Subcommittee on Energy
Hearing on
"Scaling for Growth: Meeting the Demand for Reliable, Affordable Electricity"
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The Honorable Robert E. Latta (R-OH)

1. We all agree on the importance of modernizing our infrastructure to ensure we reliably get power to AI data centers. As the co-chair of the Grid Innovation Caucus, I am interested in grid-enhancing technologies that improve the performance of the transmission system. An example is the use of advanced power conductors that can double capacity of the grid using the same right of way.

    a. Can you please comment on this approach to ensure we get the most out of the current grid by deploying modern technology?

RESPONSE: Basin Electric continuously evaluates conductor materials to meet our members' evolving needs and has invested in facilities that utilize grid-enhancing technologies (GETs), including advanced conductors and Dynamic Line Rating (DLR) systems. We have implemented carbon fiber composite core, one type of advanced conducting, on three recently energized transmission projects: the 230-kV, 26-mile Neset-North Shore line and the 345-kV, 15-mile PGS-Judson and 33-mile Roundup- Kummer Ridge lines. We also plan to evaluate the use of advanced conductors for future transmission projects. The U.S. Department of Energy (DOE) has been a key partner for many electric cooperatives across the country in pursuing similar projects, particularly through the Grid Resilience and Innovation Partnerships program.

Advanced electrical conductors offer greater strength and thermal capacity than traditional conductors, which can reduce the size and quantity of grid structures required. This can lower costs for members and reduce impacts on landowners. These technologies can also significantly increase the capacity of existing transmission infrastructure and improve operational flexibility, especially during cooler temperatures or favorable weather conditions.

However, increasing thermal ratings is just one part of a more complex transmission system. As loading increases, new challenges may emerge, such as voltage stability concerns, increased reactive power demands, and potential transient instability. These issues typically require additional infrastructure investments such as capacitors and reactors.

While Basin Electric views GETs as essential tools to modernize the grid, we believe that optimizing transmission system performance requires a holistic, system-wide approach that accounts for all physical and dynamic constraints, not just thermal limitations. This approach will naturally vary from one cooperative to another, depending on their unique systems and operational needs. Therefore, flexibility in the implementation of GETs is critical. Ultimately, a

combination of GETs and news transmission facilities will be necessary to meet the future demands of the electric grid.

2. Economic Development and Forecasting Consistency: Accurate and transparent Electricity load forecasting is a linchpin of modern economic development. States rely on these forecasts to plan new industrial parks, data centers, and manufacturing hubs, while utilities use them to schedule grid expansions and major infrastructure investments. Despite the vital role of load forecasts in spurring economic growth, practices vary widely among states, often leading to inconsistent data, misaligned investment signals, and unnecessary risk for both utilities, and both large and residential customers. Concerns have been raised that a patchwork of forecasting methodologies can exacerbate speculation in large-load interconnection requests, inflate demand projections, and drive up costs.

    a. Recognizing these issues cross both state and federal jurisdictions and regional differences, how do you think Congress can play a role in establishing a baseline of consistency across state jurisdictions that will help align economic development strategies with reliable, cost-effective grid planning?

RESPONSE: Forecasts can be developed by anyone and can vary significantly. To accurately assess the needs of the electric grid, Congress should work closely with regional transmission organizations (RTOs), independent system operators, and electric utilities.

3. Regarding planning for transmission, what specific impediments have you identified to current state and regional planning for the siting of transmission projects?

RESPONSE: Basin Electric participates in transmission planning processes within Southwest Power Pool, Midcontinent Independent System Operator, and our western Common Use system. These processes have generally been effective in identifying system needs and proposing solutions to address regional reliability and economic concerns.

However, we face an unprecedented scale and pace of interconnection requests. In some regions, requests to interconnect new load and generation resources could effectively double the existing system footprint, dramatically increasing the demand on the transmission system. The scale of infrastructure needed is rapidly outpacing the ability to site, permit, and build new transmission in time to meet rising demand.

    a. What are examples of impediments you have identified, and what is necessary for system planners to overcome these impediments?

RESPONSE: The primary challenges we encounter fall into two categories: planning-level bottlenecks and execution-level hurdles.

Volume and Complexity of Interconnection Requests: The growing number and magnitude of new load and generation interconnection requests place significant pressure on planners to identify transmission upgrades in a timely and strategic manner.

Compressed Timeframes: Developers often seek near-term interconnections, but permitting and construction timelines rarely align with those expectations, especially under current market conditions.

Supply Chain Delays: Lead times for critical equipment, such as power circuit breakers and large power transformers, have extended beyond five years in some cases, introducing additional uncertainty and delays.

Public Opposition: Local opposition can delay or derail projects, especially when it surfaces late in the routing process. This is often rooted in concerns about land use, environmental impact, and perceived lack of transparency.

Communication Gaps: There is often a disconnect between the goals of utilities and RTOs and how those efforts are perceived by the public. Clear, consistent messaging about the necessity and benefits of transmission development is crucial to building understanding and public support.

To overcome these challenges, system planners must pair technical solutions with stronger public engagement and improved coordination across permitting agencies, regulators, and community stakeholders.

b. What reforms do you recommend to improve state and regional planning to overcome these impediments?

RESPONSE: *Earlier and Deeper State Engagement*: States should be more integrated into the early stages of RTO planning processes to better understand system needs, project benefits, and timelines. RTOs operate under an open and transparent framework, and in our region, increased participation by state regulators has improved alignment between system planning, permitting and state policy decisions.

Improved Interregional Coordination (Seams Planning): Coordination between RTOs remains a challenge, especially around cost allocation. Projects that span regional seams often stall because one region is unwilling to pay for perceived benefits received by another. While progress is being made, if voluntary coordination does not continue to improve, a more formalized approach may be needed to ensure equitable solutions and regional accountability.

4. In the last Congress and the previous administration, there was a lot of talk about transmission policy reform.

a. How does Basin plan transmission in your region and with other regions? What should Members understand about the nature of transmission planning as it exists today?

RESPONSE: Basin Electric follows the transmission planning requirements laid out in Federal Energy Regulatory Commission (FERC) Orders 890 and 1000 within each RTO in which we operate. This process ensures robust stakeholder engagement, technical rigor, and transparency in the development of both near-term and long-term system plans. These plans are primarily driven by regional reliability needs and economic congestion relief.

However, the planning framework is inherently regional in scope. While it functions well at that level, it does not account for broader, national reliability or infrastructure perspectives. As system demands grow across interconnected regions, gaps may emerge that regional planning alone cannot fully address.

b. Does a top-down approach, through FERC, serve the interests of utilities and the grid operators that are already expending tremendous time and engineering resources on designing new transmission?

RESPONSE: There could be value in supplementing existing regional planning with a national transmission planning study. Such an effort would help identify interregional infrastructure gaps, align broader North American reliability strategies, and support long-term national economic and energy security goals.

That said, any top-down approach must build on and not replace the detailed, region-specific work already being done by utilities and RTOs. National coordination should complement local expertise and regional planning structures, not override them. Ultimately, the goal of any planning framework—whether national or regional—must be to support load-serving entities in reliably and affordably meeting the needs of consumers. A top-down approach should always remain grounded in this core objective.

5. As you know, a diverse fuel supply, including natural gas, is helping to ease the grid constraints that we are experiencing in many regions of the country.

    a. Would you please discuss how the attributes of natural gas, for example, the ability to provide “peaking power” and load management, help to manage the grid?

RESPONSE:
Fast Startup and Grid Synchronization: Natural gas generators can start up rapidly, often synchronizing with the grid in under 10 minutes. They typically have short minimum run times and down times, enabling them to operate for brief periods and cycle between online and offline modes multiple times per day.

Operational Flexibility: These generators are highly responsive, capable of ramping up or down quickly to meet real-time grid demands. Their flexibility makes them ideal for providing ancillary services and supporting grid stability during fluctuating conditions. They can be utilized for both short-term dispatch and extended run durations as needed.

Fuel Procurement and Transport: Natural gas fuel can be secured through long-term contracts with daily ratable delivery or purchased on the spot market. Transportation and storage options include interruptible service or firm service at a premium, offering a range of cost and reliability trade-offs.

Predictable Maintenance: Maintenance schedules are typically based on a generator's run hours and number of starts, allowing operators to plan outages with more precision. This predictability supports system reliability and minimizes unplanned downtime.

Scalable Capacity: Natural gas generators are available in a wide range of capacities, from small 5-megawatt (MW) units to large-scale installations exceeding 1,500 MW. This scalability enables grid operators to select the most appropriately sized resource for specific demand scenarios.

Environmental Advantage: Compared to coal or diesel-fired units, natural gas generators produce significantly lower emissions of nitrogen oxides (Nox), sulfur dioxide (SO2), and carbon dioxide (CO2), making them a more efficient option for meeting air quality standards and requirements.

b. What role is natural gas playing behind the meter, through onsite generation and backup power?

RESPONSE: Natural gas provides opportunities to reduce load and provide supplemental power when managed behind the meter. This approach can provide the reductions needed to meet capacity requirements when managed optimally.

The Honorable John James (R-MI)

1. Governor Whitmer signed Senate Bill 271 in November 2023 to require Michigan to achieve "net zero" emissions by 2040. Now, the Democrats will say that this will create jobs and opportunities will be abundant. But the reality in my home state of Michigan tells a different story. These policies and laws strike fear and create hesitancy for manufacturers to consider setting up shop in Michigan before they consider states like North Carolina or Ohio.

   Michigan remembers the Great Recession, where 50% of all the jobs lost in all of America were lost in OUR state alone. We lost jobs to Mexico and China. SB 271 and the Green New Scam agenda plan cannot meet demand for industry or to stand up data centers. What's worse, the Biden administration's harmful regulations limited the ability to build new natural gas plants needed to meet growing demands.

   President Trump has a mandate to usher in innovation and reindustrialization, especially in Michigan where his message was accepted loud and clear. We need reliable energy to get this done. If we want to continue pursuing unreliable and unrealistic energy agendas then we can expect less manufacturing jobs and less innovation to come and stay in states like Michigan.

   a. You discussed various regulations that the Biden EPA put on the power plant sector that would severely limit the ability to build new natural gas plants needed to meet growing demand and impose massive compliance costs on existing plants. While I'm confident the Trump EPA will seek to reverse these harmful restrictions, how does the lack of clear and durable federal rules impact Basin Electric and other co-ops?

RESPONSE: As previously noted in the submitted written testimony (Page 3), Basin Electric is planning to construct the Bison Generation Station (BGS), which is an approximately 1,470 MW natural gas-fired combined-cycle power plant. The project has an estimated budget of $4 billion and is expected to come online in 2030.

However, uncertainty surrounding the potential repeal or continuation of Biden-era regulations—specifically the Power Plant Greenhouse Gas Rule—poses significant challenges. As Basin Electric proceeds with permitting and construction, it is unknown whether or not the plant will be limited to a 40% capacity factor, as would be required under the current rule, or be permitted to operate as a base-load unit.

This regulatory uncertainty presents a significant risk not only to Basin Electric but also to other cooperatives planning new generation. The lack of clear, consistent, and durable federal environmental rules across administrations makes long-term resource planning extremely difficult. Basin Electric and other utilities must make multi-billion-dollar investments in infrastructure expected to operate for decades, without knowing how the future regulatory shifts may affect their viability. Ultimately, this uncertainty translates to wasted resources and increased costs for consumers.