



ADVANCED NUCLEAR ENERGY COMMITTEE

Monday, December 15, 2025
Roughrider Room, State Capitol
Bismarck, North Dakota

Senator Dale Patten, Chairman, called the meeting to order at 10:00 a.m.

Members present: Senators Dale Patten, Cole Conley, Claire Cory, Tim Mathern; Representatives Dick Anderson, Macy Bolinske*, Ben Koppelman, Alisa Mitskog*, SuAnn Olson, Mike Schatz, Don Vigesaa; Citizen Members Pam Gorman Prochaska, Reice Haase, Sheri Haugen-Hoffart, Gavin McCollam

Members absent: Senator David Hogue; Citizen Member Claire Vigesaa

Others present: Senator Janne Myrdal, Edinburg, member of the Legislative Management Jennifer Curran*, Midcontinent Independent System Operator; Benjamin Hertz, Basin Electric Power Cooperative; Jordan Kannianen, Industrial Commission; Darcy Neigum, Montana-Dakota Utilities Resources Group Inc.; Dennis Pathroff, Power Companies of North Dakota; Tricia Pridemore*, Georgia Public Service Commission; Zachary Smith, North Dakota Association of Rural Electric Cooperatives

See [Appendix A](#) for additional persons present

**Attended remotely*

It was moved by Representative Vigesaa, seconded by Representative Anderson, and carried on a voice vote that the minutes of the September 3, 2025, meeting be approved as distributed.

It was moved by Representative Anderson, seconded by Representative Koppelman, and carried on a roll call vote that the committee request permission from the Chairman of the Legislative Management to hold a meeting at the Idaho National Laboratory in Idaho Falls, Idaho, for the purpose of presentations and tours related to the committee's study of advanced nuclear energy, and request approval of funding to cover the cost of the out-of-state meeting. Senators Patten, Conley, Corey, and Mathern; Representatives Anderson, Bolinske, Koppelman, Mitskog, Olson, Schatz, and Vigesaa; and Citizen Members Gorman Prochaska, Haase, Haugen-Hoffart, and McCollam voted "aye." No negative votes were cast.

Mr. Jordan Kannianen, Deputy Executive Director, Industrial Commission, presented information ([Appendix B](#)) regarding transmission infrastructure, electric grid reliability, and the electric grid's ability to meet current and future energy demand in the state. He noted:

- A large-load impact study conducted with the Energy and Environmental Research Center used modeling of large-load scenarios to identify the top 10 binding constraints where system upgrades would be required to accommodate additional large loads.
- The study results indicated adding large loads without corresponding electric generation would increase congestion and locational marginal prices.
- The study also indicated strategic infrastructure planning could provide new economic opportunities for the state.

Ms. Jennifer Curran, Senior Vice President, Planning and Operations, Midcontinent Independent System Operator, presented information ([Appendix C](#)) regarding electric grid capacity and considerations for planning and implementing grid-connected projects. She noted:

- Nuclear generation represents about 6 percent of installed capacity in the Midcontinent Independent System Operator (MISO) region and produces 14 percent of the region's energy.
- More nuclear generation is starting to come onto the system, but the region is not seeing many small modular reactors (SMRs).
- Load growth across the MISO region has largely remained flat from 2015 to 2025, but future projections indicate a significant increase in load growth driven by various factors, the most significant of which include industry development and reshoring, electric vehicles, and data centers.

In response to questions from committee members, Ms. Curran noted:

- MISO typically does not weigh in on siting decisions for new nuclear generation because those decisions are made by the state regulatory commissions and load-serving entities in each state.
- Some utilities have extended the life of a coal or gas plant to support load growth or bridge the gap until new generation comes online.

Mr. Casey Cathey, Vice President, Engineering, Southwest Power Pool, presented information ([Appendix D](#)) regarding electric grid capacity and considerations for planning and implementing grid-connected projects. He noted:

- Electricity demand is rising nationwide and is driven by new sources of demand, including data centers, cryptocurrency mining, oil and gas production, and electric cars.
- As coal and gas generators retire, the Southwest Power Pool (SPP) increasingly depends on renewable energy, which offers cleaner and lower-cost power but also brings challenges because of its variability.
- A generation interconnection queue dashboard is available on SPP's website, which provides information related to active projects in the queue, broken down by generation type and year.

In response to questions from committee members, Mr. Cathey noted:

- SPP has two nuclear facilities, one in Nebraska and another in Kansas, which currently have no plans for retirement.
- Resource planners have noted small-scale nuclear facilities are beyond the 10-year horizon, primarily due to concerns with cost-effectiveness.

Ms. Tricia Pridemore, Commissioner, Georgia Public Service Commission, presented information ([Appendix E](#)) regarding planning and implementation of advanced nuclear energy projects in Georgia. Ms. Pridemore worked with Georgia Power representatives to provide the committee with an overview of Plant Vogtle in Georgia. She noted:

- Plant Vogtle consists of four nuclear reactors, is the largest nuclear energy facility in the United States, and is the largest provider of clean energy in North America.
- Vogtle Units 3 and 4, both Westinghouse AP1000 nuclear reactors, began construction in 2009, have an expected operating life of 60 to 80 years, and provide reliable and clean baseload power to over 1 million homes and businesses.
- Workforce availability has been a key challenge for Vogtle Units 3 and 4 since construction began, with more than 9,000 workers needed at peak construction, 30,000 workers badged during construction, and approximately 800 permanent positions supported by the facility.

In response to questions from committee members, Ms. Pridemore noted:

- She recommends identifying a nuclear regulatory strategy that spans from initial financing through commercial operation, prioritizing transparency in the regulatory process, developing and maintaining a positive relationship with the Nuclear Regulatory Commission (NRC), and evaluating nuclear financing options available to the state.
- A significant factor in selecting the Plant Vogtle location was the availability of affordable land in an area with limited agricultural activity and close proximity to a reliable water source.
- Stakeholder concerns about nuclear energy often stem from historical negative perceptions and competitiveness among different electric generation sources.

Ms. Sheri Haugen-Hoffart, Public Service Commissioner, presented information ([Appendix F](#)) regarding the Public Service Commission's perspective on projected electricity demand growth and the potential role of advanced nuclear energy in the state. She noted:

- Retail sales of energy in the state grew by 243 percent between 1998 and 2023, largely attributable to commercial and industrial customers.
- Utility companies in the state are forecasting significant continued growth in demand.
- Relevant factors in evaluating nuclear energy for the state include spent fuel storage, higher construction costs and longer build times compared to other types of generation, and the limited ability of nuclear units to adjust output quickly compared to coal or natural gas facilities.

In response to a question from a committee member, Ms. Haugen-Hoffart noted the commission and utilities have a duty to ensure that decisions about new large-load developments do not harm ratepayers.

Mr. William Bridge, Co-Founder and Chief Technology Officer, Ryan Tourigny, Co-Founder and Chief Development Officer, and Pablo Argenal, Co-Founder and Senior Vice President of Infrastructure, Nucleon Energy Inc., presented information ([Appendix G](#)) regarding an interim report ([Appendix H](#)) related to the committee's study of the feasibility, siting, and deployment of advanced nuclear power plants in the state.

Mr. Bridge noted:

- The interim report is the first of five the committee will receive and examines siting and land use issues, including an evaluation of statewide conditions, the screening and scoring of potential nuclear siting areas, and a framework for approaching siting and future stakeholder consultation.
- A subset of NRC criteria for siting nuclear projects was used to identify potential nuclear siting areas.

Mr. Tourigny noted:

- No areas of interest were eliminated based on water availability, but reactor siting would depend largely on existing transmission availability.
- Community acceptance and early engagement are critical factors because although the screening identifies technically suitable sites, it does not reflect local support or preferences.

Mr. Argenal noted:

- A node-to-node analysis using data from the North Dakota Transmission Authority identified areas of interest suitable for further advanced reactor site investigation with different levels of grid hosting capabilities.
- SMR development is best located relatively close to population centers to more easily attract a skilled workforce, while still maintaining enough distance to comply with exclusion zoning and regulatory planning requirements.

In response to questions from committee members, Mr. Bridge noted:

- Cooling water requirements are comparable to those of gas-fired combined cycle plants and most water sources in the state can be used with appropriate treatment.
- Community engagement is outside Nucleon's scope of work; however, their role is to provide a framework the state can use to guide siting decisions and structure future stakeholder engagement in communities well-positioned to host an SMR.

ELECTRICAL UTILITY PANEL

Mr. Dennis Pathroff, representing the Power Companies of North Dakota, delivered introductory remarks regarding an electrical utility panel discussion with three shareholder-owned utilities and three electric cooperatives, each addressing core questions related to the utility's:

- Projected load growth over the next 10 years;
- Anticipated generation portfolio to meet the projected load growth and the role of nuclear generation, if any; and
- Planned transmission investments to accommodate projected load growth.

Basin Electric Power Cooperative

Mr. Benjamin Hertz, Manager of Power Supply Planning, Basin Electric Power Cooperative, provided information ([Appendix I](#)) in response to the core questions presented to panel participants. He noted:

- Basin Electric projects a compounded annual load growth rate of 2.5 percent over the next 10 years, driven primarily by electricity demand from the oil and gas industry and growing suburban residential and commercial development.
- The largest portion of the utility's generation portfolio is coal, followed by wind and natural gas, and the utility does not have any plans to add nuclear generation.
- The cooperative is undergoing a large development project for a 1,490-megawatt natural gas combined cycle plant called Bison Generation Station, with an anticipated commercial operating date of 2030.

Great River Energy

Mr. Zachary Smith, Communications and Government Relations Director, North Dakota Association of Rural Electric Cooperatives, presented information ([Appendix J](#)) on behalf of Great River Energy in response to the core questions presented to panel participants. He noted:

- The utility does not serve load in North Dakota and projects a compounded annual load growth rate of approximately 0.6 to 0.7 percent over the next 10 years.
- The utility's 2026 integrated resource plan will be filed in April 2026 and includes a wide range of technologies, including technologies for natural gas and renewable resources.
- The anticipated resource plan does not include nuclear generation, but nuclear power will be evaluated as an emerging technology in future resource planning.

Montana-Dakota Utilities Resources Group Inc.

Mr. Darcy Neigum, Vice President of Energy Supply, Montana-Dakota Utilities Resources Group Inc., presented information ([Appendix K](#)) in response to the core questions presented to panel participants. He noted:

- The utility's generation fleet consists of coal, natural gas, and renewable resources, with a total nameplate capacity of 736 megawatts.
- Forecasted load growth for customers, excluding data centers, over the next 5 to 10 years is projected at less than 0.5 percent annually, and the utility has just under 600 megawatts of electricity under contracts for data centers.
- Nuclear generation is not part of the utility's generation portfolio, and the utility views it as an emerging resource with a higher cost compared to other resources.

Minnkota Power Cooperative

Ms. Carlee McLeod, External Affairs, Minnkota Power Cooperative, presented information ([Appendix L](#)) in response to the core questions presented to panel participants. She noted:

- The utility's generation portfolio is predominantly coal and some wind, with no plans to develop nuclear generation, primarily due to costs associated with nuclear development.
- The utility experienced an annual load growth rate of approximately 1 percent over the last 20 years, with a potential for hundreds of megawatts to be added in the next few years, including load attributable to data centers and growth in the manufacturing and agricultural sectors.
- The utility announced a large-load project with Applied Digital, supplying their Harwood data center with 280 megawatts, with Applied Digital agreeing to fund all required infrastructure and resource costs.

Otter Tail Power Company

Mr. Nate Jensen, Manager of Resource Planning, Otter Tail Power Company, presented information ([Appendix M](#)) in response to the core questions presented to panel participants. He noted:

- The utility has a balanced generation portfolio that includes mostly coal, natural gas and oil, and wind, with a comparatively small amount of solar.
- The utility is forecasting very low, if any, load growth without including any large-load projects, which will be addressed on a case-by-case basis.
- New generation needs are identified through the integrated resource planning process, and nuclear generation has not been part of the planning due to high capital costs associated with nuclear development.

Xcel Energy Inc.

Mr. Matt Harris, Vice President, Legal, Xcel Energy Inc., presented information ([Appendix N](#)) in response to the core questions presented to panel participants. He noted:

- The utility serves its customers with a wide array of generation resources, including renewable, thermal, and nuclear generation.
- Load forecasting indicates an overall increase in load growth and additional generation will be required for load growth specifically attributable to data centers.
- The utility operates two nuclear generating facilities, the Prairie Island Nuclear Plant and the Monticello Nuclear Plant, both of which provide clean and reliable baseload generation.
- The utility incorporated advanced nuclear technology into its modeling to test the feasibility of adding an SMR into its nuclear fleet, which indicated a single SMR plant would demand about \$6.5 billion in capital investments in addition to meeting rigorous NRC licensing standards.

Comments from Interested Persons

In response to a question from a committee member, Mr. Matt Hanson, Chief Executive Officer, McKenzie Electric Cooperative, noted the importance of good communication and coordination with the bulk electric system.

No further business appearing, Chairman Patten adjourned the meeting at 3:26 p.m.

Megan J. Gordon
Code Revisor

ATTACH:14