



**Statement of Ben Fowke
Interim Chief Executive Officer and President
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Before the Senate Committee on Energy & Natural Resources
May 21, 2024**

Chairman Manchin, Ranking Member Barrasso, and members of the Senate Committee on Energy and Natural Resources, thank you for the invitation to testify at today’s hearing. My name is Ben Fowke, and I serve as the Interim CEO and President of American Electric Power Company, Inc. (AEP). AEP is one of the largest electric utilities in the United States, serving customers across an 11-state footprint. We have a diverse electric generation fleet and we own and operate the largest transmission system in the United States.

I. Executive Summary

This is a significant moment for our country, our industry, and our company. We at AEP are excited about the opportunities and challenges ahead of us as we meet the growing demand for electricity in our regions.

Demand for electricity was almost flat for two decades. We are now beginning to see this trend reverse, driven by large customers such as industrial manufacturers, data processors, and others who require significant amounts of power. The efforts of Congress to support the development of these businesses have been remarkably successful. Companies are now building and growing here in America because, in part, we have abundant and diverse energy resources and reliable and affordable power.

However, in some areas of the country, the demand for electricity is growing faster than the available capacity. Just a few years ago, a large-scale industrial manufacturing facility might require 100 megawatts (MW) of electricity – enough to power about 100,000 homes. A facility that size would typically be one-of-a-kind in a region and would be a major source of economic activity for the area. Now, it is common for a single data center to require three times to up to 15 times this amount of power for a single site.

As technology evolves, power demand from data processing is expected to double nationwide in three years.¹ As one small example of this demand surge, OpenAI’s ChatGPT requires 2.9 watt-hours for a request—nearly ten times more power than a typical Google search.²

¹ See <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/datacenter-power-demand-to-double-in-three-years-8211-iea-80123428>.

² See <https://www.datacenterknowledge.com/energy/electricity-demand-data-centers-could-double-three-years>.



AEP currently has requests from large customers that would more than double the existing peak demand we serve on our system today. It took over 100 years of planning and building to create our current system, and a step-change in infrastructure investment on an accelerated timeline will be required to serve even a fraction of this future demand in a reliable manner.

As demand is rapidly increasing, our nation’s electricity system is transforming to accommodate new forms of energy. The pace of this transformation must not overtake the reliability needs of the system. Independent assessments by NERC find that the risk of electric power supply disruptions are steadily increasing.³

Our society depends upon a reliable power system. As we embark upon this era of economic growth and technological transformation, customers need an energy system that is available to deliver reliable, affordable, and environmentally sustainable power where and when they need it.

Continued development of the electric system must be a central priority of U.S. energy and economic policy, and we need to think bigger and more comprehensively to address the many opportunities and challenges before us.

For your part, we ask that:

- Congress work with regulators to ensure electric system resource adequacy and prevent premature retirements of dispatchable power plants. This includes:
 1. Considering the impact of recent EPA regulations which could hasten the pace of plant retirements and diminish reliability;
 2. Collaborating with FERC and other federal and state constituents to evaluate the establishment of a central planning authority focused on reliability; and
 3. Directing FERC to ensure that viable reliability “safety valve” mechanisms are in place to prevent premature plant retirements
- Congress should also expedite the deployment of new 24/7 dispatchable and clean generation resources to meet growing consumer demand. This could be done through:
 1. Encouraging FERC to allow for “fast-tracking” of generation resources in the interconnection queues selected by utilities to meet their obligation to serve customers;
 2. Encouraging the development of advanced technologies such as next generation nuclear;

³ James C. Robb, “The Reliability and Resiliency of Electric Service in the United States in Light of Recent Reliability Assessments and Alerts,” (June 1, 2023), [D47C2B83-A0A7-4E0B-ABF2-9574D9990C11 \(senate.gov\)](https://www.senate.gov/legislative/recordings/2023/06/01/robbs-testimony-060123).



3. Passing a siting and permitting package that accelerates the development of critical infrastructure and
 4. Maintaining the Inflation Reduction Act and the technology neutral and nuclear tax credits which serve to reduce costs to customers
- Finally, Congress should encourage FERC's recent efforts to support the efficient development of necessary regional and interregional electric transmission facilities to ensure reliability and accommodate economic growth and development

The electric power industry will play a crucial role in helping the U.S. remain a global leader in advanced manufacturing and technology innovation. With the help of Congress and our federal and state regulators and agencies, we can serve this emerging demand and secure America's role as a leader for generations to come. To do so, we will need to work together to quickly build new sources of electric generation and high voltage power lines to deliver electricity where it's needed. Thank you.

II. American Electric Power

AEP is one of the largest investor-owned electric public utility holding companies in the United States. AEP's electric utility operating companies provide generation, transmission, and distribution services to 5.6 million customers in Arkansas, Indiana, Kentucky, Louisiana, Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia, and West Virginia. AEP's subsidiaries operate an extensive portfolio of assets including approximately 225,000 circuit miles of distribution lines, approximately 40,000 circuit miles of transmission lines, including approximately 2,200 circuit miles of 765 kV lines, the backbone of the eastern interconnection of the United States. Additionally, AEP ranks among the nation's largest generators of electricity, owning nearly 23,000 megawatts of generating capacity in the United States.

AEP operates in four Regional Transmission Organizations (RTOs): PJM Interconnection (PJM), Southwest Power Pool (SPP), Midcontinent Independent System Operator (MISO), and the Electric Reliability Council of Texas (ERCOT).

III. The growing demand for electricity is unprecedented.

a. Increased demand is impacting nearly every American region and electricity market.

In a welcome sign for the American economy, the United States is experiencing power demand growth not seen in a generation. Power demand from data processing, manufacturing, and large industrial customers is expected to significantly increase in the future, with data



processing power demand alone expected to double in three years.⁴ Not only are the number of data centers increasing, but data centers are also growing larger. Prior to 2021, the electricity demand from a large data center was approximately 200 MW; today it can be 1,500 MW or greater. This is in part because the rising use of AI in various sectors is increasing the overall power demand of data centers. For contextual purposes, as the chart [Figure 1] below illustrates, the power demand for the AI portion of data processing alone is expected to grow over eightyfold from 8 TWh in 2024 to 652 TWh by the beginning of the next decade.⁵

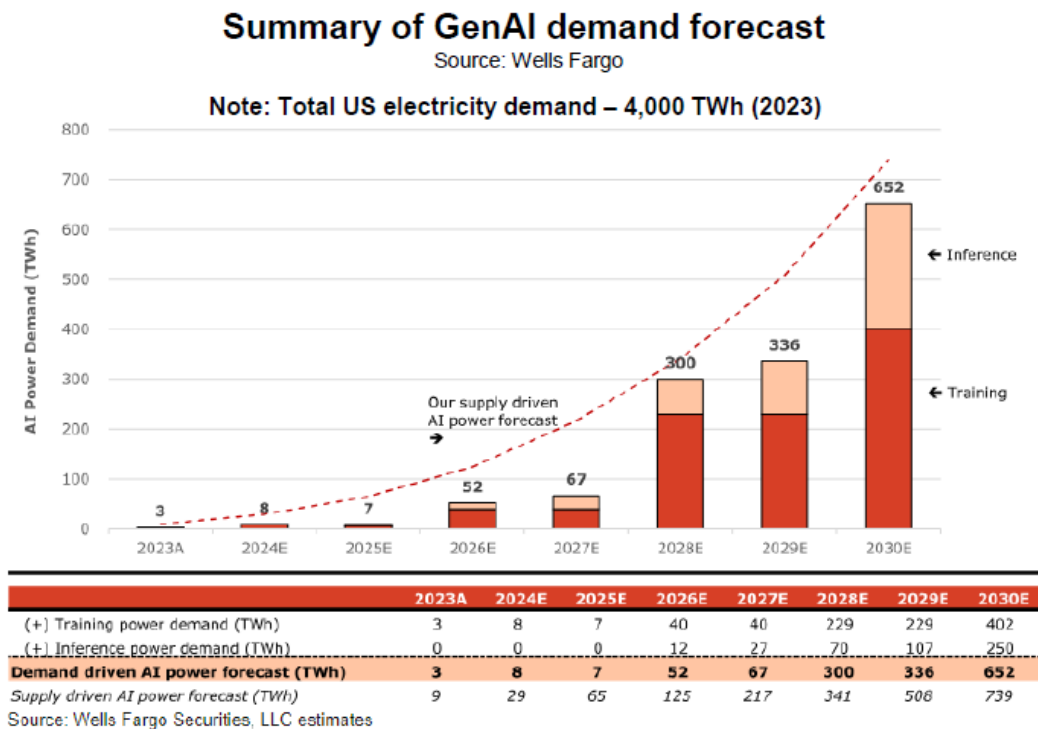


FIGURE 1

The construction cost of generation to serve this additional demand is expected to be in the hundreds of billions of dollars. For example, if half of this additional load were to be served from natural gas resources and half from wind and solar resources, the generation required could be 150 GW or more depending on the mix of resources. It is important to note that even more generation could be required to serve this demand because a) renewables have energy output that is highly variable by location, and b) the recently issued Environmental Protection Agency (EPA) regulations may make it more difficult and costly to build natural gas resources, requiring more

⁴ See <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/datacenter-power-demand-to-double-in-three-years-8211-ia-80123428>.

⁵ Terawatt hours, abbreviated as TWh, is a unit of energy representing one trillion-watt hours. The average American home uses 10,791 kilowatt-hours (kWh) of power a year. One TWh is equal to one billion kWh.



lower capacity plants to be built. The capital cost of renewables and natural gas generation together could exceed \$300 billion and could be much more to comply with the recently issued EPA regulations.⁶

This growth is not isolated to only one part of the country. PJM, the regional transmission organization which covers thirteen states and the District of Columbia, predicted summer peak demand to increase 50% from 28GW by 2034 to 42GW by 2039 compared to 2024 levels.⁷ ERCOT, the regional transmission organization that serves most of the state of Texas, is also predicting significant demand growth – approximately an additional 70 GW in demand by the end of this decade, nearly doubling the demand in the entire region.⁸

b. AEP’s service territory is uniquely situated to meet this growing demand.

AEP has the largest transmission network in the United States, with over 40,000 line-miles of high voltage transmission, which is well suited to accommodate large customers. AEP is experiencing significant growth in demand due in part to the location, characteristics, and performance of our transmission system. As a result of the significant investments that AEP has made and continues to make in its system, AEP has been able to meet new demand to date. However, in some instances, the demand of new customers seeking to interconnect to our system exceeds the total amount of load currently served by AEP in those areas today. For example, AEP has received a combined 108 gigawatts of requests for interconnection in the near-term. This represents over 10 percent of the peak electricity demand in the entire United States.

Currently, the amount of load requesting to interconnect to AEP’s transmission system eclipses the current peak demand of AEP’s operating companies in our PJM and ERCOT regions. For AEP’s Ohio, Indiana and Michigan utilities, the demand is over three times AEP’s current peak load in these three states. AEP’s West Virginia and Virginia utilities demand would more than double the current load of Appalachian Power Company. Finally, AEP Texas is experiencing demand over five times its current load today.

⁶ While the incorporation of additional nuclear energy could help reduce the total amount of GWs required to serve this load, new nuclear power is not expected to be a significant addition before the end of this decade and has capital costs which are much higher on a per GW of capacity basis than other generation sources. We believe new nuclear energy could be part of the long-term solution in the 2030s and beyond.

⁷ See [PJM Publishes 2024 Long-Term Load Forecast | PJM Inside Lines](#).

⁸ ERCOT, 2024 RTP – Load Review Update (March 2024), [PowerPoint Presentation \(ercot.com\)](#)

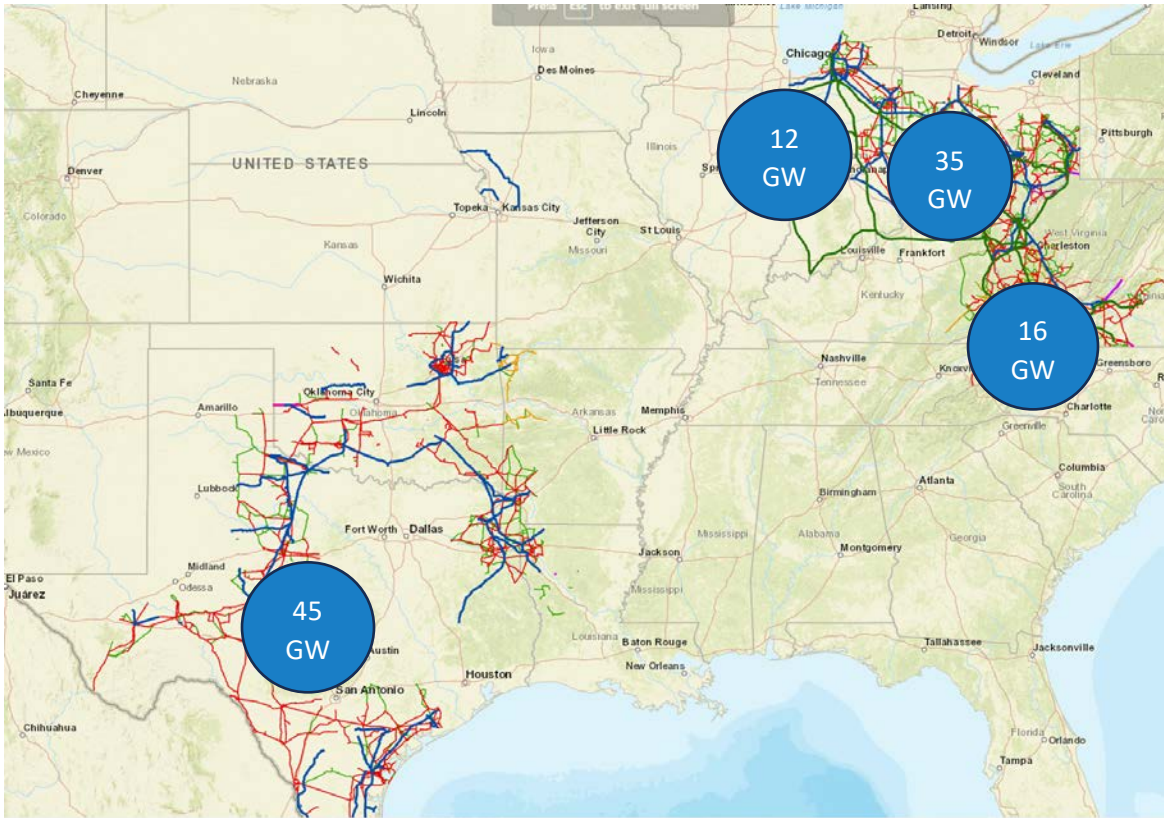


FIGURE 2

One example of large-scale growth on our system is in Ohio, where, due to investment in the semiconductor industry through passage of the CHIPS and Science Act in 2022, AEP Ohio is working in partnership with Intel to bring a \$20B chip production plant online in New Albany. This site was selected in part due to AEP’s ability to serve large customers and meet Intel’s unique power demands. AEP recently announced plans to bolster our transmission system in the surrounding area to support additional growing demand in the region, spurred by Intel’s decision to locate there. Once complete, this facility is expected to create 3,000 jobs and will support production of U.S. manufactured microchips.

To have more success stories like Intel, significant investment will be required. We anticipate the need for billions of dollars of infrastructure investment on a rapid timeline to meet demand requirements and maintain reliability. To date, AEP has signed Letters of Agreement with large customers that will require multi-billion-dollar investments in transmission infrastructure across our service territory. However, far more investment will be required to meet our customers’ current queued demand requests.



In addition to increased investment in transmission infrastructure, we will also need significant investment in a diverse set of electric generation resources. AEP supports the development of both renewable and dispatchable generation to meet this growing demand. A balanced and diversified mix of dispatchable and renewable generation resources that support grid reliability, customer affordability, and environmental sustainability will be important to the success of the U.S. economy on a going forward basis.

IV. Growing demand represents significant opportunities and challenges for the U.S.

The growth in areas such as AI and precision manufacturing is a generational opportunity and is important to our nation's competitiveness across multiple industries and technologies among the growing list of world economies. The ability of our industry to provide reliable and affordable power and the associated infrastructure to meet our country's needs drives broad sustained economic growth and development. The U.S. must create a robust domestic supply chain and supportive policy and power environment for these industries to thrive, ensuring our nation's security.

For AEP, this opportunity is particularly important as we are committed to advancing economic growth throughout our service territories. Our work, in partnership with state and local elected officials and economic development groups, has led to unprecedented investment throughout our footprint. We have helped bring billions of dollars of investment and new growth to our communities. These investments in the communities we serve have created over 90,000 direct jobs and over 107,000 indirect jobs over the last decade. We want to see this economic prosperity accelerate in the years to come. We share the same sense of urgency in working with our partners to take full advantage of these economic development opportunities for all our states.

Though growing demand will be beneficial for our country and our communities, it also presents significant challenges that we will need to meet, including reliability, affordability, the accelerated timeline to meet demand, and operational complexities. First, increased demand comes at a time when electric generation owners are, often in response to regulatory structures, closing 24/7 dispatchable generation facilities at a rapid rate. As an example, PJM recently highlighted regional generation resource challenges. More than 20% of the installed capacity in the region may retire by 2030, and new capacity additions may not be able to keep pace.⁹ PJM's analysis clearly demonstrates that if current trends continue, there will be an elevated risk of electricity shortfalls later in this decade.

Maintaining reliability requires providing adequate amounts of energy at all hours, rather than just during traditional peak hours or when the wind and solar resources are available. We

⁹ PJM, "Energy Transition in PJM: Resource Retirements, Replacements & Risks," p.5 (Feb. 24, 2023), [energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx](https://www.pjm.com/~/media/committees-and-panels/energy-transition-in-pjm-resource-retirements-replacements-and-risks/energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx).



must have sufficient generation available to provide energy on demand, and such energy must be delivered without being constrained by the limitations of the transmission grid during non-normal grid conditions, such as extreme weather events. Generation planning must account for more complex resource and energy adequacy considerations, recognizing that the grid's operational flexibility erodes as dispatchable resources retire. A significant amount of dispatchable resources, along with battery storage with sufficiently long output duration, will likely be required to maintain grid reliability at levels customers and regulators expect.

Second, in addition to providing reliable power to customers, we must also continue to ensure it is affordable. AEP serves a lower income customer base in many areas of its service territory. In fact, our customers are below the national median for household income in ten of the eleven states in which we provide electric service, and in many of those states, our customers are also below the state median for household income. We must ensure appropriate alignment between those who benefit from the expansion of infrastructure and those who bear the costs. Furthermore, we believe large customers should commit to long-term contracts for the use of the infrastructure to ensure that remaining customers, especially lower-income and residential customers, are not left paying the bill for potential stranded costs.

To help address this issue in Ohio, AEP has proposed a tariff for data center facilities with significant demand. This tariff, which was filed with Ohio regulatory authorities, will provide AEP with more certainty as we develop long-term plans for large pockets of demand connecting to our system. This tariff will also give large customers a clear understanding of how much power we are able to provide them and when we will be able to provide it. Other customers are also protected by the proposed structure because new large customers will be required to make financial commitments, which will encourage these customers to develop accurate forecasts and timelines for their energy use.

In addition to maintaining affordability, we need to be able to build new critical infrastructure as quickly as possible to reliably serve these new customers. There is a disconnect between the time needed to develop new transmission and generation and the timelines requested for supply by these new, large customers. These new customers typically expect to begin consuming energy in one to three years whereas the infrastructure upgrades necessary to serve them – new lines, substations, and transformers – can take far longer to put into service.

Nationally, the trends are moving in the wrong direction. To connect facilities with significant demand plus the generation to serve this demand in vertically integrated states, can sometimes take five to ten years. Transmission development has been slowing as interconnection requests are increasing. In the early 2010s, for example, the U.S. installed an average of 1,700 miles of new high-voltage transmission miles per year. That has dropped by nearly two-thirds to 645 miles on average in the second half of the decade. Regulatory approvals, siting, permitting, legal challenges and supply chain constraints have hampered our efforts to expand this vital



network.¹⁰ We need to expedite every aspect of the infrastructure timeline to meet this growing demand.

Finally, many of these large customers' consumption patterns are different from more traditional customers. Once connected, we must also ensure that we protect our grid equipment and infrastructure so that these large customers do not adversely affect grid reliability and stability as their demand may fluctuate resulting in sudden surges or drops in power consumption that, if unprotected, can lead to equipment damage and other wear and tear on generation facilities. Transmission operators and planners also continue to face challenges due to limited modeling of these large loads and their impact on the system as well as a lack of available tools to manage these significant power demands. We will need to address all of these challenges as we serve the growing demand.

V. Policy headwinds will make serving increased demand more difficult

a. The Environmental Protection Agency's power plant rules will exacerbate resource adequacy concerns.

The EPA recently issued several regulations impacting the power sector. The Clean Air Act (CAA) Section 111 greenhouse gas (GHG) rules have the potential to exacerbate increasing concerns about generation resource adequacy and maintaining reliability. Compliance strategies for the proposed rules will be expensive and are dependent in part on the development of technologies, like carbon capture and storage (CCS), that have not been fully demonstrated at scale.

AEP is uniquely positioned to comment on CCS based on our first-hand experience more than a decade ago with validation of the technology in an integrated configuration at an AEP coal-fired power plant in West Virginia. CCS is a technology we want to see work, but significant development challenges remain that will likely require years to resolve. A comprehensive review of those challenges, coupled with experiences of private and public entities developing the technologies reveals that CCS has yet to be demonstrated as the best system of emissions reduction (BSER). CCS development challenges that remain include technical, financial, regulatory, and practical concerns related to the capture, transport, and storage aspects of the process.

Even though significant investment has gone into advancement of CCS technologies, these technologies have not yet demonstrated viability for reducing CO₂ emissions at fossil fueled power plants. Simply put, not a single coal or gas power plant exists in operation today in the U.S. with integrated CCS capturing and permanently sequestering 90% of the CO₂ produced

¹⁰ John D. Wilson and Zach Zimmerman, Grid Strategies, "The Era of Flat Power Demand is Over," p.3 (Dec. 2023), subscriber.politicopro.com/f/?id=0000018c-5ade-d0ce-a98c-7efee7f30000.



by that plant. At the current pace of development and absent any existing commercial operations of generation-based CCS to reference, CCS will not be an adequately demonstrated, viable control option for many years, and likely not by 2032 as envisioned by EPA.

If the rule survives challenge or remains unaltered, coal-fired power plant owners will be forced to either convert their plants to natural gas, install unproven technology at a significant cost to customers or prematurely retire assets at a time when we need more electricity, not less. To meet the reliability and affordability requirements of our customers, utilities will likely build more natural gas plants. But we will have to operate them at a lower capacity factor to avoid having to install CCS due to the aforementioned current development state of the technology. The timeframes to accomplish this under the rules are unreasonable and may lead to the construction of more, not fewer, natural gas plants to meet growing demand to fill the gap left by the premature retirement of coal generation.

Finally, the EPA announced in March that it would delay issuing a proposal that will address GHG emissions from the existing natural gas electric generating unit (EGU) fleet. The existing natural gas-based fleet is diverse, from a size, technology, efficiency, emissions, and operations perspective, which will make it difficult to develop a workable regulation that maintains grid reliability and affordability.

b. Repealing the Inflation Reduction Act would make it more costly to serve growing demand.

AEP has invested significantly in our generation fleet, including in renewable energy resources. We have constructed or received regulatory approvals to own \$8.6 billion of renewable energy projects over the last four years. Between now and 2028, we plan to invest \$9.4 billion in renewable energy projects and \$2.4 billion in other forms of generation resources, including natural gas fired generation. This is in addition to procuring contracted renewable energy resources from third parties. These projects have all benefited from the IRA clean energy tax credits, the benefits of which are directly passed through to our regulated consumers, and are expected to provide our customers \$2.7 billion dollars of benefits through 2033.

Many components of the IRA, especially the technology neutral tax credits as well as the nuclear credits, are critical to AEP's commitment to managing costs for our customers. If the IRA is repealed, it would increase the cost of power and make it harder to serve increasing demand as large customers may look to other countries to serve their load at a cheaper price. Maintaining the IRA and the nuclear and technology neutral tax credits helps to keep America competitive.

c. Siting and permitting delays will negatively impact demand growth.

While most of AEP's infrastructure projects eventually receive the necessary approvals required in federal and state permitting and siting processes, these processes can take a



significant amount of time to complete and can involve lengthy and costly litigation. Siting and permitting reform will be essential to ensure the timely installation of infrastructure that will be required to quickly meet increasing demand during the next decade. Otherwise, these projects could suffer from extensive delays under the current permit system, ultimately delaying benefits to customers.

Today, it can take up to a decade to permit and build some transmission projects. Significant transmission investment will be needed to improve the resilience of the electric grid and meet future demand requirements. Without significant permitting improvements over the next decade, our nation's transmission system may fall short of the reliability standards our economy requires and will result in higher electricity costs to consumers.¹¹

VI. Congressional action can help the electric industry meet customers' growing demand

a. Congress should work with regulators to ensure electric system resource adequacy and prevent premature retirements of dispatchable power plants.

Increasing electric demand is outpacing the construction of new generation in many areas, and there are little signs of this trend slowing down. Dispatching generation to serve and cover expected large demand that may operate 24/7 is a challenge, particularly when environmental regulations and economics are forcing large amounts of the existing dispatchable fleet to close and limiting construction of new dispatchable resources. In addition, these large customers often have expectations for clean energy sourcing, and some want matching of the clean energy supply to their consumption on an hourly basis. This creates unique challenges, particularly when much of the clean energy supply will be sourced from solar¹² and wind generation which will not always be available.

Congress should work with FERC and other federal and state constituents to ensure reliability and resource adequacy. This includes carefully evaluating the need for the establishment of a central planning authority to review resource adequacy plans on a region-by-region basis with key federal, regional, and state constituents to ensure high degrees of system reliability. Though we recognize the difficulty of this, we think it is important. While there are many entities involved in decision making around resource adequacy – utilities, states,

¹¹ See Department of Energy's Draft National Transmission Needs Study, *available at*: <https://www.energy.gov/sites/default/files/2023-02/022423-DRAFTNeedsStudyforPublicComment.pdf>. The study finds that the highest value of new transmission is across the three electrical interconnections and during extreme weather events. *Id.* See also NERC 2023 Summer Reliability Assessment, *available at*: https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_SRA_2023.pdf

¹² "Solar accounted for more than 80% of new clean power capacity added during the [first] quarter of 2024." American Clean Power Association, "Clean Power Quarterly Market Report: Q1 2024," [24 Q1 Report 240507.pdf](https://www.cleanpower.org/24-Q1-Report-240507.pdf) ([cleanpower.org](https://www.cleanpower.org)).



regulators, legislators, FERC, NERC, RTOs, Independent System Operators (ISO), and the Department of Energy (DOE) – none of these entities is *wholly* responsible for resource adequacy under their current mandates. Forming a central planning authority solely focused on the issue could, among other things, provide large customers the confidence they need to grow their business while giving utilities and other interested parties the certainty that they can meet the new demand. Building the grid of the future must be a bipartisan effort to achieve our nation’s common goal—a safe, reliable, and affordable grid.

Congress should also ensure that electric balancing authorities have reasonable safeguards to protect system reliability. Such safeguards would allow system operators to require reasonable reliability-must-run (RMR) or “safety valve” provisions in all regions so plant closures do not impact grid reliability and the ability to serve all customers, including those with large electric demand. Reliability and cost must be viewed consistently and considered hand-in-hand with long-term environmental considerations. EPA also recognized, to a certain extent, the importance of reliability in its final Section 111 GHG rules,¹³ and we need to apply a similar viewpoint to existing plants. Congress should direct the Federal Energy Regulatory Commission (FERC) to require system operators to add these reliability solutions in their regions.

In addition to maintaining fossil fuel baseload resources for reliability purposes, Congress should continue to support the existing nuclear fleet. While providing financial and regulatory certainty for new advanced reactor technologies will be important, the continued operation and life extension of the nation’s existing nuclear fleet is critical to serving today’s demand and ensuring that the system can continue to meet growing demand. Nuclear generation provides 20 percent of our nation’s power and half of the country’s carbon-free electricity while supporting over 100,000 high-paying jobs nationally. Nearly all these plants could be relicensed for an additional 20, and in some cases, 40 years.¹⁴ Congress must continue to provide financial certainty for these existing resources.

b. Congress should expedite the deployment of new 24/7 dispatchable and clean generation resources to meet growing consumer demand.

As noted above, customers are seeking and expecting their power requirements to be met as quickly as possible, and often on timelines that are nearly impossible to achieve even under the best of circumstances. Congressional support will be needed to expedite our ability to meet this growing demand. First, Congress should require FERC to allow for the prioritization or “fast tracking” of generation resources in the interconnection queues selected by load-responsible

¹³ Environmental Protection Agency (EPA), “New Source Performance Standards for Greenhouse Gas Emissions from New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule,” p. 29.

¹⁴ Nuclear Energy Institute, “What is Nuclear Energy,” [What Is Nuclear Energy? \(nei.org\)](http://www.nei.org).



entities who need to meet their load and reserve margin requirements.¹⁵ This is important, as load-responsible entities have the obligation to serve customers and may need to access projects that are deeper in the interconnection queues to maintain reliability. Generator interconnection queues across the country are significantly backlogged, and non-dispatchable resources account for over 94% of the generation in the queues countrywide.¹⁶

Second, Congress should encourage the development and deployment of advanced technologies like next generation nuclear. One example is the bipartisan effort to establish secure fuel supplies for both today’s reactors and the next generation and to reform the nuclear regulatory process through the ADVANCE Act and Atomic Energy Advancement Act. Congress should also stimulate the widespread adoption of next-generation nuclear through policies that bridge the cost hurdle for the first small modular reactors (SMRs) and mitigate the risk of cost overruns. Initial deployments of new nuclear energy technologies will face early mover costs that will not be borne by later projects. DOE has estimated that the first SMRs may cost twice as much as those that follow, without considering the potential for unanticipated cost overruns.¹⁷ The Secretary of Energy should be authorized to establish a program to mitigate the risk of cost overruns and establish grants for the first SMRs. Congress should also support the funding of early site permitting and licensure fees for a select number of early SMRs.

In addition to encouraging the development of advanced technologies such as next generation nuclear, Congress should pass a siting and permitting package that expedites the development of infrastructure critical to meeting growing power demand. Infrastructure projects frequently require federal permits and are therefore subject to environmental reviews under a variety of federal and state statutes, including the National Environmental Policy Act (NEPA), Clean Water Act (CWA), and Endangered Species Act (ESA), among others. Not only can these required environmental reviews take years and significantly slow down progress, adding unnecessary costs for critical energy infrastructure, but these statutes have increasingly resulted in protracted litigation that further disrupts infrastructure deployment, delays the creation of clean energy jobs, and adds time and cost to these critical infrastructure projects. Every decision in the multi-faceted, multi-agency, complex siting and permitting process should have a statutory

¹⁵ AEP advocated for this solution during FERC’s proceeding entitled *Improvements to Generator Interconnection Procedures and Agreements*, “Moreover, entities with a reserve margin obligation must have the ability to prioritize the interconnection of needed capacity in the generator interconnection process. This ability is especially important as the nation transitions to meet clean energy goals while also seeking to provide the resilience needed to address increasingly extreme weather.” Federal Energy Regulatory Commission, Docket RM22-14-000, “Initial Comments of American Electric Power Service Corporation,” p. 19.

¹⁶ S&P Global Commodity Insights, “2024 US Interconnection Queue Analysis,” p.4 (April 2024), *available at*, [Interconnection queues show swelling volume but FERC reforms slowly taking hold | S&P Global Market Intelligence \(spglobal.com\)](https://www.spglobal.com/market-intelligence/articles-views/2024-us-interconnection-queue-analysis)

¹⁷ Department of Energy, “Pathways to Commercial Liftoff: Advanced Nuclear,” p.5, April 2023.



timeline associated with it to ensure deadlines are met, and litigation review should be limited to provide much-needed certainty to applicants.

Furthermore, while this Administration has made some progress on expanding the use of categorical exclusions under NEPA for certain transmission projects in limited regulatory contexts, categorical exclusions can and should be deployed more frequently by all federal agencies for critical infrastructure projects that will have a minimal impact on their surrounding environment.¹⁸ AEP supports environmental processes that are clear, transparent, and as efficient as possible.

Finally, Congress should maintain the existing IRA nuclear and technology neutral tax credits. A diverse energy resource strategy is important from both an environmental and cost standpoint, and the IRA supports this through tax credits for various technologies. These credits are necessary to accelerate growth in innovative technologies to not only meet U.S. electricity demand but keep the U.S. globally competitive.

c. Congress should encourage FERC’s recent efforts to support the efficient development of necessary regional and interregional electric transmission facilities to ensure reliability and accommodate economic growth and development

Significantly more regional and interregional transmission will be needed to efficiently deliver electricity to customers. The issuance of FERC Order No. 1920 is a positive first step. It reforms the regional transmission planning process and includes standardized and expansive planning scenarios, incorporates longer-term planning time horizons, and considers a wide range of benefits over a long time to better reflect the value of the life cycle of the assets being placed into service. Order No. 1920 also creates a bigger role for states to play in both the planning process and cost allocation, includes transmission technology alternatives, and increases pathways to meet long-term transmission needs, while doing so affordably and equitably.

Many of these reforms are necessary to ensure reliability and accommodate the nation’s growing demand. Long-term regional transmission planning reforms will allow transmission providers to go beyond the current “just in time” approach to planning that focuses on addressing specific system needs as they occur. Instead, transmission developers can now plan projects that address a multitude of needs that are anticipated to develop over a long-term horizon more efficiently and cost-effectively for customers. Proactive, scenario-based long-term planning assists planners to consider the many ways the future may unfold and how to respond effectively

¹⁸ Department of Energy, Docket DOE-HQ-2023-0063, “National Environmental Policy Act Implementing Procedures.”



and flexibly as the future becomes reality. This allows for “least regrets” transmission planning and will better enable us to ensure system reliability and meet the demand growth.

While FERC’s Order No. 1920 addressed regional transmission, the lack of interregional transmission can create bottlenecks that prevent the transmission of lower-cost power to customers, and can leave regions needlessly vulnerable to shortages and outages during peak demand and extreme weather events. Establishing a durable framework for interregional transmission requires Congressional action. AEP appreciates efforts by Senators on this Committee to address this issue but strongly advocates for regional flexibility in setting any potential minimum transfer requirements for interregional transmission.

d. Congress should recognize the other factors that will impact or could result from growing demand.

While less directly impactful to growing demand, Congress should be mindful of other policy areas that could affect large customer demands or that could result from interconnecting such significant demand centers to the nation’s electric grid. For example, we need to ensure that we have the supply chains and the workforce necessary to build the infrastructure needed to meet this increased demand. AEP has long partnered with our labor unions like the International Brotherhood of Electrical Workers (IBEW) and the Utility Workers Union of America (UWUA), to build our infrastructure. Congress should continue to support workforce development and educational partnerships with high schools, trade schools, and community colleges.

We must also acknowledge that large, rapid electric demand increases can pose additional risks to the bulk power system that need to be addressed and mitigated. Demand from certain large customers can be unpredictable and can pose grid stability challenges for real-time operators. Utilities also need to obtain critical information for modeling as well as potential risk assessments from large customers. Creating and implementing preventative risk mitigation strategies while partnering closely with legislators, regulators, and other industry partners will strengthen the reliability and resilience of the grid while supporting large new customers driving economic growth for our communities.

VII. Conclusion

As discussed above, AEP identifies the following priorities for Congressional action:

- Congress work with regulators to ensure electric system resource adequacy and prevent premature retirements of dispatchable power plants. This includes:
 1. Considering the impact of recent EPA regulations which could hasten the pace of plant retirements and diminish reliability;
 2. Collaborating with FERC and other federal and state constituents to evaluate the establishment of a central planning authority focused on reliability; and



3. Directing FERC to ensure that viable reliability “safety valve” mechanisms are in place to prevent premature plant retirements
- Congress should also expedite the deployment of new 24/7 dispatchable and clean generation resources to meet growing consumer demand. This could be done through:
 1. Encouraging FERC to allow for “fast-tracking” of generation resources in the interconnection queues selected by utilities to meet their obligation to serve customers;
 2. Encouraging the development of advanced technologies such as next generation nuclear;
 3. Passing a siting and permitting package that accelerates the development of infrastructure; and
 4. Maintaining the Inflation Reduction Act and the technology neutral and nuclear tax credits which serve to reduce costs to customers
 - Finally, Congress should encourage FERC’s recent efforts to support the efficient development of necessary regional and interregional electric transmission facilities to ensure reliability and accommodate economic growth and development

In summary, the utility industry needs Congressional support as we rise to meet the challenges of delivering reliable and affordable energy to serve the future needs of our country. It will take a diverse mix of resources and supportive policy to serve this increased demand while continuing on the path to a clean energy future and maintaining affordable and reliable power. We must move fast and with purpose. We look forward to the challenge.