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## **Executive Summary of Key Points on the Nextera Energy Transmission Line Project**

1. The national grid, especially in Virginia, is challenged by unprecedented growth in electricity demand fueled by the growth of data centers and the ongoing decommissioning of coal-fired plants before new sources of power become available.
2. In our region, PJM has approved a \$5 billion plan to bring three additional 500 kV transmission lines from West Virginia, Maryland, and Pennsylvania into the data center area east of Leesburg, plus other lines to move the power around that area.
3. One of those lines, to be built by Florida-based NextEra Energy, cuts through the historic area of western Loudoun County, which includes the Waterford National Landmark, the Journey Through Hallowed Ground National Heritage Area, and large blocks of conservation easements in addition to farms and vineyards which are the primary economic drivers of the western Loudoun region.
4. No good route exists for a proposed 500 kV transmission line through western Loudoun County. All routes for this plan should prioritize the use of existing rights of way rather than taking private property and land held in conservation easements.
5. Effective incentives do not exist for thinking ahead to provide the best long-term performance, to make best use of the rate payers' capital, and to consider the full cost and impact on affected communities and business interests, such as agriculture-based tourism in western Loudoun County which hosts among the largest such areas in Virginia.
6. Advanced conductors promoted by the US Government could provide more power capacity and resilience than the current PJM plan, while taking full advantage of existing rights of way.
7. Virginia has an opportunity to be a national leader in technology development while protecting its investment in other technology areas that depend on growing, reliable electric power, such as the data center industry and electric vehicles.

### **Additional Detailed Information**

The national grid is challenged by the unprecedented growth of electricity demand, including from the explosive proliferation of energy-intensive data centers, during a time when the sources of power generation are shifting asynchronously from fossil-fuel sources to renewable sources of energy. In response, the regional transmission operator PJM on 11 December 2023 approved a \$5 billion plan (2022 RTEP Window 3) that primarily seeks to bring three additional 500 kV transmission lines into the data center area east of Leesburg, plus other lines to move the power around that area.

### **The Question of the Sanctity of Easements**

One of the proposed 500 kV lines to be built by Florida-based NextEra Energy would use a new “greenfield” right of way to bisect western Loudoun County, where the citizens for more than 75 years have worked to protect land and homes that date back to the 18th Century, some still by the same families. Large blocks of the land that would need to be traversed are in permanent conservation easements and historic districts, as well as the Waterford National Landmark and the Journey Through Hallowed Ground National Heritage Area. Due to the large number of privately held and non-profit properties under easement in the path of this project, nullifying them to build 200 foot towers and string 500kV lines will destroy the power of easements in the future. It will be impossible to convince future landowners to ease their land if they see projects such as this one approved by the Commonwealth of Virginia.

## **The Importance of Agribusiness in Virginia**

Over the past 40 years, western Loudoun has helped rebuild the agriculture industry through linkages to tourism activities built around wineries, breweries, equine sports, and recreational trails (including the Appalachian Trail, the Regional W&OD Trail, and the new Sweet Run State Park.

## **The Threat and Public Outrage Regarding Use of Eminent Domain**

Plans such as those put forward by PJM excessively require the imposition of eminent domain on property owners because the regional competition process disincentivizes the use of better technology that could deliver greater power and resilience using existing transmission lines in combination with a smaller number of new lines built within existing rights of way.

For example, advanced conductors promoted by the Federal government, notably composite core lines, can be implemented selectively at much less cost than underground lines. These advanced conductors can carry twice the power on lighter-weight lines, with fewer losses, and less sagging.

The additional capacity of these wires, which can be mounted on existing towers, would be available for delivering more power, handling peak loads, or serving as reserve capacity in the event of an outage on another line at a comparable cost to the existing PJM plan. The capability of a composite core approach offers the potential to eliminate the need for new rights of way, avoid community resistance, save money, and get new capacity in place sooner. The PJM plan could have used composite core wires on existing lines and built into the transmission network greater capacity for future growth and current resiliency needs. And critically for the residents of western Loudoun County and western Maryland, there would be no need for the new transmission lines in the new “greenfield” rights of way, thereby compensating for the additional cost of the composite core wires elsewhere in the plan.

This technology has been deployed at voltages up to 230 kV in the United States, and two of the five composite core wire manufacturers operating in the United States have participated in the building of at least two 500 kV lines in the challenging environment of Indonesia. This technology could be used in existing rights of way that the PJM plan seeks to rebuild in any case. The technology also could be used in prior proposals to PJM by Dominion Energy within existing rights of way to provide additional resilience.

Unfortunately, effective incentives do not exist for thinking ahead to provide the best long-term performance, to make best use of the rate payers’ capital, and to consider the full cost and impact on affected communities. The shortcomings of the PJM process mean that the individual regulators in

four different states are left to consider the individual proposals from the various energy companies building in each of the four states. Nowhere in this regulatory process is there any certainty that the regulators will have the benefit of understanding the range of available technical options or see how the full plan fits together and understand how their respective decisions might change reliability and stability.

Virginia has an opportunity to be a national leader in both historic preservation and technology development while protecting its investment in other technology areas that depend on growing, reliable electric power, such as the data center industry. In particular, the current planning and regulatory dilemma needs a regional approach to promote the use of advanced technologies to improve the national grid while minimizing the impact on communities, cultural resources, and the environment.

This will require bringing the SCC and regulators from Maryland, West Virginia, and Pennsylvania together with the planners at PJM, the energy companies, and the manufacturers of advanced technology. The technology has been deployed overseas, manufacturers are available in this country, and manufacturing standards already exist. The energy industry needs to be incentivized to move beyond the most conservative design philosophy and a dependence on technology from the early 20th Century.

The unprecedented scope and scale of the PJM plan and its potential impact on communities, along with the growing needs of Virginia's high-technology industry, makes this the right moment for Virginia to set the example for what the nation will need to do to meet future needs over the next 25 years. The federal government is concerned that, without technology such as advanced conductors, the nation will be unable to meet future grid requirements, and the old technology will require more transmission lines and rights of way that will get mired in approval processes.