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From: Carrie Hearne, Executive Director,
Commission on Electric Utility Regulation (CEUR)

To: Senator Scott Surovell, CEUR Chair

Subject: From IRP to ISP: Actions Needed for a Holistic, Transparent and Innovative Planning Process

On June 26, 2024, the Commission on Electric Utility Regulation (“the Commission” or “CEUR”) heard from a variety of parties on the integrated resource plan (“IRP”) which Dominion Energy Virginia updates every year. This memo lays out some initial findings and recommendations for the Commission to consider in its policy discussion for 2025 and beyond.

Virginia’s energy system is on a path toward a cleaner, interconnected and distributed energy system, while maintaining its high standard of affordable and reliable electricity. As so many are acutely aware, Virginia is experiencing a tremendous period of load growth, with a combination of data center growth, building electrification, and vehicle electrification. At the same time, the energy landscape is shifting from a wholly centralized system reliant on a small number of baseload and dispatchable nuclear and fossil-fuel generation facilities, to one where many diversified and distributed energy systems are being connected into the grid.

This rapidly changing grid requires not only keen oversight in the form of regulation and controls, but also an integrated process for smart planning, holistic systems thinking, collaboration and innovation.

This memo seeks to address (1) the schedule of the plan, (2) the scope of the plan, (3) transparency and engagement with stakeholders in the process, (4) advanced technological considerations for transmission planning (subject to #2), and (5) scenarios to be considered in the plan. Recommendations on page three.

Background:

For the Phase II investor-owned utility, a fully litigated proceeding for the IRP takes place in even numbered years and a non-litigated update is filed in odd numbered years. Per § 56-599 (“integrated resource plan required”) and as amended by the bill you carried in 2023 (SB 1166), 2024 marks the first year in which the new IRP public stakeholder process has been

implemented, occurring primarily in advance of the filing deadline. The next and final IRP stakeholder meeting for this cycle will occur on October 18, 2024, after the IRP has been filed with the SCC on or before October 15.

Definition:

The Code of Virginia defines “integrated resource plan” or “IRP” as “*a document developed by an electric utility that provides a forecast of its load obligations and a plan to meet those obligations by supply side and demand side resources over the ensuing 15 years to promote reasonable prices, reliable service, energy independence, and environmental responsibility.*” (§ 56-597)

Research overview:

Since my start date in June, I have gathered information on the utility planning process from a variety of sources, including my direct participation in the July and August Dominion IRP stakeholder meetings; review of the current statute that governs the process and requirements (Chapter 24, Electric Utility Integrated Resource Planning: § 56-597 through § 56-599); review of posted materials on the Dominion Energy Virginia IRP [website](#); independent discussions with stakeholders in Virginia, in the PJM region, and those with a national scope; and a brief literature review on the subject, including review of reports from RMI, NASEO and NARUC, and E3.

In pursuit of a clean energy transition

While these sources have been supremely informative, the IRP and utility planning topic area is complex: each state and each utility is a unique organization with unique variables to consider, with state-by-state comparisons not inherently uniform. Variables include but are not limited to the state energy policy landscape, clean energy goals, geography and topography, energy resource availability (e.g. wind, solar, geothermal), grid constraints and grid capacity, customer demands and load growth forecasts, regulatory requirements and filing processes, relationship of IRP to procurement and permitting, and so on.

Many states are looking to Virginia for leadership in this next era, in particular because Virginia has the largest concentrations of data centers in the country, even across the globe, and this energy demand is expected to continue to rise (though at an unknown rate or volume).

Since the passage of the Virginia Clean Economy Act in 2020, Virginia has a 100 percent clean energy goal in the form of a renewable portfolio standard (RPS), an energy efficiency resource standard (EERS), and a set criteria for reducing carbon emissions year over year through mid-century. There’s a mix of regulated and non-regulated utilities (IOUs, rural electric cooperatives, and municipal utilities) who all depend on an interconnected regional transmission grid which is operated by PJM, the largest regional transmission operator (RTO) in North America.

Virginia has a large geography with a diverse set of energy resources including but not limited to offshore wind, large and small solar sites, natural gas generation plants, active and abandoned mine lands, a large fleet of existing nuclear facilities and a strong potential for advanced nuclear (small modular reactors, or “SMRs”), pumped storage and battery energy storage facilities, and

a potential for hydrogen and geothermal. Many of these details can be found in the [2022 Virginia Energy Plan](#) which is released every four years at Virginia Department of Energy (“Virginia Energy”) (with updates every two years), or in the previous [Dominion Energy Virginia 2023 Integrated Resource Plan](#) filing (Case No. PUR-2023-00066). The State Corporation Commission also publishes an annual status report: [2023 Status Report: Implementation of the Virginia Electric Utility Regulation Act](#) (the November CEUR meeting will include presentations from the SCC on the 2024 report).

RECOMMENDATIONS

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The following recommendations are presented as opportunities for discussion with members of the CEUR and public participants.

- 1) Keep the current schedule in place. Given how quickly the energy sector is evolving and the pace of innovation in process, technology and an increase in public engagement, the utility should continue to file an IRP every two years with a fully litigated proceeding, as well as file a non-litigated update every two years. The stakeholder engagement process begun in 2024 should occur every year.
 - a) *An alternative would be to consider a fully litigated proceeding every three (3) years, with annual updates every year, and conducting stakeholder engagement every year. This could strengthen the trust between stakeholders as litigation is reduced, while planning and modeling scenarios could still be explored annually.*
- 2) Expand scope to ensure holistic grid planning. The scope of the IRP should be broadened to include transmission, distribution and generation planning to ensure a holistic and coordinated approach to meeting the needs of a changing and growing energy system. Instead of conducting the exercise as an integrated “resource” plan, the exercise should shift to an integrated “system” plan or “ISP.” SCC and/or CEUR staff should conduct an independent study with a workgroup informed by insights and research from staff, electrical engineering firm(s), representatives of the utility, national energy lab researchers, and state, regional and national thought leaders. The report should be delivered by October 2025.
- 3) The SCC should work with the utility and stakeholders to ensure a transparent and meaningful public engagement process is delivered. The SCC should establish rules or guidelines for maximizing data transparency including the following:
 - a) Access to modeling software via a dedicated license. More transparency can be achieved by ensuring the stakeholder group, or a representative of the public stakeholder group, can access the same modeling software via a dedicated license, as well as the modeling assumptions the utility is using to inform its inputs to the model. This will enable stakeholders to present informed options, questions or alternatives for the utility’s and SCC’s consideration in both the drafting and review stages. The utility should negotiate a discounted, project-based licensing fee to permit a set amount of interested intervenors

- the ability to perform their own modeling runs in the same software package as the utility and for the utility to absorb the cost of the licensing fee(s).
- b) In addition to creating access to the modeling license, assumptions, and inputs, the utility should ensure that sufficient subject matter experts are present during the planning process to effectively and meaningfully engage with stakeholders and effectively address stakeholder questions or recommendations. Sensitive or secure data should rightfully be restricted per company security and privacy considerations.
- 4) The utility should include consideration of grid enhancing technologies (GETs) as alternatives to new transmission proposals, in addition to distribution grid considerations. GETs will help ensure savings to ratepayers and reduce impacts to communities and property owners. New transmission will inevitably be required to enable more clean energy resources to serve the grid, while also serving increased energy demands from customers, but GETs such as advanced conductors, dynamic line ratings, advanced power flow controllers and transmission switching should be considered and presented at the appropriate time and venue to either the SCC or PJM for review, as well as at the time of seeking a CPCN.
- a) *Note, this may be best suited as a directive to the utility to inform their work with PJM in the transmission expansion and long-term planning processes, related to FERC Order 1920.*
- 5) At minimum, the utility must present in its IRP/ISP filing a VCEA conforming scenario that does not assume to exercise an immediate exemption due to reliability concerns. This version must demonstrate meeting energy efficiency requirements; retirement of fossil fuel-based resources; unobstructed built-out of commercially viable clean energy generation facilities including but not limited to solar, wind, solar-plus-storage, standalone storage, including long duration energy storage, and other emerging or commercially viable clean energy technologies, and other requirements defined in statute.
- a) The social cost of carbon must be considered during the development of the IRP/ISP plan, included in the VCEA-compliant scenario.
 - b) Develop a mitigated load growth version that considers advancements and increased adoption in energy efficiency, demand response and load shifting, and aggregated or discrete distributed energy resources.
 - c) For other scenarios considered, it must be clear of the objective and focal point of the scenario to understand a certain programmatic, policy or market consideration.
 - d) All scenarios contemplated should be seen as viable, legally compliant plans for consideration. A “least-cost” plan that is not feasible nor compliant to the VCEA need not be considered.
 - i) *Note: it is our understanding that the model always seeks to find the “least cost” pathway in all scenarios.*

This topic will continue to be of interest to the CEUR, and further research is recommended. However, as research supports, there is an opportunity now to adopt forward-looking policy that

enables smart, holistic planning with a mind for innovation, transparency and collaboration to achieve the most affordable, reliable and increasingly clean energy grid for Virginia.

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ADDITIONAL RESOURCES

“Aligning Integrated Resource Planning and Distribution Planning – Standard Building Blocks of Electricity System Planning Processes.” NARUC-NASEO Task Force on Comprehensive Electricity Planning, 2019. <https://pubs.naruc.org/pub/27D273D6-9583-2B07-E555-38B1DB450279>

“Reimagining Resource Planning.” RMI, 2023. <https://rmi.org/insight/reimagining-resource-planning/>

“E3 Supports Salt River Project in Completing First-Ever Integrated System Plan.” E3, July 2024.
<https://www.ethree.com/e3-supports-salt-river-project-in-completing-first-ever-integrated-system-plan/>

“Integrated System Planning: A New Planning Paradigm” E3, July 2024.
<https://www.ethree.com/wp-content/uploads/2024/07/20240729-E3-SRP-ISP-A-New-Planning-Paradigm.pdf>

Stakeholders to consider engaging with CEUR on topic:

- RMI
- Southern Environmental Law Center (SELC)
- Dominion Energy
- State Corporation Commission (SCC)
- PJM
- EPE Consulting (Electric Power Engineers)
- NRDC
- Regulatory Assistance Project (RAP)
- Grid Strategies
- Virginia Department of Energy
- Data Center Coalition
- Virginia Association of Counties (VACO)

- Clean Virginia
- Renewable energy organizations including MAREC, CHESSA, SEIA, VA-REA, ACPA
- Others as identified