

# PUBLIC SUBMISSION

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**Comment On:** NSF-2025-OGC-0001-0001  
Request for Information: Development of a 2025 National Artificial Intelligence Research and Development Strategic Plan

**Document:** NSF-2025-OGC-0001-DRAFT-0315  
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## Submitter Information

**Organization:** Edison Electric  
Institute

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## General Comment

Attached are the Comments of the Edison Electric Institute. Thank you for the opportunity.

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## Attachments

Attachment 1 Edison Electric Institute Comments on the AI and Energy Working Group Request for Information

Attachment 2 Edison Electric Institute Comments on the Development of an AI Plan

Edison Electric Institute Comments on the Development of 2025 National Artificial Intelligence Research and Development Strategic Plan



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## **COMMENTS FROM THE EDISON ELECTRIC INSTITUTE ON THE REQUEST FOR INFORMATION FROM CONGRESSWOMAN FEDORCHAK'S AI AND ENERGY WORKING GROUP**

The Edison Electric Institute (EEI) appreciates the opportunity to submit comments in response to the Request for Information (RFI) that Congresswoman Fedorchak's AI and Energy Working Group issued. The RFI seeks information to assist the AI and Energy Working Group in examining how to best harness domestic energy resources, secure critical infrastructure, and tailor policies to position the United States for both energy and AI dominance. On behalf of its members, EEI applauds the Congresswoman's efforts with the AI and Energy Working Group, including the development of the RFI to more deeply understand perspectives from stakeholders across the country.

EEI is the association that represents all U.S. investor-owned electric companies. EEI members provide electricity to more than 250 million Americans and operate in all 50 states and the District of Columbia. The electric power industry supports more than 7 million jobs in communities across the United States while working to meet the needs of communities across the United States. Our members serve residential and commercial customers, as well as infrastructure and facilities that are critical to national security like military installations, hospitals, water treatment plants, and key manufacturing operations.

EEI members are committed to making electric grid investments that support the growth of AI and data centers. In fact, EEI members are projected to invest more than \$200 billion this year alone to make the energy grid smarter, more dynamic, more flexible, and more secure; to diversify the nation's energy mix; and to integrate new technologies that benefit both customers and the environment. These investments allow electric companies to be agile and support new types of load demand, including from data centers and advanced manufacturing.

### **I. American Energy Dominance and AI Energy Demands**

The electric grid is the cornerstone of modern society, enabling virtually every aspect of daily life through its reliable operation. Achieving U.S. dominance in the AI race against other global competitors requires building new data centers at speed, powered by reliable and secure electricity. Data center growth due to increased use of AI is significantly increasing the amount of energy needed to power these new data centers. To build out the infrastructure necessary to achieve AI dominance, the U.S. must partner with data center

developers, policy makers and electric companies – who have the day-to-day operational knowledge and expertise, leveraging over a century of experience, to plan for and integrate the infrastructure needed to support this emerging technology.

All recent analysis of this data center growth signals an unprecedented level of change. A 2023 survey of Federal Energy Regulatory Commission filings showed that grid planners nearly doubled the five-year demand growth forecasts from 2.6 to 4.7 percent, with 10 planning areas, which include ERCOT, MISO, NYISO, PJM, SPP, TVA, and four of EEI's member companies, reporting most of the increase.<sup>1</sup> Some experts have indicated that these forecasts may underestimate demand, particularly from data centers and AI adoption. For example, a 2024 report by the Electric Power Research Institute (EPRI) projected that data centers will grow to consume up to 9.1 percent of U.S. electricity generation annually by 2030, compared to an estimated 4 percent today.<sup>2</sup> Additionally, a recent Lawrence Berkeley National Laboratory report estimated that data center load growth tripled over the past decade and is projected to double or triple by 2028.<sup>3</sup> This rapid demand growth follows nearly two decades of minimal net electricity demand growth and is occurring in a higher-cost environment and at a time when it is difficult to site and permit new energy infrastructure. The demands on the electric grid are different than in the past, and the solution should look toward a reframing of regulatory, permitting, and siting decisions to account for the rapidly increasing needs of U.S. national security, domestic manufacturing, and data center and AI operations. In order to be responsive to and supportive of AI growth, domestic manufacturing, and other drivers of new economic activity, we need responsive and agile regulatory and process improvements that meet the speed of the demand from these new customers.

Significant capital investment will be required to build the energy infrastructure necessary for powering the new data centers needed to support AI dominance. A national plan to ensure there is infrastructure to support data centers should be led by the federal government, in collaboration with the private sector, and should consider all possible strategies, including tax credits, loan guarantees, and grants. Building AI at the speed necessary should not discount the potential adverse impact onto everyday Americans and businesses who are existing ratepayers in an electric company's service territory and who are vital to our local and national economies.

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<sup>1</sup> John D. Wilson & Zach Zimmerman, *The Era of Flat Power Demand is Over* (Grid Strategies, Dec. 2023)

<sup>2</sup> Electric Power Research Institute, *Data Centers Could Consume up to 9% of U.S. Electricity Generation by 2030*, PR Newswire (May 29, 2024)

<sup>3</sup> Arman Shehabi et al., *2024 United States Data Center Energy Usage Report* (Lawrence Berkeley Nat'l Lab., Dec. 2024).

To deliver on the promises of AI dominance, Congress and the federal government should consider policies that:

- Promote the increase in demand for reliable, safe, and secure energy across the United States;
- Streamline the interconnection process to reduce the time and complexity involved in building the new infrastructure needed to connect new data centers to the grid;
- Incentivize states to be proactive in accommodating and incentivizing new data center load, aligned to federal goals;
- Reform siting and permitting in a manner that matches the speed of rapidly increasing demand for infrastructure needed to support data center growth;
- Re-evaluate federal regulations that have created significant regulatory overhang and uncertainty while delaying the construction of major regional transmission projects necessary to support economic development and the addition of large loads;
- If developed, ensure any new regulatory frameworks around the technology are clear and consistent. Such frameworks should accelerate the deployment of new infrastructure, while maintaining electric reliability;
- Further support dispatchable generation development to support rising demand, due to the capacity/load profile of data centers;
- When considering building on federal lands, foster strong private-public collaboration – particularly between DOE and the electric power companies currently serving federal sites across the nation;
- Reauthorize CISA 2015 to encourage information sharing on emerging technology, like AI, between government and the private sector; and
- Help keep customer bills as low as possible as we work to build much-needed new generation, upgrade and expand the transmission system, and enhance our cyber defenses to help ensure that we can continue to deliver the safe, reliable, and secure electricity that powers our economic and way of life.

## **II. Securing the Energy Grid**

### *A. America's Electric Companies Are Committed to Supporting the Buildout of the Data Centers Needed to Strengthen National Security and Grow Our Digital Economy*

EEI members appreciate the impact that the growth of domestic AI has on national security and the economy and see the work of the AI and Energy Working Group as critical to enhancing both strategic imperatives. In addition to enabling modern life, the electricity subsector is part of the broader energy sector, one of 16 critical infrastructure sectors defined in Presidential Policy Directive-21 and National Security Memorandum-

22.<sup>4</sup> EEI members own and operate a significant portion of this critical infrastructure, and these assets, systems, and networks are vital to U.S. economic and national security. Our long-standing commitment to safety, security and resilience efforts is foundational to the national security and economic interests of the nation.

Electric companies, and the system they operate, can accommodate this growth securely and at scale in a way that benefits operations and customers alike. Electric companies already have demonstrated their ability to support the growing demand for energy from hyperscalers and other technology providers while addressing concerns about the impact to existing customers. All EEI members have teams and public-facing materials that are focused on building new partnerships with organizations that are interested in data center development. Electric companies are working with hyperscalers and others to ensure that the goals of AI dominance and energy affordability are successfully met without creating unintended costs on customers.

America's electric companies have been at the forefront in partnering with new data centers and have developed mutually beneficial relations with hyperscalers and other technology providers who want to develop temporal and spatial computational flexibility. There are data centers located in all fifty states, and each of these more than 3,000 projects have required careful planning and consideration.<sup>5</sup> EEI member Dominion Energy, for example, has interconnected and serves more data centers today than the next five domestic markets combined and estimates total energy usage across its service territory will double in less than 15 years. American Electric Power, an EEI member that operates in multiple states, estimates 20 GW in load growth through the end of the decade fueled by data center and industrial demand, which are supported by customer financial commitments. Digital transformation is critical to U.S. national security and competitiveness and electric companies are supporting this transformation through tested, risk-informed planning and investments. These actions demonstrate electric companies' ability to proactively plan and invest in the transmission, distribution, and generation infrastructure that can facilitate data center development while achieving broader benefits for existing customers and communities.

EEI members want to work with these customers. Data centers will underpin the advancement of American business, innovation, and development for the next century or more, and they need electricity to operate. With predictable, long-term investments the partnership between electric companies and data centers is mutually beneficial and can deliver benefits to all customers.

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<sup>4</sup> The White House, National Security Memorandum on Critical Infrastructure Security and Resilience, Daily Comp. Pres. Docs., 2024 DCPD No. 202400358 at 17-18 (Apr. 30, 2024) (National Security Memorandum or NSM-22).

<sup>5</sup> Data Center Map, USA Data Centers, <https://www.datacentermap.com/usa/> (last visited May 12, 2025)

### *B. Timelines to Build*

There is no single estimate for building and connecting a data center that will be accurate in all cases. There are a range of factors that must be considered in the development of building and connecting a new large load, like a data center. These factors have different levels of significance based on where the data center is proposed to be located, including: materials availability, location, proximity to generation, local geography, market considerations, interconnection queues, available funds for capital investment, state incentives to build, and siting and permitting requirements, to name several.

Under the current regulatory model, states are responsible for decisions regarding the reliability of the distribution system. Electric companies have affirmative obligations to the areas they serve to ensure reliability and affordability,<sup>6</sup> which have required electric companies to address these questions before state utility commissions. Leveraging the years of experience that electric companies have incorporating new types of large load is essential if we are to achieve the nation's AI goals. The efficiencies and benefits that electric companies can provide could be enhanced by reforming regulatory policies that currently impede the timely development of electric transmission and generation infrastructure.<sup>7</sup>

More specifically, to aid development of the significant new electric infrastructure that will be needed to meet large scale data center demand, federal policy should seek to support and facilitate the ability of electric companies to make necessary investments to drive data center development. Transmission siting and permitting reform is needed to facilitate efficient and timely infrastructure expansion. Additionally, policies should enable the construction and interconnection of new generation to meet this demand. The stakes are high, and America risks losing its edge on AI if other nations can build new energy infrastructure faster than we are allowed to.

Because building is such an interwoven process, it is in the best interest of Congress and the Administration to consider America's electric companies to be essential partners. These companies have been at the forefront in partnering with new data centers to enable timely interconnections to the grid. Electric companies have extensive site- and region-

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<sup>6</sup> The Federal Power Act (FPA), the main governing statute for the electricity system, establishes the authority of both federal and state governments in electricity reliability. Under this model, the Federal Energy Regulatory Commission's (FERC) authority over reliability covers most of the generation and transmission systems in the U.S. (Alaska and Hawaii excluded). FERC, along with the North American Electric Reliability Corporation, oversee electric reliability. FERC's authority does not extend to resource adequacy questions. This authority is left to the states. Section 201, Federal Power Act, 6 USCS § 824(a)

<sup>7</sup> Concentric Energy Advisors, Competitive Transmission: Experience To-Date Shows Order No. 1000 Solicitations Fail to Show Benefits, Concentric Energy Advisors (Feb. 2025), <https://ceadvisors.com/publication/competitive-transmission-experience-to-date-shows-order-no-1000-solicitations-fail-to-show-benefits/>

specific knowledge, existing relationships with key suppliers, and extensive expertise in developing energy infrastructure, including that used to support data centers.

### *C. Electric Company Use of AI Tools and Services*

Electric companies are not only building infrastructure to support AI growth, electric companies also are interested in using AI to support their efforts to deliver reliable, affordable, and resilient electricity to customers. Some EEI member companies have already introduced Chief AI Officers and defined AI governance programs to harness and implement AI tools in secure and effective ways. AI tools and services for predictive maintenance and vegetation management, risk identification, and call center support have already provided meaningful efficiencies. EEI members have seen potential for advancements in grid management, modeling, and measurement. These and other AI tools are being implemented with security and governance controls to help ensure that the tools do not introduce new risks to the grid. To continue advancement of tools for electricity, and energy more broadly, funding and resources dedicated to sector-specific research and development are critical. When research and development projects, including pilots, are built with and for a particular sector, it increases the potential that those tested technologies are deployed effectively. The electric sector has benefitted from a long collaborative partnership with the U.S. National Laboratories, and could continue to benefit from singular, energy-specific focused projects on AI technologies.

## **III. Strategic Competition: Outpacing China**

Meeting increasing electricity demand and doing so swiftly to enable the United States to win the AI race requires a well-informed, coordinated approach that draws on lessons of the past and that maximizes efficiency. The electric grid provides an extraordinary platform to support the deployment of resilient, reliable power to address needs on a large scale. An integrated, system-wide approach to infrastructure expansion that considers the full range of technology, planning, and operational solutions, as well as electric companies' expertise in siting, permitting, and community engagement, will support rapid, responsible infrastructure development.

Electric companies have a holistic point of view, informed by our position as regulated entities, and the communities we serve. When developing new infrastructure that can impact a broader service territory, electric companies work with local stakeholders including critical customers, defense facilities and others to ensure fully integrated planning. To meet existing demand at a pace that aligns with projected AI growth, Congress should help ensure there are secure supply chains for electric infrastructure needed to support data center growth, but also to ensure that AI tools and services are available to unlock the efficiencies that these tools can provide to energy and other critical infrastructure sectors.

To identify the most critical components necessary for AI dominance, Congress should work collaboratively with electric companies to prioritize material and equipment that supports infrastructure buildout for data centers and related projects. This also can inform

which components should be prioritized for domestic manufacturing. The goal of reducing risk from supply chain vulnerabilities is directly tied to the need to increase domestic manufacturing of critical components and subcomponents. Using a risk-informed analysis to prioritize the types of equipment that are most vulnerable, or most critical, should also be used to prioritize the types of equipment or subcomponents for domestic manufacturing. This effort could be conducted through existing public-private partnerships and operational collaboration efforts, like the Energy Threat Analysis Center (ETAC), and should focus on generation technologies as well as transmission and distribution infrastructure.

In addition to studying the supply chain for critical components, Congress also can help develop more secure supply chains by incentivizing domestic manufacturing and helping expedite construction for those facilities. Another way to secure supply chains could be to offer incentives or lines of credit that help electric companies order in advance the key materials and equipment with long lead times. This would offset the growing financial risk that electric companies and developers currently are managing, and it can help to expedite large load connections. As public and private partners work together to expand our domestic supply chains, it is important that we balance current energy security needs with our collective goal of ensuring America's energy and AI dominance.

From a policy standpoint, the most conventional way to secure supply chains is through directing procurement activities with a prohibited list that bans or limits procurement based on the country of origin of the supplier. This type of activity can result in an overbroad approach that unintentionally impacts supply chains. Identifying the critical components could be more effective, tailor risk mitigation activities and incentivize on-shoring or friend-shoring of critical components or subcomponents. Strict new sourcing rules would undermine long-term planning, cause supply chain disruptions that delay or cancel projects, and raise customer bills.

Additionally, Congress should consider developing ways to identify behavioral characteristics that are unique to data center electric load, through a study or a public-private collaborative effort. This type of activity should focus on devices that are installed in real-time environments. It would be helpful to study the load profiles for different types of data centers (those that support AI and crypto mining, as two examples) and determine how the load profile impacts grid reliability. Data center loads, like other large electric loads, can impact grid reliability and customer affordability and need to be managed through comprehensive resource planning to mitigate those potential impacts.

As EEI members and industry stakeholders work to better understand AI's potential opportunities and risks to our sector, it is important that the funding and support needed to build security into the design of these applications is prioritized. AI has the potential to improve operational awareness and efficiency, enhance security monitoring and response capabilities, and contribute positively to risk management activities.



## **Conclusion**

America's electric companies are a critical partner to Congress and the Administration as they work to support and enable rapid AI growth in the United States. Strengthening this partnership can help to ensure the goals of AI dominance and energy affordability are successfully met without unintended consequences.

EEI appreciates the opportunity to submit these comments and looks forward to collaborating with Congresswoman Fedorchak and her AI and Energy Working Group. Questions on these comments may be directed to Scott Aaronson, Senior Vice President, Energy Security & Industry Operations () and Eric Grey, Vice President, Government Relations ().

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**COMMENTS FROM THE EDISON ELECTRIC INSTITUTE ON THE  
REQUEST FOR INFORMATION ON THE DEVELOPMENT OF AN  
ARTIFICIAL INTELLIGENCE (AI) ACTION PLAN  
March 15, 2025**

The Edison Electric Institute (EEI) appreciates the opportunity to submit comments to the Office of Science and Technology Policy on the Development of an Artificial Intelligence (AI) Action Plan through a request for information by the Networking and Information Technology Research and Development (NITRD) National Coordination Office (NCO) at the National Science Foundation. Directed by the Presidential Executive Order on January 23, 2025, the plan will identify the actions needed to develop and enhance America's AI dominance. OSTP seeks input on "energy consumption and efficiency" among other priority topics. EEI members are committed to making electric grid investments that support the growth of AI and data centers.

The Edison Electric Institute (EEI) is the association that represents all U.S. investor-owned electric companies. EEI members provide electricity to more than 250 million Americans and operate in all 50 states and the District of Columbia. The electric power industry provides electricity to more than 250 million Americans and supports more than 7 million jobs in communities across the United States while working to meet the needs of communities across the United States.

EEI members will invest more than \$200 billion this year to make the energy grid smarter, cleaner, more dynamic, more flexible, and more secure; diversify the nation's energy mix; and integrate new technologies that benefit both customers and the environment. These investments allow for utilities to be agile and support new types of load demand, including datacenters, with a diverse resource mix that includes natural gas generation playing a critical role in maintaining affordability and reliability while integrating and accelerating the development and deployment of renewable resources and critical new carbon-free technologies.

**I. The Cornerstone of Modern Society**

The electric grid is the cornerstone of modern society, enabling virtually every aspect of daily life. Electric companies invest in the electric grid, supporting resilience and the

ability to deliver power in the face of both manmade and natural threats while also keeping costs as low as possible for customers through economies of scale and more than a century of operational experience. The grid is constantly evolving and adding new large loads, like data centers; extraordinary growth and scale is something that it can accommodate effectively. Our members serve residential and commercial customers, as well as critical customers like military installations, hospitals, water treatment facilities, and key manufacturing operations.

In addition to enabling modern life, the electricity subsector is part of the broader energy sector, one of 16 critical infrastructure sectors defined in Presidential Policy Directive-21 and National Security Memorandum-22.<sup>1</sup> The private sector owns and operates a significant portion of this critical infrastructure, and these assets, systems, and networks are considered vital to U.S. economic and national security. In addition to the criticality of electricity for everyday use, EEI members also appreciate the impact the growth of domestic AI has on national security and the economy, and sees the success of a U.S. AI Plan as critical to enhancing both strategic imperatives.

Electric companies are well-positioned, equipped, and ready to meet the electricity needs of the customers and communities we are privileged to serve; and the modern electric grid is an enabler that supports all other critical infrastructure sectors, especially those that support national security and U.S. economic competitiveness.<sup>2</sup> As the U.S. leads the world toward a more digital economy, new data centers must be built to meet the operational needs supporting that transition and, in particular, the increased usage of AI.

The increase in the use of AI also will mean a significant increase in the amount of energy load that is needed to power it. A 2023 survey of Federal Energy Regulatory Commission filings showed that grid planners nearly doubled the five-year demand growth forecasts from 2.6 to 4.7 percent, with 10 planning areas reporting most of the increase. Some experts have indicated that these forecasts may underestimate demand, particularly from data centers and to support AI. For example, a 2024 report by the Electric Power Research Institute (EPRI) projected that data centers will grow to consume up to 9.1 percent of U.S. electricity generation annually by 2030, compared to an estimated 4 percent today.<sup>3</sup> This demand growth follows nearly two decades of minimal net electricity demand and is occurring in a higher-cost environment and at a time when it is harder to site and permit new energy infrastructure. We only anticipate that these estimates will increase.

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<sup>1</sup> The White House, National Security Memorandum on Critical Infrastructure Security and Resilience, Daily Comp. Pres. Docs., 2024 DCPD No. 202400358 at 17-18 (Apr. 30, 2024) (National Security Memorandum or NSM-22).

<sup>2</sup> Presidential Policy Directive No. 21, 3 C.F.R. 317 (2013 <https://obamawhitehouse.archives.gov/the-press-office/2013/02/12/presidential-policy-directive-critical-infrastructure-security-and-resil>)

<sup>3</sup> Electric Power Research Institute, Data Centers Could Consume up to 9% of U.S. Electricity Generation by 2030, PR Newswire (May 29, 2024)

To date, every state in the country has a data center located in it, and each of these more than 3,000 projects have taken careful planning and consideration.<sup>4</sup> Through the electricity subsector's work with all interested stakeholders, these projects illustrate what is possible within our country by leveraging the extraordinary platform of the energy grid to meet demand for resilient, affordable electricity.

As the Administration considers the path forward to ensure the United States is positioned as the world leader in AI, it should recognize the critical roles that electric companies play in developing reliable supply resources and ensuring that power from those resources is delivered in the most secure and resilient manner. The Administration should develop and implement coordinated public policy approaches across multiple federal agencies that support and build on electric companies' successful track record of operating, modernizing and expanding the cornerstone of the modern society, the U.S. electric grid.

EEI looks forward to working with OSTP and the Administration on its AI plans to ensure that energy infrastructure is developed in holistic, prudent, and tailored processes, with the participation of infrastructure operators and grid experts. This expertise is critical to ensuring the broader system can both plan for and integrate complicated demand and supply in near-real-time to ensure a resilient, reliable, available, and affordable energy grid for all.

## **II. Utilities Have A Long History of Adding Large Electric Loads, Including Data Centers**

Demand for electricity is growing in regions across the country as more energy is needed to power data centers and the increasing penetration of AI applications, as well as domestic manufacturing facilities and new sectors of the economy that are electrifying.

America's electric companies have been at the forefront in partnering with new data centers to enable timely interconnections to the grid. Electric companies have announced numerous agreements and partnerships to facilitate data center development. In other cases, electric companies have pursued proactive investments in expanded transmission and generation capacity that have subsequently driven datacenter development in nearby localities. These instances demonstrate electric companies' ability to proactively plan and invest in transmission and generation infrastructure that can facilitate data center development while achieving broader benefits for existing customers and communities. Importantly, these instances also demonstrate electric companies' ability to build quickly. Leveraging the existing model laid forth by electric companies will ensure that novel,

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<sup>4</sup> Data Center Map, USA Data Centers, <https://www.datacentermap.com/usa/> (last visited Mar. 12, 2025)

untested approaches are not utilized to support the digital transformation so critical to U.S. security and competitiveness.

With a long history and workforce dedicated to building and maintaining the energy grid, along with the ability to access and deploy large amounts of low-cost capital, EEI's member companies are uniquely positioned to meet growing demand and address evolving risks. When a new large load customer is identified, there is an extensive planning process that must be undertaken to ensure reliable delivery of power to the customer. In addition to considerations for the new customer, electric companies also are responsible for reliability for their *entire* service territory, as well as coordinating with other nearby utilities, ensuring all customer demand, including native load growth, can be met simultaneously. Sometimes this requires building new infrastructure (e.g., a new substation) to support both goals of economic development and the provision of affordable and reliable power across the service territory. Adding new technologies to the grid also can support flexible operations and datacenter interconnections. To maintain affordability for customers, applications of new technologies cannot be indiscriminate installations; the nature and scale of benefits produced by new technologies will be based on the specific circumstances of their use.

There exists the potential for a mutually beneficial relationship among hyperscalers and other technology providers who want to develop temporal and spatial computational flexibility with electric companies. Dominion Energy, for example, has experience interconnecting data centers and other large load customers. In fact, the public utility serves more data centers today than the next five domestic markets combined and estimates total energy usage across its service territory to double in less than 15 years. Much of this load is located in Northern Virginia, which is commonly referred to as the "Data Center Capital of the World".<sup>5</sup>

The development of a standard terminology in the U.S. for flexible operation of any type of assets, including data centers, would be a positive step for OSTP to support. This is a significant impediment to the rapid deployment of flexible programs, even when multiple parties want to cooperate. This effort would benefit from the inclusions of the appropriate Sector Risk Management Agencies, who have the sector-specific expertise and established partnerships to jump right into driving solutions. Electric companies stand ready to work with the Administration to advance AI goals.

### **III. Data Center Connections Should Leverage the Uniquely Effective Role of Electric Companies and the Energy Grid.**

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<sup>5</sup> Kyle Hannah, Director of Electric Transmission Strategic Initiatives, Dominion Energy Inc., Pre-Technical Conference Statement, Docket No. AD24-11-000, Federal Energy Regulatory Commission (Oct. 16, 2024).

The electric grid provides an extraordinary platform to support the deployment of resilient, reliable power to address needs on a large scale. An integrated, system-wide approach that considers the full range of technology, planning, and operational solutions, as well as electric companies' expertise in siting, permitting, and community engagement, will support rapid, responsible infrastructure development. Electric companies have a holistic point of view, informed by our position as regulated entities, that considers not just new connections, but broader impacts and opportunities.

Data center loads, like other large electric loads, may impact grid reliability and customer affordability in a way that needs to be managed as part of holistic, comprehensive resource planning. The regulatory model that underlies the electric sector has accommodated significant demand growth at different periods in the nation's history; this model provides stability and will facilitate partnerships between electric companies and data centers to meet this extraordinary period of new growth.

EEI's members, the nation's investor-owned electric companies, are in the best position to ensure that these goals can be achieved affordably and share the Administration's goals of advancing these priorities for both energy and AI dominance. In fact, electric companies have unique relationships with both federal and state governments, which position these utilities as a critical partner to advance the Administration's goals for AI dominance and ensure affordable energy costs.

Under the current regulatory model, states are responsible for decisions regarding the reliability of the distribution system. Utilities have affirmative obligations to the areas they serve to ensure reliability and affordability,<sup>6</sup> which have required utilities to address these questions before state utility commissions. Leveraging the years of experience that utilities have incorporating new types of large load will benefit the nation's AI goals. To this end, regulatory policies that impede the timely development of electric infrastructure should be reformed to enable growth of both transmissions and generation resources.<sup>7</sup> And regulatory policy should aim to ensure flexibility and optionality with respect to future data center development.

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<sup>6</sup> The Federal Power Act (FPA), the main governing statute for the electricity system, establishes the authority of both federal and state governments in electricity reliability. Under this model, the Federal Energy Regulatory Commission's (FERC) authority over reliability covers most of the generation and transmission systems in the U.S. (Alaska and Hawaii excluded). FERC, along with the North American Electric Reliability Corporation, oversee electric reliability. FERC's authority does not extend to resource adequacy questions. This authority is left to the states. Section 201, Federal Power Act, 6 USCS § 824(a)

<sup>7</sup> Concentric Energy Advisors, Competitive Transmission: Experience To-Date Shows Order No. 1000 Solicitations Fail to Show Benefits, Concentric Energy Advisors (Feb. 2025), <https://ceadvisors.com/publication/competitive-transmission-experience-to-date-shows-order-no-1000-solicitations-fail-to-show-benefits/>

Large scale development of data centers will require significant new electric transmission infrastructure. America's electric companies have a proven track record of planning and investing in electric infrastructure necessary to meet the needs of new and existing customers. Thus, federal policy should seek to support and facilitate the ability of electric companies to make necessary investments to drive data center development. A critical means of doing so would be to stabilize federal policy regarding electric transmission, which will improve the timing, efficiency and cost-effectiveness of transmission planning and expansion. For example, transmission planning requirements that increase administrative delays in designing new needed facilities create additional costs for customers and are a hurdle to efficient infrastructure expansion. Additionally, policies should enable the construction and interconnection of new generation to meet this demand.

The Federal Energy Regulatory Commission (FERC) should revisit its 2011 decision to create bidding processes to determine how transmission infrastructure is developed as these add time to the development process. This will also foster more collaborative project design among transmission planners. FERC should also retain the financial incentives it has already approved for use by many transmission developers. These are flexible tools that can be used to promote proactive investments in transmission infrastructure that support development of datacenters.

Capital investments that can be recovered from customers need to be approved by a state utility commission. While essential for reliability, this is also a way to ensure equitable treatment of all customers. With built in protection for the interests of the general public, regulated utilities are responsible for ensuring that all loads are served. Because of this unique position in the energy sector, electric companies will make critical decisions about operations of the electric grid.

EEI members have achieved this through work with our state and federal regulators, who are charged with ensuring that rates remain reasonable, and through a tested model built on a culture of safety, security, and reliability to ensure access and affordability for all customers. Electric utilities are positioned to use that model to help the Administration meet its AI dominance goals while also keeping prices affordable.

#### **IV. Data Center Integration and Operation**

By connecting to the grid, data centers enjoy clear reliability benefits:

- **Streamlining Interconnection Process:** Electric companies have developed and implemented interconnection procedures designed to reduce the time and complexity involved in connecting new data centers to the grid. This includes standardized application processes, clear communication channels, and dedicated teams to handle interconnection requests.

- **Overall Grid Reliability Planning:** By leveraging their responsibility for the interconnected grid—including generation, transmission, and distribution solutions—electric companies are uniquely positioned to identify and implement the least-cost strategies for serving sizable new loads, including optimizing the size and location of new generation and identifying sites that are most optimal for siting new hyperscale load.
- **Cybersecurity and Physical Security Benefits:** Grid services and utilities are best positioned to provide defenses against cyber threats. Sharing a geographic location with a power plant will extend some physical security controls and protections to the data centers.
- **Grid Hardening and Storm Response/Restoration:** Utilities have a consistent track record in both areas, and data centers benefit from utility grid hardening activities and the timeliness of restorations efforts following storms or other impacts to operations.
- **Energy Equipment Procurement and Delivery:** Utilities maintain robust supply chains to ensure the consistent availability of critical components and materials, minimizing disruptions and enhancing the reliability of service to data centers. Utilities, given our size scale are also uniquely able to leverage those attributes to procure needed equipment.
- **Optimizing New Datacenter Loads for Benefit of All Customers:** Integrated electric utilities are able to use their universality of service to optimize the costs and benefits of new resources necessary to serve datacenter loads for the benefit of all customers, while protecting the interests of all customers.
- **Grid Stability and Peak Load Management:** Load balancing during peak demand periods, enhancing overall grid efficiency.
- **Waste Heat Utilization:** Data centers can leverage excess heat from power generation for industrial or district heating applications, improving overall energy efficiency.
- **Microgrid and Energy Storage Integration:** Electric companies can facilitate the deployment of microgrids and energy storage solutions to improve resilience and optimize power use.
- **Optimized Power Purchase Agreements (PPAs):** By co-locating, utilities and data centers can negotiate more efficient long-term power contracts, reducing costs and securing clean energy sources.

## V. Co-Location Should be Grounded in Cost Causation Principles

The integrated and networked transmission system allows electric companies to meet new demand, including that presented by co-located data centers efficiently and cost-effectively. However, co-location provides optionality to serve data centers and makes sense for certain large customers. Overall, involving the incumbent electric company early on as part of the co-location siting process and leveraging the electric company model to do so can ensure that data center development occurs in a way that both enhances reliability and protect everyday customers whom EEI members are obligated to serve. Ensuring that data center loads pay for the services and facilities they use results in



just and reasonable rates for all customers.<sup>8</sup> Additionally, robust resource planning is essential to ensure reliable electric service for all customers, including data centers, co-located or otherwise.

Recent activity before the Federal Energy Regulatory Commission (FERC or the Commission) addressing co-location has gained attention. FERC convened a technical conference in November 2024, issued an order in February 2025, and has issued decisions on specific questions under the broader subject. Where interconnected with and using the grid, data centers should contribute to the cost of the network infrastructure providing the services necessary to support that interconnection and provide transmission service. Most data centers that have been interconnected to date do just that.

Congress also has considered the investment required to meet the AI demand. The Bipartisan House Task Force on Artificial Intelligence recently observed that it is to maintain affordability, reliability, and availability of electricity to customers while protecting ratepayers.<sup>9</sup> Establishing critical guardrails for co-located load will help protect affordability for all customers (residential, large commercial, and industrial). Co-location must be done with forethought, cognizant of the reliability and cost implications, including any effects on existing customers. Electric companies are focused not only on incorporating new large load customers, but also on ensuring that their addition does not drive up costs for everyday Americans.

## **VI. Additional Actions to Consider for Energy Consumption and Efficiency**

To enable the energy consumption and efficiency necessary to support growth of data centers needed to support AI dominance, there will be a significant capital investment. A national plan to ensure appropriate opportunities are available should be led by the Administration and should consider all possible strategies, including tax credits, loan guarantees, and grants. Building AI at the speed necessary should not discount the potential adverse impact onto everyday Americans and businesses who are existing ratepayers in an electric utility's service territory and who are vital to our local and national economies.

To deliver on the promises of AI dominance and lowering customer bills, the Administration should consider:

- Grants, loan guarantees and tax credits to support generation investment, transmission upgrades, and cybersecurity enhancements to support/promote the increase in demand for reliable, safe, and secure energy across the U.S.;

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<sup>8</sup> Media Advisory: Data Centers

Rule, [https://psc.ga.gov/site/assets/files/8617/media\\_advisory\\_data\\_centers\\_rule\\_1-23-2025.pdf](https://psc.ga.gov/site/assets/files/8617/media_advisory_data_centers_rule_1-23-2025.pdf) (Jan. 23, 2025).

<sup>9</sup> House Bipartisan Task Force on Artificial Intelligence, Report, House Committee on Science, Space, and Technology (Dec. 17, 2024), <https://science.house.gov/2024/12/house-bipartisan-task-force-on-artificial-intelligence-delivers-report>

- Due to the capacity/load profile of data centers, the U.S. should further support central, base-load nuclear development as the long-term generation source to support rising demand;
- Developing support models that incentivize states to be proactive in accommodating and incentivizing new data center load, aligned to federal goals;
- Fast-track the interconnection processes associated with new generation needed to serve large new data center customers, including priority for generation deemed necessary to ensure resource adequacy;
- Align transmission planning and generator interconnection processes to ensure that generation additions driven by new load are studied in a manner that recognizes their linkage;
- Any new regulatory frameworks around AI need to be clear and consistent with a focus on accelerating the deployment of new infrastructure; and,
- Data Center Additions that are paired new generation capacity additions should be prioritized, particularly in Regional Transmission Organizations (RTO) markets.

## **VII. Conclusion**

America's electric companies are a critical partner to the Administration as it works to support and enable rapid AI growth in the U.S. This partnership ensures the Administration's goals of AI Dominance and Energy Affordability are successfully met without unintended consequences. The electricity subsector's long-standing principle of cost causation requires that those who benefit from facilities and/or services pay for their use, and it ensures that customers are protected and considered in resource planning.

EEI appreciates the opportunity to submit these comments and looks forward to collaborating with the Office of Science and Technology Policy on the Development of the AI Plan. Questions on these comments may be directed to Scott Aaronson, Senior Vice President, Energy Security & Industry Operations () and Alex Bond, Executive Director, Legal and Clean Energy Policy ().



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**COMMENTS FROM THE EDISON ELECTRIC INSTITUTE ON THE  
REQUEST FOR INFORMATION ON THE DEVELOPMENT OF A 2025  
NATIONAL ARTIFICIAL INTELLIGENCE RESEARCH AND DEVELOPMENT  
STRATEGIC PLAN**

**May 29, 2025**

The Edison Electric Institute (EEI) appreciates the opportunity to submit comments to the Office of Science and Technology Policy (OSTP) on the Development of 2025 National Artificial Intelligence Research and Development Strategic Plan through a request for information by the Networking and Information Technology Research and Development (NITRD) National Coordination Office (NCO) at the National Science Foundation. Directed by the Presidential Executive Order on January 23, 2025, the request asks for feedback on the Federal government's unique role in AI Research and Development (R&D) over the next 3 to 5 years. Public and private sector collaboration will lead to the development of innovative technology that can be implemented into day-to-day operations. EEI members are committed to continuing to work with the Administration as it seeks to understand the landscape of opportunities with advanced AI system implementation in the energy sector.

EEI is the association that represents all U.S. investor-owned electric companies. EEI members provide electricity to more than 250 million Americans and operate in all 50 states and the District of Columbia. The electric power industry supports more than 7 million jobs in communities across the United States while working to meet the needs of communities across the United States. Our members serve residential and commercial customers, as well as infrastructure and facilities that are critical to national security like military installations, hospitals, water treatment plants, and key manufacturing operations.

EEI members are committed to working with the Administration on the development and implementation of AI tools and services to support innovation for the operation of the electric grid. In fact, EEI members are projected to invest more than \$200 billion this year alone to make the energy grid smarter, more dynamic, more flexible, and more secure; to diversify the nation's energy mix; and to integrate new technologies that benefit customers. These investments allow electric companies to be agile and support new types of load demand, including increasing demand from data centers and advanced manufacturing, and to integrate new tools that leverage AI to optimize our day-to-day operations.

Electric companies are not only building infrastructure to support AI growth, they also are interested in using AI to support their efforts to deliver reliable, affordable, and resilient electricity to customers. Some EEI member companies have already introduced Chief AI Officers and defined AI governance programs to harness and implement AI tools in secure and effective ways. AI tools and services for predictive maintenance and vegetation management, risk identification, and call center support are already providing meaningful efficiencies. EEI members have seen potential for advancements in grid management, modeling, and measurement.

To continue advancement of AI tools and services for electricity, and energy more broadly, funding and resources dedicated to sector-specific research and development are critical. When research and development projects, including pilots, are built with and for a particular sector, it increases the potential that those tested technologies are deployed effectively. The electric sector has benefitted from a long collaborative partnership with the U.S. National Laboratories, and could continue to benefit from singular, energy-specific focused projects on AI technologies. The inclusion of private sector partners in the development of government R&D efforts not only ensures that the subject matter experts who will use the technologies are providing feedback throughout the lifecycle of the project, but also increases the potential that the AI tools and services support implementation within the electric companies.

As the Administration prioritizes actions for R&D opportunities, the following are some examples that could benefit from additional activity:

- Determining appropriate data inputs to AI systems to prevent extraction attacks that unintentionally reveal sensitive customer or operational data
- Identifying critical AI supply chain vendors and components
  - Understanding supply chains and transportation risks of critical vendors with energy sector applications to help electric companies effectively plan procurement and other risk mitigation efforts
  - Identification of the full scope of minerals and materials necessary to ensure AI and energy dominance
- Risk mitigation strategies
  - Developing a version of the Adversarial Threat Landscape for Artificial-Intelligence Systems (ATLAS) framework<sup>1</sup> for industrial control systems, similar to that of the MITRE ATT&CK for ICS<sup>2</sup>
  - Identification of interdependent risks between the 16 critical infrastructure sectors
- Safe and secure implementation and integration of advanced AI systems into both business and operational environments

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<sup>1</sup> MITRE, About MITRE ATLAS™, <https://atlas.mitre.org/about> (last visited May 29, 2025).

<sup>2</sup> MITRE, ATT&CK for ICS Matrix, <https://attack.mitre.org/matrices/ics/> (last visited May 29, 2025).

In addition to the comments provided here, please also consider comments submitted by EEI on the OSTP's RFI on the Development of an AI Plan and EEI's filed comments with Congresswoman Fedorchak's AI and Energy Working Group. These convey a similar message to our comments here: It is in the best interest of the nation to foster strong public-private collaboration to advance American national security and economic interests. We have included both as a part of this submission.

EEI appreciates the opportunity to submit these comments and looks forward to collaborating with the OSTP on the Development of 2025 National Artificial Intelligence Research and Development Strategic Plan. Questions on these comments may be directed to Scott Aaronson, Senior Vice President, Energy Security & Industry Operations () and Joe Quinn, Senior Director for Security and Resilience Policy (.).

Attachments:

- Attachment 1 Edison Electric Institute Comments on the AI and Energy Working Group Request for Information, *submitted May 15, 2025*
- Attachment 2 Edison Electric Institute Comments on the Development of an AI Plan, *submitted March 14, 2025*