

ADVANCED ENERGY BUYERS GROUP

the policy voice of advanced energy purchasers

November 7, 2018

Virginia State Corporation Commission
1300 East Main Street
Richmond, VA 23219

RE: Comments of the Advanced Energy Buyers Group in Case No. PUR-2018-00100

To the State Corporation Commission:

The Advanced Energy Buyers Group (“AE Buyers Group” or “Buyers Group”) respectfully submits written comments for consideration by the State Corporation Commission (“Commission”) in response to Phase I of Dominion Energy Virginia’s (“Dominion” or “the Utility”) proposed Grid Transformation Plan (“GT Plan” or “Phase I proposal”).¹ These comments reflect our experience as large energy customers in the Commonwealth, and specifically as customers pursuing advanced energy technologies and services to meet our energy needs, including renewable energy, energy storage, energy efficiency, demand response, electric vehicles, and more.

Given this perspective, the AE Buyers Group supports efforts to create a more modernized, flexible, and interactive electricity system that enables greater penetration of customer-sited resources and higher adoption of electric vehicles, better integrates variable generation from large-scale renewable energy, and delivers electricity to customers more affordably and with fewer interruptions. Dominion’s Phase I proposal is an important step to unlock these and other potential benefits.

Members of the AE Buyers Group also recognize that modernizing Virginia’s electricity system will require upfront investments. **As ratepayers who will ultimately pay for the Grid Transformation Plan, we strongly urge the SCC to ensure that each investment, project, or program approved through the GT Plan is aligned with stakeholders’ common goals and**

¹ These comments represent the consensus view of the Advanced Energy Buyers Group (<http://www.advancedenergybuyersgroup.org>), but do not necessarily reflect the position of any individual company.

preferences, will bring benefits that outweigh the costs to ratepayers, and includes a roadmap for implementation with clear checkpoints and metrics to ensure delivery of expected benefits.

The AE Buyers Group therefore encourages the Commission to undergo a comprehensive yet efficient process to define upfront the shared goals of grid transformation, as well as appropriate metrics for evaluating utility proposals, prior to considering any grid transformation investments.

ABOUT THE ADVANCED ENERGY BUYERS GROUP

The Advanced Energy Buyers Group is a business-led coalition of large energy users engaging on policies to expand opportunities to procure energy that is secure, clean, and affordable. Members of the Buyers Group are market leaders and major employers spanning different industry segments, including technology, retail, and manufacturing. Our companies are among the 71% of Fortune 100 companies and 43% of Fortune 500 companies that have established renewable and/or climate targets as part of our corporate sustainability commitments. We share a common interest in expanding our use of advanced energy, such as renewable energy like wind, solar, geothermal, and hydropower; demand-side resources like energy efficiency, demand response, and energy storage; and onsite generation from solar photovoltaics, advanced natural gas turbines, and fuel cells.

In 2017, members of the AE Buyers Group totaled over \$1.2 trillion in revenue and collectively consumed over 18 terawatt hours (TWh) of electricity, including over 11 TWh of renewable electricity, equivalent to the electricity sales for the states of North Dakota and Delaware, respectively. This collective electricity use includes a significant footprint in Virginia. The AE Buyers Group previously provided input to the Virginia Department of Mines and Minerals regarding the 2018 Virginia Energy Plan, articulating a vision for a reliable, resilient, and flexible electricity system that provides customers with tools and flexibility to meet our energy needs.²

COMMENTS

I. The AE Buyers Group supports cost-effective efforts to modernize the electricity system.

A more modernized electricity system will better meet the needs of the AE Buyers Group as large businesses dependent on reliable and affordable electricity, and as companies pursuing advanced energy to meet our own needs. We support efforts to modernize the electricity system to ensure that Virginia customers and utilities are able to take full advantage of advances in technology—including improved software and data management tools as well as advances in customer- and grid-sited hardware—which can lower costs and improve grid reliability and resilience while delivering additional customer control and flexibility.

² Available at <https://www.advancedenergybuyersgroup.org/policy-engagement>.

In our operations, we have made use of a range of technologies and services to improve performance and lower electricity costs. We have taken steps to control our energy use and costs behind the meter through a range of different measures, including implementation of a range of energy efficiency measures, use of building energy management systems, participation in demand response programs, and installation of distributed energy resources such as onsite solar and energy storage. We have likewise diversified our electricity portfolios to include a growing share of offsite renewable energy projects, which allow our companies to meet our sustainability targets while stabilizing and often lowering our costs.

Grid transformation can unlock additional opportunities for customers such as our companies to manage our electricity use, while also ensuring that the grid is better able to utilize customer-sited resources, and better able to handle increased renewable energy penetration, among other benefits.

At the same time, it is important to recognize that grid transformation is not free, and the myriad potential benefits must be weighed against the expected costs. As customers who will pay for the transformation of the grid, the AE Buyers Group emphasizes the importance of finding a balance between the two, and strategically prioritizing those measures that will bring the greatest overall value. Sections II and III, below, provide our recommendations to balance costs and benefits in Dominion's Phase I Proposal.

II. The AE Buyers Group supports a thorough and deliberative stakeholder process to determine the appropriate level and scope of grid transformation investment.

Because “grid transformation” is an amorphous concept that could encompass a range of potential investments, projects, and measures—ranging from software tools to new rate structures to large infrastructure investments—the AE Buyers Group strongly encourages any state considering a grid modernization effort to start by first defining success. What is the grid being transformed from and to? Who should benefit from this transformation, and how? On what timeframe? How do the potential benefits (cost, reliability, innovation, customer experience, technology leadership, emission reductions, etc.) stack up in terms of relative importance? Only after stakeholders have considered these questions and aligned around a set of common goals will it be possible to evaluate whether the overall plan will lead to success, and whether each individual grid transformation project or investment is expected to contribute cost-effectively to the overarching goals.

The AE Buyers Group recognizes that the process set forth by legislation in Virginia has, perhaps unintentionally, resulted in development of the grid transformation proposal prior to public input. The result is that only one stakeholder—Dominion—has been afforded an opportunity to define the goals of grid transformation that informed the grid transformation proposal. **The AE Buyers Group therefore encourages the Commission to not consider Dominion's Grid Transformation Plan at this time, and to instead initiate a comprehensive yet efficient process to define upfront the shared goals of grid transformation, as well as appropriate metrics for evaluating utility proposals.** Should the Commission decline to take this approach, the AE Buyers Group encourages the Commission to use this comment process to

develop an understanding of the shared goals of key stakeholders, including commercial, industrial, and residential customers.

To that end, the AE Buyers Group recommends the following goals as a high-level starting point:

- **Cost savings for customers:** Grid transformation efforts should seek to realize customer savings wherever possible through adoption of cost-effective hardware and software tools that will lead to direct cost reductions or facilitate other opportunities for cost savings for customers.
- **Improved customer engagement and control:** Grid transformation efforts should empower customers to be more active energy managers through technology adoption (of electric vehicles, distributed energy resources, building energy management systems, etc.), and through delivery of actionable standardized data and tools. Grid transformation is also an opportunity to explore and introduce additional rate options, such as dynamic time-varying rates, that encourage effective energy management and allow customers to help Dominion manage the grid cost effectively. The AE Buyers Group notes that different customers and customer classes have different needs and preferences when it comes to customer engagement, and grid transformation proposals should account for these differences. Large customers, such as members of the AE Buyers Group, generally do not need significant education or support, and will derive greatest value from being granted flexibility to adopt beneficial new technologies and services in a way that meets our specific needs and preferences.
- **More efficient use of grid assets:** One of the key benefits of grid modernization is the potential to improve use of existing and future grid assets through technologies and services that reduce line losses, provide better grid visibility and management, and enable higher levels of renewable energy integration. These improvements should also contribute to the goal of cost reductions.
- **Increased opportunities for advanced energy and other emerging technologies:** A more flexible, modernized grid should more fully make use of the value and capabilities of advanced and emerging energy technologies—including both customer-driven and grid-sited resources such as electric vehicles, distributed energy resources, and energy storage. More efficient use and integration of these technologies will ensure that they are participating in the electricity system to their full potential, improving the cost-effectiveness of these investments while also facilitating increased opportunities for customer-driven adoption of these resources.
- **Ensure reliable and resilient electricity service:** As customers dependent on reliable electricity to meet our business needs, the AE Buyers Group supports cost-effective efforts to ensure continued grid reliability and resilience. As discussed in more detail below, we encourage the Commission to assess the needs and preferences of different customers and customer classes when establishing goals around reliability. These goals can then be used to assess necessary improvements.

Once the Commission has compiled a shared set of goals, these can be used to develop a framework for assessing potential investments. This should include a clear process for cost-benefit analysis, clear metrics for assessing non-financial benefits or outcomes, and a process for prioritization of investments. Without a clear sense of how different stakeholders value the various benefits of grid modernization, it will be impossible for the Commission to assess which individual investments should be considered cost-effective, and which should be rejected and/or held for a future time.

III. The AE Buyers Group has several concerns with Dominion’s Phase I Grid Transformation proposal, and makes several recommendations

1. The AE Buyers Group urges that all grid transformation investments be grounded in sound cost-benefit analysis.

The AE Buyers Group sees significant potential benefit from investments in grid transformation, and strongly encourages the Commission to approve only those investments for which the expected benefits will exceed the cost to customers. To do so, the Commission should rely on a comprehensive analysis of both costs and benefits.³ Such analysis should, at a minimum, provide a clear delineation of the following:

- Financial benefits to customers, expressed as net-present value;
- Explanation of how and when financial benefits will be delivered to customers (e.g., through rate reductions, deferred investments, etc.);
- Clear and robust delineation of non-financial benefits, including how and when these benefits will be realized by customers, what form they will take (e.g., reliability improvements, improved customer offerings, etc.), and how benefits vary between customer classes, if at all;
- Transparent and detailed assessment of total direct costs for the upfront investment and any implementation and ongoing costs; and
- Transparent and detailed assessment of indirect costs, including the embedded costs of utility investments, cost recovery for retirement of existing assets, etc.

Dominion’s proposal provides some top-line estimates of costs and benefits for certain investments, and discusses qualitatively some of the non-financial benefits, but falls far short of providing a clear, robust, and detailed delineation of all the elements described above.

Prior to approving any part of the grid transformation approval, the Commission should require additional information and analysis to fill any gaps. The costs and benefits should be provided alongside each other, and, to the extent possible, in a consistent format across the different proposed investments. Once this information is provided, the Commission should approve only those elements of the proposal that have been clearly demonstrated as being reasonable and prudent.

³ Availability of customer credit reinvestment offsets should not in any way relax the Commission’s scrutiny of proposed investments.

2. The AE Buyers Group encourages development of implementation roadmaps for each proposed investment, including clear performance metrics, to ensure delivery of anticipated benefits.

Realization of many of the financial and non-financial benefits of grid transformation will depend not only on sound decisions regarding the initial, upfront investments, but on effective implementation and integration of new tools and technologies. There is limited benefit, for example, from simply installing an advanced meter—the benefits of this investment will hinge on how the data collected by this new smart meter is used by both the utility and the customer.

Any project or investment approved by the Commission as part of Phase I should therefore include, upfront, a clear roadmap for how Dominion will implement, use, manage, and monitor the new tool, technology, service, or other investment to ensure that the anticipated benefits are fully realized.

Importantly, this roadmap should include performance metrics focused on the expected outcomes, and a process for the Commission to check on progress regularly. This is important to protect consumers against the risk of paying for benefits that are not delivered. The AE Buyers Group recognizes that the Utility has provided some proposed performance metrics, mostly around reliability; however, these are limited, and, with the exception of reliability, are more focused on outputs (such as AMI installations⁴) than outcomes.

Furthermore, the AE Buyers Group strongly urges the Commission to ensure that roadmaps and performance metrics be provided upfront, rather than after the approval of the Phase I proposal, as Dominion has suggested with regard to the Customer Information Platform.⁵ The implementation of these investments is fundamental to their success, and should not be considered as an afterthought.

3. The AE Buyers Group is concerned by the portion of total spending devoted to grid hardening, and recommends additional scrutiny to ensure that all investments are reasonable and prudent.

As noted above, the AE Buyers Group supports improvement of reliability and resilience as one of the overarching goals of grid transformation. However, the AE Buyers Group is concerned by the magnitude of proposed investments in traditional “grid hardening” measures as part of the grid transformation plan. Specifically, Dominion has proposed approximately \$1.53 billion in capital expenditure on grid hardening over 10 years—amounting to 81% of its total spending on reliability and resilience, and more than 50% of overall investments through the GT Plan over

⁴ Dominion Witness Brett A. Crable, at 33: “The Company plans to track the number of smart meters installed as deployment progresses, the percentage of service orders completed remotely via AMI, and the associated avoided truck rolls.”

⁵ Dominion witness Franklin M. Hinckle, Jr., at 15: “As a part of the project initiation and planning stage... a detailed project plan will include the development of project milestones along with specific deliverables.”

the full 10 years. In addition, the Utility anticipates a cumulative \$71.3 million in operation and maintenance costs associated with grid hardening over the 10-year period. These investments include non-transformational, routine measures, including but not limited to upgrades to feeder segments, facilities, and other grid components; vegetation management programs; and undergrounding of main feeders.

In considering such investments, Subsection A 6 requires the Commission to consider, “whether the utility’s plan for such projects, and the projected costs associated therewith, are reasonable and prudent.” The AE Buyers Group is concerned that these conditions have not been met. Notably, the Utility has not provided a clear demonstration of current reliability and resilience deficiencies or an analysis of grid vulnerabilities that must be addressed,⁶ nor does its plan adequately demonstrate that the proposed measures are the most cost-effective means to reduce outages, or that the benefits justify the costs. Such information is needed to assess whether the proposed investments are reasonable and prudent.

As the Commission weighs the costs and benefits of investments to improve reliability and resilience, the AE Buyers Group also notes that different customers place different values on reliability, and no customers value the reliability of their utility service infinitely. Indeed, some of our companies have already invested in backup generators to ensure that our operations do not go offline in the event of interruptions in grid service during minor or even major interruptions. Institutions such as hospitals and military facilities have made similar investments, and in some cases can operate as an island for hours or even days. These investments lower the value to such customers of incremental reliability improvements. Customers also differ in their vulnerability during outages, their exposure to outage events, and their ability to pay for reliability improvements. These factors should be taken into account when determining the best pathway to maximize the overall cost-effectiveness of efforts to increase reliability and resilience in a way that balances the different needs and preferences of different customers.

4. The AE Buyers Group urge the Commission and Dominion to work to “future-proof” grid investments to the maximum extent possible, to avoid equipment becoming rapidly obsolete.

As a general matter, the AE Buyers Group encourages the Commission and the Utility to minimize the risk of technology obsolescence by focusing on no-regrets investments and prioritizing technologies and systems that are interoperable and flexible. This applies equally to software tools and to infrastructure investments, such as electric vehicle charging infrastructure.

CONCLUSION

⁶ Dominion Witness Robert S. Wright, Jr., at 20, states that Dominion “will perform analyses and modeling to identify the segments of the distribution system requiring improvement based on performance and architecture, along with the most appropriate solution to ensure the most impactful work is performed.” However, this analysis has not been done prior to the request for approval of spending.

The AE Buyers Group appreciates the opportunity to comment on Dominion's Grid Transformation Plan, and welcomes steps to modernize the poles and wires of Virginia's grid to create a more flexible, interactive, and resilient two-way electricity system. A more modern electricity system will provide customers additional choice and control while reducing outages and lowering costs. The AE Buyers Group is encouraged that several elements of Dominion's Phase I proposal have the potential to yield real benefits and bring Virginia closer to our vision of the future electricity system. However, as ratepayers, the AE Buyers Group also notes that customers bear the added cost of any investments that do not deliver commensurate benefits, and bear the risk of investments that run over on cost or do not deliver as anticipated.

The AE Buyers Group therefore encourages the Commission to not consider Dominion's Grid Transformation Plan at this time, and to instead initiate a comprehensive yet efficient process to define upfront the shared goals of grid transformation, as well as appropriate metrics for evaluating utility proposals.

Should the Commission decline to take this approach and instead to consider the Grid Transformation Plan, to maximize the benefits and minimize the potential costs and risks for customers, the AE Buyers Group urges the Commission to approve only those elements of the Phase I proposal that are consistent with the shared goals of grid transformation as articulated by stakeholders in this proceeding and for which the benefits to ratepayers are clearly delineated and reasonably expected to outweigh the total cost. Such measures should also be accompanied by detailed plans for implementation, and, importantly, performance metrics and processes to ensure that anticipated benefits will be realized and delivered to customers.

The AE Buyers Group looks forward to working with the Commission, Dominion, and other stakeholders to modernize Virginia's electricity system cost-effectively and for the benefit of all customers in the Commonwealth.