation's economic prosperity. Manufacturers

[1] Bruce Tsuchida, Long Lam, Peter Fox-Penner, "Electricity Demand Growth and Forecasting in a Time of Change," The Brattle Group (May 2024); https://www.brattle.com/wp-content/uploads/2024/05/Two-Pager__Electricity-Demand-Growth-and-Forecasting-in-a-Time-of-Change__May-2024.pdf.

contributed $2.90 trillion (at an annual rate) to the U.S. economy in the first quarter of 2025 and for every $1 spent, manufacturers add $2.64 to the overall economy.[2]

III. Comments

The Nation is poised to embrace massive economic growth as it focuses on reshoring its manufacturing, developing the technology and the critical components to bolster our domestic supply chain while simultaneously winning the race on advanced computing and artificial intelligence. Despite this tremendous momentum, one of the key impediments to realizing these ambitions is the ability to power this innovation without crippling its consumers with astronomical electricity rates. We risk failing to seize this opportunity, not from the lack of ingenuity or capability, but largely from the political and regulatory framework that has governed our electricity production and delivery over the last century. This framework has not kept up with the pace of technology and now stands as a key impediment to progress.

ELCON appreciates the DOE's leadership in identifying bottlenecks and soliciting solutions from industry. While ELCON does not have specific recommendations for projects or geographic regions to prioritize, there are several regulatory hurdles and suggested areas of reform. Critical to this effort is timing. There is a fundamental mismatch between the time necessary to develop and construct a manufacturing plant or a data center with procuring the energy service to power those operations. Where supply chains do exacerbate this issue, regulatory lag and uncertainty are often the cause of the delays in updating our grid to meet modern demand.

A. Load Growth Trends

The question regarding how much demand is coming, where, and when must be answered before tackling the larger issues of how we build and fund our power grid to

[2] National Association of Manufacturers, https://nam.org/mfgdata/facts-about-manufacturing-expanded/

meet this demand. Load forecasts and growth projections are widely variable and rife with speculation over double-counting projects and fears of underrepresentation of an actual tsunami of demand from hyperscalers. There is a real risk associated with inaccurate forecasts that could pose catastrophic consequences for the American public. If data center demand does not materialize or advances in manufacturing and computing technology require significantly less power, we risk overbuilding our electric system and leaving the American public to pay for it. If the reverse were to happen and we significantly underestimate the amount and speed of demand coming, we risk grid reliability issues and an inability to power progress and accelerate our Nation's economy.

The Federal Energy Regulatory Commission ("FERC") has begun investigating how large load forecasting is performed in the regional transmission organizations ("RTOs"), confidence in those forecasts, and the level of coordination with other regions.[3] In response, RTOs provided their processes for confirming load requests for service and how they intend to mitigate "double-counting" of facilities shopping multiple siting options. The RTO respondents agree that more work to enhance load forecasting accuracy is warranted.

The DOE could assist in forecasting efforts by providing its technical expertise and funding mechanisms to bolster forecasting practices. Possible initiatives could look into the use of artificial intelligence and other technologies to assist with analyzing multiple scenarios or creating heat maps of locations that identify areas of potential load pockets. As we attempt to reduce regulatory bottlenecks and invest our capital in expansion, we cannot disregard the size and intensity of what we are attempting to solve for. Without some level of confidence in our measurements, we risk an inadequate and misguided response.

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[3] FERC, Chairman Rosner's Letter to the RTOs/ISOs on Large Load Forecasting (Sept. 18, 2025), https://www.ferc.gov/news-events/news/chairman-rosners-letter-rtosisos-large-load-forecasting

B. Grid Infrastructure Constraints

The RFI rightfully notes an array of challenges to building energy projects across different pressure points, many of which can be mitigated through better regulatory constructs and innovative thinking. Although the processes and structures we put in place have served us reliably for decades, the pace of change has exceeded some of those antiquated principles. Through technology, users have more input and control over how they power their needs. Regulatory structures need to reflect this transition and provide flexibility that accommodates varying business models, usage patterns, and ownership structures that facilitate competitive markets and customer empowerment.

1. Siting and permitting

Challenges associated with siting and permitting energy infrastructure projects, especially across multiple jurisdictions, have existed for decades with policy reforms having little success in easing the years-long, bloated, bureaucratic process. Multi-state electric transmission projects requiring numerous federal and state approvals, a process that lacks coordination and transparency, remains an enormous obstacle to building our Nation's energy delivery system. Where local communities can stall and kill an energy project from being developed in their neighborhoods, such battles can be multiplied by several magnitudes for interstate transmission projects.

The rapid growth of extremely large energy users has elevated this issue and intensified the urgency of developing an optimized framework for reviewing and approving critical energy infrastructure whether on the supply or delivery side. The DOE, over several Administrations, has attempted to streamline and coordinate the electric transmission federal permitting process.[4] However, these programs and

[4] *See e.g.* Memorandum of Understanding Regarding Facilitating Federal Authorizations for Electric Transmission Facilities (May 2023), https://www.energy.gov/sites/default/files/2023-05/5-04-2023%20216h%20Transmission%20MOU.pdf; Interagency Rapid Response Team for Transmission, https://obamawhitehouse.archives.gov/administration/eop/ceq/initiatives/interagency-rapid-response-team-for-transmission, Coordinated Integrated Interagency Pre-Application Process,

processes have failed to produce tangible results, mostly due to litigation, political pushback, and a lack of participation.

ELCON recommends that the DOE build upon work already done in previous Administrations and revive efforts to coordinate and streamline federal permitting for energy infrastructure. Recently enacted reforms to the National Energy Policy Act ("NEPA") will potentially accelerate permit reviews and we encourage the DOE to work with other federal agencies in developing their NEPA processes. Large customers are actively engaged with Congress to help enact further permitting reform recognizing the importance of reducing barriers to unlocking our Nation's potential for energy production and service. ELCON encourages the DOE and federal and state regulators to work collaboratively to clarify jurisdictional boundaries and authorities, as these disagreements are the leading cause of inaction. We must continue to respect cooperative federalism and the duty to protect consumers. Any siting and permitting reforms must remain technology neutral and embrace an "all of the above" policy eliminating the government's role in picking winners and losers. Market fundamentals, rather than political influence, should determine the viability of energy supply and delivery solutions.

2. Financing and investment

The investment necessary to develop the energy infrastructure to support projected demand is sobering. Recently, the Southwest Power Pool ("SPP") announced its approval of an $8.6 billion portfolio of electric transmission infrastructure projects as the region's electricity demand "is expected to double over the next decade as economic growth and new demand from homes and businesses accelerate. Even under conservative assumptions, SPP forecasts a 35% increase in demand, making timely

https://www.energy.gov/gdo/coordinated-interagency-transmission-authorizations-and-permits-program.

transmission investment essential."[5] The Midcontinent Independent System Operator ("MISO") last year approved "the largest portfolio of transmission projects in the nation's history" at an estimated cost of $22 billion to support "a 765kv backbone" transmission line and add reliability projects across its entire 15-state footprint to "improve infrastructure and meet local load growth needs… ."[6] In the East, PJM Interconnection, L.L.C. ("PJM") began its review of proposals to develop $8 billion to $10 billion backbone transmission enhancements to address increased data center load across its footprint with "a heavier concentration in the northern Virginia area."[7]

The speed of the projected load growth adds further complexity and cost to this critical infrastructure development. A recent report by Grid Strategies states:

> We find that for every $1 billion investment in well-planned, large-scale transmission that is delayed, it costs consumers approximately **$150 million to $370 million** in lost net benefits for each year of delay, while also impeding job creation, slowing economic growth, and impacting national security.[8]

In addition, as generation and system upgrade costs are passed through rates, the financial obligation to secure new capacity falls directly on all ratepayers, forcing them to fund the infrastructure driven by massive new energy demands. These costs cannot be borne solely by consumers, violating the cost-causation/beneficiary pays principles.

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[5] Press Release, "SPP board advances regional transmission plan to keep pace with accelerating growth and ensure grid reliability" (Nov. 5, 2025), https://www.spp.org/news-list/spp-board-advances-regional-transmission-plan-to-keep-pace-with-accelerating-growth-and-ensure-grid-reliability/

[6] Press Release, "MISO Board Approves Histories Transmission Plan to Strengthen Grid Reliability" (Dec. 12, 2024), https://www.misoenergy.org/meet-miso/media-center/2024/miso-board-approves-historic-transmission-plan-to-strengthen-grid-reliability/

[7] PJM Inside Lines, "PJM Presents Preliminary Short List of Projects for 2025 RTEP Window 1" (Nov. 5, 2025), https://insidelines.pjm.com/pjm-presents-preliminary-short-list-of-projects-for-2025-rtep-window-1/

[8] Zach Zimmerman, Rob Gramlich, and Michael Goggin, Grid Strategies "Delaying Transmission Increases Costs and Reduces Benefits for Consumers," p.ii (Nov. 2025) (emphasis added), https://gridstrategiesllc.com/wp-content/uploads/GS_WIRES-Cost-of-Delayed-Transmission.pdf

In fact, the scale and speed of required infrastructure investment may exceed the immediate financing and capital expenditures ("CapEx") of investor-owned utilities. The annual CapEx spend necessary to meet the current load forecasts for the next decade may be double or triple the historical rate of growth, according to some industry estimates, testing the limits of internal cash flow, debt capacity, and regulatory asset recovery. Despite some reforms, our regulatory processes are designed to award the utility, regardless of their financing capabilities (or their ability to timely implement projects), denying access for independent developers with alternative solutions.

And these costs are not free from controversy. For example, in July a group of state public service commission officials challenged MISO's calculations for its business case in support of the aforementioned $22 billion MISO Tranche 2.1 portfolio projects and argued the region-wide cost allocation of those projects was unjust.[9] Cost allocation battles may even rival siting and permitting as the primary cause of transmission project development delays. Until FERC or the DOE establishes a consensus on "beneficiary pays" principles that acknowledge where load growth is actually occurring, RTOs will continue to allocate massive costs (like the MISO "postage stamp" or PJM's wider zonal pricing) based on formulas that are no longer politically viable for projects driven by discrete, high-concentration loads.

The DOE can offer enormous support by unlocking non-utility capital and reducing the perception of risk among non-utility developers. The DOE must ensure that developers, including merchant developers, can access existing government funding (e.g., DOE Grid Resilience and Innovation Partnerships funds) with the confidence that those awards are guaranteed and will be swiftly authorized and funded. Regulatory frameworks must encourage merchant developers to contract directly with large customers to build and supply power through bilateral power purchase agreements or specialized tariffs. This mechanism efficiently bypasses the

[9] Complaint of the Concerned Commissions and Requests for Expedited Action and Fast Track Processing, Docket No. EL25-109-000 (July 30, 2025).

constrained interconnection queue, injects new private capital, and supplies load without putting further financial strain on the regulated system. This flexibility should be extended to large loads with significant capital to directly fund infrastructure, develop on-site generation, and contract directly with suppliers, thus lessening the financial and operational strain on the centralized power grid.

The DOE may also return to its mission of funding research and development of technologies and how to safely integrate those technologies into the existing grid. Such funding determinations must remain technology-neutral, providing low-risk capital to innovative ideas while relying on market forces to determine the long-term viability and implementation of successful solutions rather than subsidizing specific sectors or already commercially mature technologies.

Finally, given the national security and economic importance of backbone transmission infrastructure, there may be a case for some of these massive projects to be financed, at least partially, through taxpayer funding as is other critical infrastructure such as roads, bridges, and water/sewage systems. Although controversial and with some risk that residential customers will be forced to subsidize wealthy corporations for their energy needs, there needs to be a recognition of the benefits of a robust transmission backbone to ensure reliability, resiliency, security, economic competitiveness, and affordability. The fairness and equity concern can be alleviated through innovative thinking and a review of how we define "beneficiary pays" and "cost causation" principles. Too often, regulators use these terms interchangeably which fails to capture the nuances that could help unlock additional financing opportunities and reduce cost allocation battles. The Venn Diagram of cost-causers and beneficiaries is not a complete circle and can be two entirely separate categories. And while "costs" can readily be quantified and verified, "benefits" are often ill-defined, subject to interpretation, inconsistently considered, and not as conducive to precise measurement. Some standard or common recognition of the value of energy infrastructure in this country is key to advancing this nation's global competitiveness.

3. Construction timelines and supply chain constraints

The confluence of significant, rapid load growth and chronic supply chain disruptions and backlogs has pushed infrastructure development into an untenable situation where "everything takes longer and costs more." This crisis has functionally rendered recent permitting reforms ineffective, as the timeline for securing critical grid components now significantly exceeds the regulatory review timeline.

The urgent demand for power has exceeded the ability to secure grid components and specialized generator turbines in a timely and cost-efficient manner. This is not a new problem but a decade-long vulnerability that has been amplified by recent demand surges. For example, supply chain risks and constraints have existed for decades, notably in the transformer backlog[10], but were exacerbated by the COVID-19 pandemic and the current high-demand environment (*i.e.* AI data centers, electrification, renewable integration). Lead times for critical components like Large Power Transformers ("LPTs") and high-voltage switchgear now routinely stretch to 2–5 years, which far exceeds the reformed federal NEPA and permitting deadlines.

As our transmission and distribution system approaches the end of its useful life, grid supply chain manufacturing has historically centered on components to modernize or extend the life of an aging grid fleet that may now be obsolete. Furthermore, a lack of standardization for newer technologies, including highly customized inverter-based resources and advanced transmission communications and controls, requires highly customized equipment, further slowing down production and preventing economies of scale.

Our energy infrastructure supply chain relies heavily on foreign components and critical minerals constantly at risk from trade disputes, cyber intrusions, and even sabotage. Investing in domestic manufacturing and exploration reduces our dependence on entities that find our energy grid an attractive target.

[10] See e.g. https://www.energy.gov/sites/prod/files/2014/04/f15/LPTStudyUpdate-040914.pdf,

Recognizing the importance of energy infrastructure to our nation's security and economy, the DOE can lead a national effort to implement funding, research, and training to boost domestic manufacturing of grid components and other energy infrastructure, bolstering our current supply chains. The DOE, in partnership with the National Labs and organizations such as the Institute of Electrical and Electronics Engineers ("IEEE"), the Electric Power Research Institute ("EPRI"), and the Energy Systems Integration Group ("ESIG"), can research more efficient manufacturing technologies and develop an enhanced standardization of critical grid components to minimize manufacturing time and cost.

The Administration has recognized the urgency of securing our grid's supply by invoking an energy emergency under which the DOE may exercise its 202(c) authority to require certain retiring generation units remain online and in issuing this very RFI. Under this same grid emergency, the Administration can initiate the financing and political will to boost domestic manufacturing and supply, ensuring a robust and secure supply chain for some of our most important components while simultaneously growing our economy and global competitiveness.

4. Workforce availability

The workforce availability challenge in the energy industry is a critical, multi-faceted constraint driven by demographic shifts and technological change. With nearly half of all utility workers eligible to retire in the next decade, risking the loss of decades of institutional knowledge required for maintaining legacy systems and ensuring operational reliability. This exodus is coupled with a profound skills mismatch, where the move toward a modernized, electrified grid requires expertise in new fields like data analytics, cybersecurity, high-voltage construction, and AI-driven grid management, skills for which the existing workforce is often insufficiently trained. Attracting new, younger talent is difficult due to competition with the high-tech sector, leading to rising labor costs and a significant risk of project delays across the entire infrastructure pipeline.

Given the pace of retirements and the urgent need for skilled labor, the DOE should prioritize and expand federal support and coordination for existing, effective talent pipelines such as the Center for Energy Workforce Development ("CEWD") and military transition programs. Initiatives targeting skilled military personnel such as Troops to Energy Jobs[11] and the National Association of Regulatory Commissioners' ("NARUC") Vets on the Move[12] program are a vital, proven pathways for high-quality technical talent by providing disciplined, trained personnel with technical skill sets that are highly transferable to careers in utility operations, nuclear, and high-voltage construction.

Solving the long-term workforce deficit requires federal investment that begins at the foundational level, steering students toward energy careers. The DOE could create grant or partnership programs to modernize and equip trade schools and technical colleges to train the next generation in high-demand roles, such as electricians, protective relay technicians, and specialized high-voltage line workers. By funding STEM and vocational curricula at the K-12 level that focus specifically on the energy sector, the federal government can introduce students to career paths often overlooked, thus building a sustainable, long-term talent pipeline.

However, the domestic supply of highly specialized technical talent cannot be ramped up fast enough to meet current demand and thus we must be open to international training and recruitment. This requires policy consideration for streamlining temporary visas and employment pathways to attract and retain specialized international talent that can add necessary expertise and manpower to the domestic workforce.

[11] https://getintoenergy.org/veterans/

[12] https://www.naruc.org/vets-on-the-move/

5. Interconnection queues

The successful integration of new, large loads hinges entirely on transforming the existing, congested interconnection queue process for both supply and demand. While FERC has taken critical steps to improve the generator queue,[13] a holistic view encompassing load, generation, and transmission planning is urgently needed to achieve the "Speed to Power" mandate. While work continues to address both large load interconnection[14] and generator interconnection,[15] The current separation among the load queue, generation queue, and transmission planning processes is obsolete and inefficient. This fragmented approach is the primary driver of cost uncertainty and delay. The inefficiency of the current system is the lack of a cohesive feedback loop between the market signals (the queues) and the planning function (the RTOs). Handling these functions in isolation, often among different regulatory and planning authorities, loses the system's ability to inform itself: to answer the fundamental questions of who reliably needs power and how much, who is genuinely prepared to supply it, and where the foundational infrastructure is needed to connect the two.

Generation planning and transmission expansion models traditionally look backward, using historical forecasts that fail to account for the real-time, accelerating demand documented in the current load queue. The absence of a single, coordinated view means transmission upgrades necessary to relieve widespread, common congestion are often erroneously assigned to the last queue applicant under the "beneficiary pays" principle. This misallocation of costs discourages large, backbone, regional solutions and shields the broader base of benefitting consumers from their fair share. On the other hand, disjointed planning and cost allocation can have the impact of

[13] *Improvements to Generator Interconnection Procs. & Agreements*, Order No. 2023, 184 FERC ¶ 61,054, *order on reh'g*, 185 FERC ¶ 61,063 (2023), *order on reh'g*, Order No. 2023-A, 186 FERC ¶ 61,199, *errata notice*, 188 FERC ¶ 61,134 (2024).

[14] U.S. Department of Energy, *Ensuring Timely and Orderly Interconnection of Large Loads*, Advanced Notice of Proposed Rulemaking, Docket No. RM26-4-000 (Oct. 23, 2025).

[15] *The Expedited Generator Interconnection Procedures Act of 2025*, H.R. 2986, 119th Cong. (2025).

saddling consumers for costs for which they do not necessarily benefit and have not caused.

The DOE, working with FERC, should develop a planning framework that views the load interconnection queue, the generator interconnection queue, and regional transmission planning as one integrated system problem, ensuring that planning decisions are based on the verifiable, forward-looking market and load signals that exist today. These interconnection studies for both load and supply must allow for flexible behind-the-meter and alternate supply arrangements to facilitate and expedite interconnection while we continue to make the necessary investment and upgrades to our backbone transmission grid. These supply/demand configurations present a clear benefit by providing on-site solutions that reduce their instantaneous dependency on the bulk power system.

This flexibility must be extended to suppliers as well. In order to inject needed capital and innovation, the market must offer greater flexibility for those who can supply energy. This means removing unnecessary barriers and actively encouraging independent power producers and merchant developers to contract directly with large customers, bypassing the most congested parts of the traditional utility procurement and interconnection process.

6. State and Federal regulatory and policy uncertainty

The lack of durable, predictable policy and regulatory stability undermines timely infrastructure investment and development. This instability directly translates into higher financing costs, lost benefits, and steeper electricity rates ultimately borne by the consumer. Regulatory uncertainty chills private equity interest and creates more expensive financing for essential energy infrastructure. Given the enormous capital costs projected to meet new load demand, energy projects must remain an attractive investment for developers.

The Administration should commit to a bipartisan, long-term vision for national energy infrastructure, shielding these critical planning parameters from routine political cycles. Lawmakers must carefully consider whether the amount "saved" from implementing or rescinding existing policies is greater than the debilitating cost of instability to project finance. Project investment and development are decades-long endeavors and simply cannot survive if the terms change every four years with each administration change. Policy should prioritize establishing robust, transparent market signals to guide investment decisions, ensuring that developers are responding to long-term customer demand rather than short-term political incentives.

There needs to be clear reinforcement of jurisdictional boundaries among the local, state, and federal levels, with a recognition that rules and regulations can impact all three. Ambiguous jurisdictional lines between federal and state authorities waste resources, invite litigation, and create an atmosphere of regulatory paralysis that halts necessary grid upgrades. Litigation over jurisdiction wastes time and resources that would otherwise be dedicated to developing regulatory solutions. Federal actions, including FERC Orders No. 1000,[16] No. 1920,[17] and the Large Load Interconnection Advanced Notice of Proposed Rulemaking ("ANOPR"),[18] further blur traditional jurisdictional boundaries which have been met with resistance by state regulators.[19]

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[16] *Transmission Plan. & Cost Allocation by Transmission Owning & Operating Pub. Utils.*, Order No. 1000, 136 FERC ¶ 61,051 (2011), *order on reh'g*, Order No. 1000-A, 139 FERC ¶ 61,132, *order on reh'g & clarification*, Order No. 1000-B, 141 FERC ¶ 61,044 (2012), *aff'd sub nom. S.C. Pub. Serv. Auth. v. FERC*, 762 F.3d 41 (D.C. Cir. 2014).

[17] *Bldg. for the Future Through Elec. Reg'l Transmission Planning & Cost Allocation*, Order No. 1920, 187 FERC ¶ 61,068, *order on reh'g*, Order No. 1920-A, 189 FERC ¶ 61,126 (2024), *order on reh'g*, Order No. 1920-B, 191 FERC ¶ 61,026 (2025).

[18] U.S. Department of Energy, *Ensuring Timely and Orderly Interconnection of Large Loads*, Advanced Notice of Proposed Rulemaking, Docket No. RM26-4-000 (Oct. 23, 2025).

[19] NARUC, Resolution Urging the Federal Energy Regulatory Commission to Preserve and Affirm State Retail Regulatory Jurisdiction in its Large Load Interconnection Proceeding (Nov. 11, 2025), https://pubs.naruc.org/pub/2C526A94-D533-BE0A-336A-178A366C7A91?_gl=1*1v8dyeq*_ga*ODM0NTU0NTY2LjE3NTA0Mzc0NjM.*_ga_QLH1N3Q1NF*czE3NjM2ODUzNDYkbzckZzEkdDE3NjM2ODU0ODYkajYwJGwwJGgw

Rather than leading to clear and efficient decision-making, this confusion can lead to paralysis, where regulators are either unclear or too apprehensive to assert their authority.

Federal and state lawmakers, in consultation with regulators, must agree to a clear reinforcement of roles. This consensus should center on two principles: (1) the federal government must assert clear, unequivocal authority over the planning, cost allocation, and national security standards for interstate and interregional transmission facilities that constitute the grid's backbone; and (2) the federal role must be balanced by a renewed respect for state and local siting authority, integrated resource planning, and retail ratemaking.

7. Technology integration

The crisis of capacity and time demands that policy prioritize smarter, more efficient use of the existing power system to provide headroom as we finance and develop transmission expansion. Technology integration must become the primary lever for maximizing system throughput and enhancing national security.

The DOE's R&D dollars must be strategically redirected to invest in advanced technologies that demonstrate more efficient and flexible use of our existing power systems. The goal is to maximize the utilization of assets already paid for by ratepayers. Technologies like dynamic line ratings, advanced power flow controls, and topology optimization can effectively increase the transmission capacity of existing lines and map more efficient transportation of electrons across the grid. These grid enhancing technologies ("GETs") should be required where economically and technically feasible. Federal policy must address the current market incentives that favor expensive, physical alternatives, such as greenfield projects or large-scale physical upgrades, over low-cost, high-impact GETs deployment.

However, we must all recognize that with additional technologies integrated into our grid, the risks of intrusion and sabotage increase as well. The reliance on foreign

sources for essential grid components and computing technology introduces unacceptable risk to critical U.S. infrastructure and compromises national economic competitiveness. DOE R&D and funding must explicitly support the development of a secure, domestic supply chain for these critical technologies. Increasing domestic production of critical components for our nation's energy infrastructure and computing technology is a core national security imperative. The supply chain for transformers, switchgear, and advanced computing chips must be secured against the threat of cyber intrusion and sabotage from foreign adversaries. Investing aggressively in domestic manufacturing not only mitigates geopolitical risk but also reinvests in our domestic workforce, strengthens our industrial base, and secures the foundational components needed to maintain our global leadership in computing (e.g., AI) and manufacturing.

8. Community engagement and acceptance

Effective community engagement and achieving local acceptance are no longer optional steps; they are prerequisites for timely infrastructure development. Without public trust, permitting and siting processes will remain vulnerable to costly delay and litigation. The primary policy prescription is consistent, unified communication at all levels—federal, state, and local. The key to building community trust is achieving a common understanding.

Federal agencies, working with state counterparts, must articulate a unified narrative that clearly explains the national economic and security implications of abundant domestic energy supply and a robust electric grid. This communication cannot remain abstract. It must explicitly connect the development of new infrastructure (e.g., transmission lines, data centers, manufacturing plants) to tangible benefits for the community including local economic development, high-paying jobs, tax revenue, and enhanced reliability and affordability. When communities understand that a project supports reliability, enhances national security, and delivers local economic value without imposing electricity price increases on them, we ease a

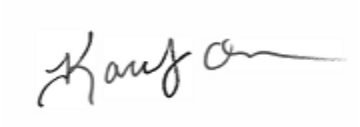
significant roadblock to building a grid that supports economic growth and our national global competitiveness.

IV. Conclusion

ELCON appreciates the opportunity to provide these comments on behalf of large industrial and commercial electricity consumers. The research strongly suggests that the combined demands of large load integration, generator resource transitions, and grid hardening represent a scale of investment that our current regulatory environment cannot practically deploy within the required timeframe due to physical (supply chain), financial (debt/equity limitations), and regulatory (PUC/ratepayer tolerance) constraints.

This confirms the necessity for federal intervention and policy reform, the core goal of the DOE RFI, to help overcome these constraints and bring speed to power.

Respectfully submitted,



Karen Onaran
President and CEO
Electricity Consumers Resource Council
700 12th Street, NW, Suite 700
Washington, DC 20005
Email: konaran@elcon.org

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