

STATEMENT OF JUSTIFICATION
DOMINION ENERGY
VIENNA SUBSTATION EXPANSION

I. Introduction

The existing substation will be expanded to support equipment modernizations allowing the continued improvement of Vienna grid capabilities such as multidirectional energy flow and electric vehicle (EV) charging.

II. Background

In 2018 the Commonwealth passed legislation known as the Grid Transformation and Security Act (GTSA) pursuing security and modernization within existing distribution networks. Identified values include a focus on multidirectional energy flow, allowing the inclusion of point-based alternative generation like solar and wind as well as the automated reallocation of energy during system changes and/or outages. These modernizations further provide increased reliability and grid consistency for the surrounding communities and their expanding electric needs.

Constructed circa 1950 with and in service to the surrounding community, existing substation equipment is well situated to receive the referenced improvements furthering modern energy conveyance. These attributes position Wescott as a key opportunity for the realization of GTSA goals. Proposed facility upgrades will not only improve grid reliability and security but will facilitate increased flows from EV and the energy backflow associated with solar.

III. Description of Proposed Use

1. Project Description: The proposed substation will encompass the replacement of existing equipment including the two existing transformers with two modern transformers. These technology upgrades do not inherently provision capacity increase, but require additional horizontal area to accommodate current safety, security, and weather resilience standards. Consequently, the existing security perimeter is being expanded to the west by approximately 0.01 acres.
2. Area Served by Proposed Use: The electric utility “Distribution” substation will continue to serve its local community.
3. Maintenance Requirements and Frequency: The proposed substation will continue to be un-manned and will not routinely generate daily trips. The site will be visited by Dominion personnel and/or its contractors based on

typical substation inspection requirements. Anticipated traffic is 5 trips per month via service vehicles. The facility will continue to be secured and will not be open to the public.

IV. Requirement for Proposed Use

1. Why New Facility is Needed: The County has experienced an increase in both alternative energy point source generation and alternate flows from household EV charging. In consideration of these needs and State goals to improve grid security and resilience, technology upgrades are being provisioned and the existing substation area expanded.
2. Why Proposed Location is Best for the Proposed Use: Utilization of existing conveyance and distribution facilities is preferred as it minimizes the need for costly and impactful development in new land areas less suited to substation uses.
3. Why the Proposed Location and Type of Facility is the Least Disruptive Alternative: Expansion of existing distribution facilities is far less impactful to communities where relocation could trigger larger and more intensive development related to current standards.

V. Anticipated Impacts & Mitigation

1. Visual: Substation expansion will occur within the areas noted on the subject site plan and has been limited to those areas without existing tree stands. Existing buffers are to be protected in place and facility improvements are to maintain or improve upon the character and elevation of existing equipment, fences, and structures.
2. Noise and Light: Facilities will continue to be unmanned and will comply with ordinance regulations. Noise levels will continue to be maintained within ordinance requirements. Lighting shall be dark sky compliant and designed to minimize glare onto adjacent properties with the use of full cut-off LED lighting.
3. Air and Water Quality: Air quality standards will not be impacted with the subject improvements. Substation expansion will be regulated, and its stormwater discharge permitted directly through the Virginia Department of Environmental Quality.
4. Environmental: Floodplain and wetland impacts are not anticipated with the subject improvements.
5. Transportation (including trip generation): The proposed substation will continue to be un-manned and will not routinely generate daily trips. The site will be visited by Dominion personnel and/or its contractors based on

typical substation inspection requirements. Anticipated traffic is 5 trips per month via service vehicles. The facility will continue to be secured and will not be open to the public.

6. Mitigation Measures as Applicable for 1 through 5: Technology upgrades include the consolidation and containment of various substation components within housings sealed to weather and other security related risks. These consolidations provide a net improvement to visual, noise and light impacts if and where they occur.

Substation upgrades are being designed within the minimum footprints necessary to provision essential modernizations, while limiting impacts to water and environmental resources.

Existing buffers and their vegetation are being preserved in place to provide the best potential visual screening. In consideration of the western nature of substation expansion, supplemental plant material is being provisioned along the same frontage.

VI. Alternative Sites Considered for the Use

1. Other Properties: Based on the nature of proposed upgrades the use of alternate sites is not advised.
2. Other Locations on the Subject Property: In consideration of the approved Special Use permit area, existing vegetative cover and environmental constraints, the proposed expansion area is admirable. Other siting within the subject property was not deemed viable.
3. Reasons for Rejecting Each Alternative Location: Alternative locations create additional visual, vegetative, and environmental impacts. As such the proposed siting meets all the associated community, regulatory and environmental needs.

VII. Conclusion

The above-described application proposes modernization of a vital public utility provisioning multidirectional, reliable, and secure electrical service to Vienna communities. The proposal satisfies the Town standards for approval, meets the requirements of the Vienna Zoning Ordinance and is consistent with the policies described in the Fairfax County Comprehensive Plan. For the reasons set forth herein, Dominion respectfully requests approval of the subject application.