

### III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES

B. Describe any public meetings the Applicant has had with neighborhood associations and/or officials of local, state or federal governments that would have an interest or responsibility with respect to the affected area or areas.

### Response: <u>Stakeholder Engagement</u>

At Dominion Energy Virginia, the Company believes stakeholder engagement and meaningful public involvement is a critical component to the success of this Rebuild Project.

Feedback is critical as the Company considers all potential benefits and impacts of the Project. Dominion Energy Virginia has and will continue to engage with a broad range of stakeholders that have interests across the Rebuild Project components. Stakeholder engagement includes both a statewide and regional approach in the following segments: cultural and historic resource stewardship organizations; the business community and workforce organizations; the environmental community; and organizations that represent the needs of underrepresented communities. The Company also met with individual property owners and community members.

In August 2025, the Company launched an internet website dedicated to the proposed Rebuild Project: <a href="https://www.dominionenergy.com/about/delivering-energy/electric-projects/power-line-projects/dooms-charlottesville">https://www.dominionenergy.com/about/delivering-energy/electric-projects/power-line-projects/dooms-charlottesville</a>. The website includes a description and benefits of the proposed Rebuild Project, an explanation of need, route map, photo simulations, and information on the Commission review process.

On September 12, 2025, the Company sent Rebuild Project announcement letters to approximately 2,197 property owners within 1000 feet of the Rebuild Project centerline. Each letter included information about the proposed Rebuild Project and included a project area map showing the route and phases. A copy of the letter is available on the Rebuild Project website. On September 22, 2025, the Company sent a postcard mailer invitation to attend open houses (community meetings) in Crozet, VA. A copy of the postcard is available on the Rebuild Project website.

Newspaper print advertisements regarding the Rebuild Project open houses were placed in: Daily Progress; Rural Virginian; Charlottesville Weekly; News Virginian and News Leader from October 1 through October 5. A copy of the newspaper advertisement is included as Attachment III.B.1.

Additionally, from September 25 through October 15, the Company used paid digital and social media campaigns to drive awareness and educate the public regarding the Rebuild Project and open houses. Copies of those digital advertisements are included as <u>Attachment III.B.2</u>. The event campaigns ran on

Facebook, Instagram, Responsive Display, and Nextdoor. All phases urged local residents to visit the Rebuild Project website to learn more about the Rebuild Project, the open houses, and how to participate virtually. See <u>Attachment III.B.3</u> for the campaign results.

The first in-person community meeting was held on October 7, 2025, from 5–7 pm in Crozet, VA. There were 25 attendees. The second in-person community meeting was held on October 8, 2025, from 5–7pm in Crozet, VA. There were 15 attendees. At both open houses, the Company made available details about construction, project timing, and the Commission approval process. Traditional open house materials have been posted on the website for the proposed Rebuild Project, including simulations of the proposed Rebuild Project from key locations. The key location simulations are included as Attachment III.B.4.

### **Environmental Justice**

The Company researched the demographics of the surrounding communities using data from the U.S. Census Bureau's American Community Survey 5-Year Estimates (2019-2023). This screening identified 52 Census Block Groups ("CBGs") located in the Rebuild Project area that fall within one mile of the existing transmission line corridor. A review of census data for several demographic characteristics identified populations within the Rebuild Project study area that meet the Virginia Environmental Justice Act ("VEJA") thresholds for Environmental Justice Communities ("EJ Communities") (Va. Code §§ 2.2-234, 2.2-235). Of the 52 CBGs within the Rebuild Project study area, 19 are crossed by the Rebuild Project centerline. Of the 19 crossed, six CBGs meet only the community of color definition, two CBGs meet only the low income definitions, and five CBGs meet both the community of color and low income definitions.

Pursuant to Va. Code §§ 56.46.1 C and 56-259 C, as well as Attachment 1 of these Guidelines, there is a strong preference for the use of existing utility rights-of-way whenever feasible. The Rebuild Project will be within the existing cleared right-of-way or within existing Company property rights, which are adequate for the proposed Rebuild Project. Because the Rebuild Project involves the replacement of structures generally in the same locations, with an average increase in structure height of four feet, it is not anticipated that there will be a substantial, or in many cases perceptible change in visibility as a result of the Rebuild Project. As such, the Rebuild Project is expected to pose minimal visual impacts to surrounding communities.

As set forth above in this Section III.B, the Company has engaged extensively in all communities within the Rebuild Project study area, including people in the EJ Community CBGs discussed herein. The Company believes that (i) its work has allowed for the fair treatment and meaningful involvement of all interested people, regardless of race, color, national origin, income, faith, or disability, and (ii) the Rebuild Project's use of existing right-of-way minimizes reduces potential impacts

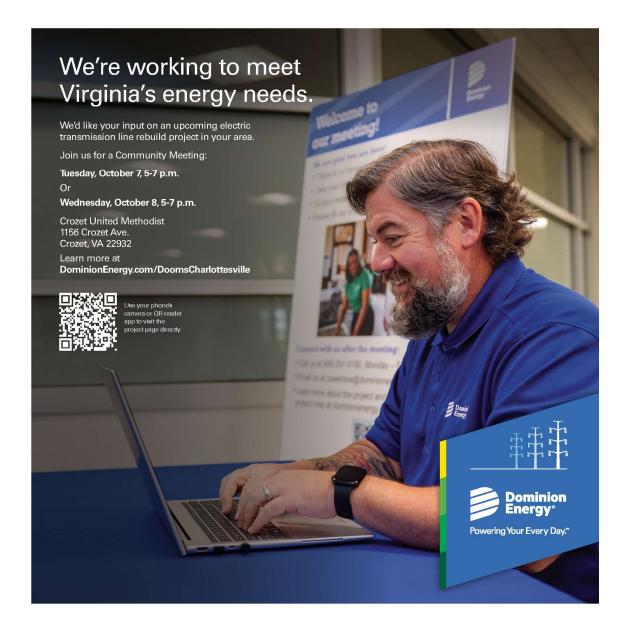
to EJ Communities and other populations and does not appear to result in a significantly adverse and disproportionate impact on EJ Communities.

In addition to its evaluation of impacts, the Company has and will continue to engage the EJ Communities and others affected by the Rebuild Project in a manner that allows them to meaningfully participate in the Rebuild Project development and approval process so that the Company can take their views and input into consideration. See <u>Attachment III.B.5</u> for a copy of the Company's Environmental Justice Policy.



Dooms-Charlottesville Pre-Event

Print Ad





### **Dominion Energy Electric Transmission Contact:**

Janae Johnson, janae.p.johnson@dominionenergy.com

### Dominion Energy Electric Transmission

Dooms-Charlottesville Social Videos

#### Pre-Event A (Click to Play)



### Pre-Event B (Click to Play)





Dooms-Charlottesville Social Videos

#### Post-Event A (Click to Play)



### Post-Event B (Click to Play)





Dooms-Charlottesville Pre-Event Responsive and

Nextdoor

Responsive 1200x627



Responsive 1200x1200

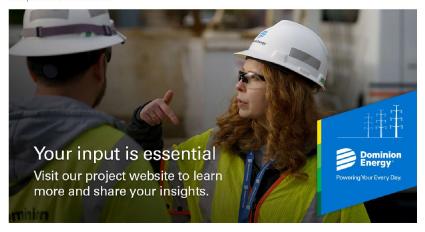


Nextdoor 1200x627





Dooms-Charlottesville Post-Event Responsive and Nextdoor Responsive 1200x627



Responsive 1200x1200



Nextdoor 1200x627



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October 20, 2025

Report Date: September 25, 2025 - October 13, 2025

DE Transmission
Dooms-Charlottesville

305

# DET | Dooms-Charlottesville | 9/25/25 - 10/13/25 | Overall Report

The Dooms-Charlottesville campaigns ran on Facebook, Google and Nextdoor through 10/13/25. These campaigns were targeted at customers over the age of 25 who resided in and around Charlottesville, Albemarle County and Augusta County in Virginia.

# 1,650,037 impressions

of ads were delivered to target audiences.

## 18,796 clicks

have taken audiences to the landing pages.

# 56,274 video views with an

# average 13.70% VCR.

## 1.14% CTR

Most CTRs near or above benchmarks.

# 61,807 ad engagements

such as reactions, likes, comments, shares and saves have been made on the ads.

## Notable Creative

The DET Dooms-Charlottesville Pre-Event ad had the highest CTR at 4.37%, which is 850% higher than the 0.46% Responsive Display benchmark.

## Upcoming Community Meetings Sign informed about how were seem meeting the increasing energy demand in your area.

## Notable Insights

- Facebook ads had a CTR of 1.97% and 7,710 completed video views for a 13.70% VCR.
- Nextdoor ads performed well with a CTR of 0.73%, which is 387% above benchmark.
- Google Display ads had a CTR of 0.90%, which is 96% above benchmark.
- Ads are engaging with females aged 65+ on Facebook and females 35-44 and 65+ on Google

Facebook CTR Benchmark: 0.90% | Google Responsive Display CTR Benchmark: 0.46% | Nextdoor CTR Benchmark: 0.15%



October 20, 2025



# DET | Dooms-Charlottesville | 9/25/25 - 10/8/25 | Pre-Event Report

The Dooms-Charlottesville campaigns ran on Facebook, Google and Nextdoor through 10/8/25. These campaigns were targeted at customers over the age of 25 who resided in and around Charlottesville, Albemarle County and Augusta County in Virginia.

## 319,049 impressions

of ads were delivered to target audiences.

## 7,149 clicks

have taken audiences to the landing pages.

# 33,092 video views with an

average 12.82% VCR.

## 2.24% CTR

Most CTRs near or above benchmarks.

# 36,191 ad engagements

such as reactions, likes, comments, shares and saves have been made on the ads.

## Notable Creative

The DET Dooms-Charlottesville Pre-Event ad had the highest CTR at 4.37%, which is 850% higher than the 0.46% Responsive Display benchmark.

## Upcoming Community Meetings Stay informed about how we're meeting the increasing energy demand in your area.

## Notable Insights

- Facebook ads had a CTR of 1.86% and 4,241 completed video views for a 12.82% VCR.
- Nextdoor ads performed well with a CTR of 0.68%, which is 353% above benchmark.
- Google Display ads had a CTR of 4.37%, which is 850% above benchmark.
- Ads are engaging with females aged 65+ on Facebook and females 35-44 on Google.

CITY CHARLES RYAN

Dominion Energy\*

Facebook CTR Benchmark: 0.90% | Google Responsive Display CTR Benchmark: 0.46% | Nextdoor CTR Benchmark: 0.15%

# **DET | Dooms-Charlottesville | 10/9/25 – 10/13/25 | Post-Event Report**

The Dooms-Charlottesville campaigns ran on Facebook, Google and Nextdoor through 10/13/25. These campaigns were targeted at customers over the age of 25 who resided in and around Charlottesville, Albemarle County and Augusta County in Virginia.

# 1,330,988 impressions

of ads were delivered to target audiences.

## 11,647 clicks

have taken audiences to the landing pages.

# 23,182 video views with an

# average 14.96% VCR.

## 0.88% CTR

Most CTRs near or above benchmarks.

# 25,616 ad engagements

such as reactions, likes, comments, shares and saves have been made on the ads.

## Notable Creative

The DET Dooms-Charlottesville Post-Event ad had the highest CTR at 2.27%, which is 152% higher than the 0.90% Facebook benchmark.

### Notable Insights

Facebook ads had a CTR of 2.11% and 3,469 completed video views for a 14.96% VCR.

Stay Infor

- Nextdoor ads performed well with a CTR of 0.81%, which is 440% above benchmark.
- Google Display ads had a CTR of 0.70%, which is 52% above benchmark.
- Ads are engaging with females aged 65+ on Facebook and females 65+ on Google.





Facebook CTR Benchmark: 0.90% | Google Responsive Display CTR Benchmark: 0.46% | Nextdoor CTR Benchmark: 0.15%

2

## Summary:

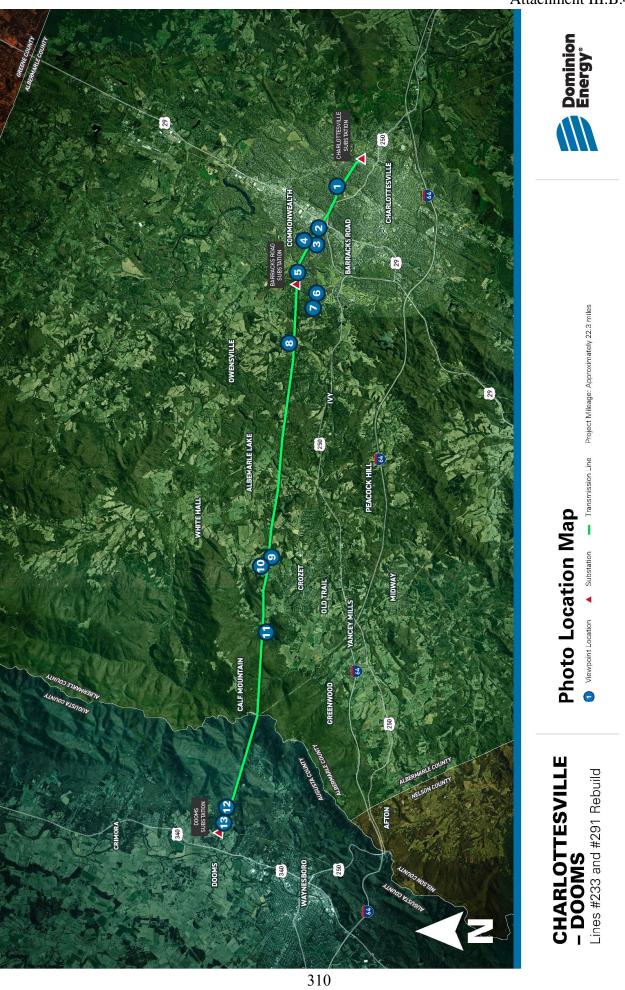
- The DET Dooms-Charlottesville Pre-Event Google Responsive Display ads had the highest CTR at 4.37%.
- The ads in this campaign were most engaged with females aged 65+ on Facebook and females aged 35-44 and 65+ on Google.
- All campaigns were over the platform benchmarks in both phases. Nextdoor was the top-performing platform for the campaign and ended the campaign with a CTR 387% over the 0.15% Nextdoor benchmark.
- The electricity provider, electric bill payment and energy consumption information audience segments had the highest number of clicks on Google.
- The Jenna creative performed best in the pre-event campaign while the Taylor creative performed best in the post-event campaign.
- It is recommended to add at least two ad versions per campaign to enable creative testing, identify the most effective messaging, reach a broader range of audience segments, and improve performance tracking and optimization.

October 20, 2025









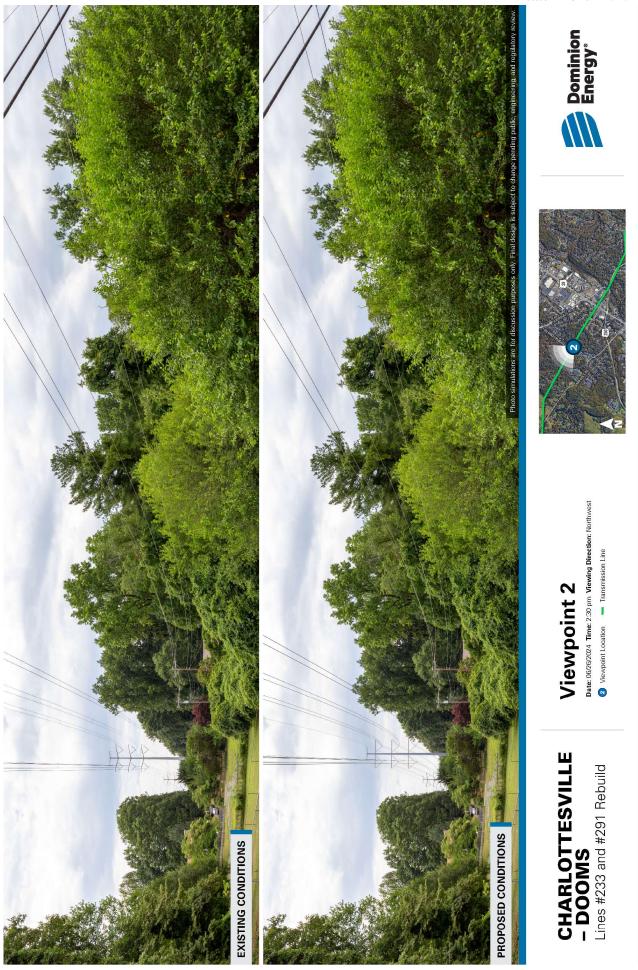






Date: 06/26/2024 Time: 1:52 pm Viewing Direction: West

① Viewpoint Location — Transmission Line









Date: 06/26/2024 Time: 2:48 pm Viewing Direction: Southeast

③ Viewpoint Location — Transmission Line





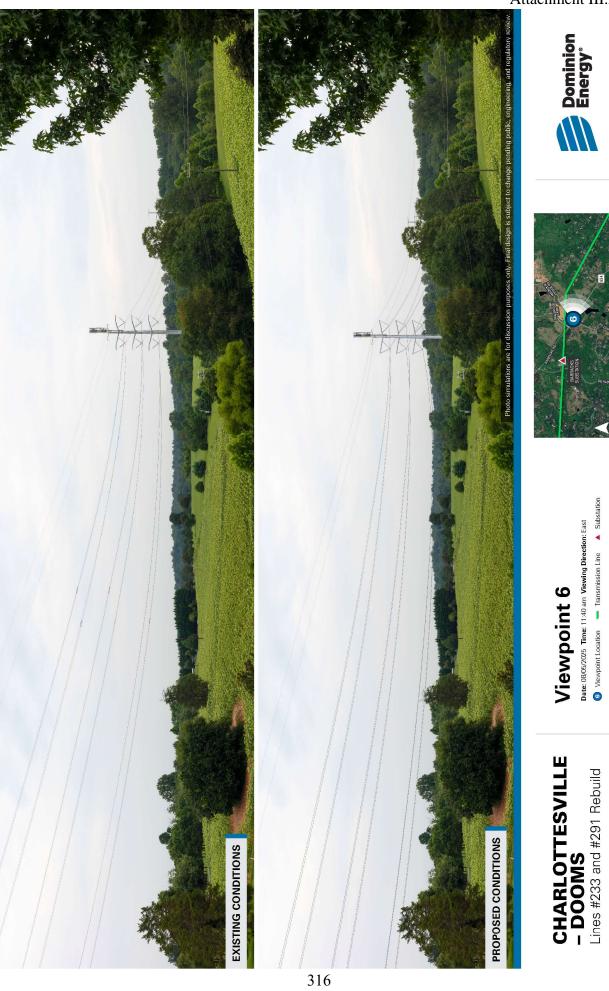






Date: 06/27/2024 Time: 12:21 pm Viewing Direction: North

⑤ Viewpoint Location — Transmission Line ▲ Substation











Date: 06/27/2024 Time: 11:51 am Viewing Direction: Northeast

Viewpoint Location — Transmission Line





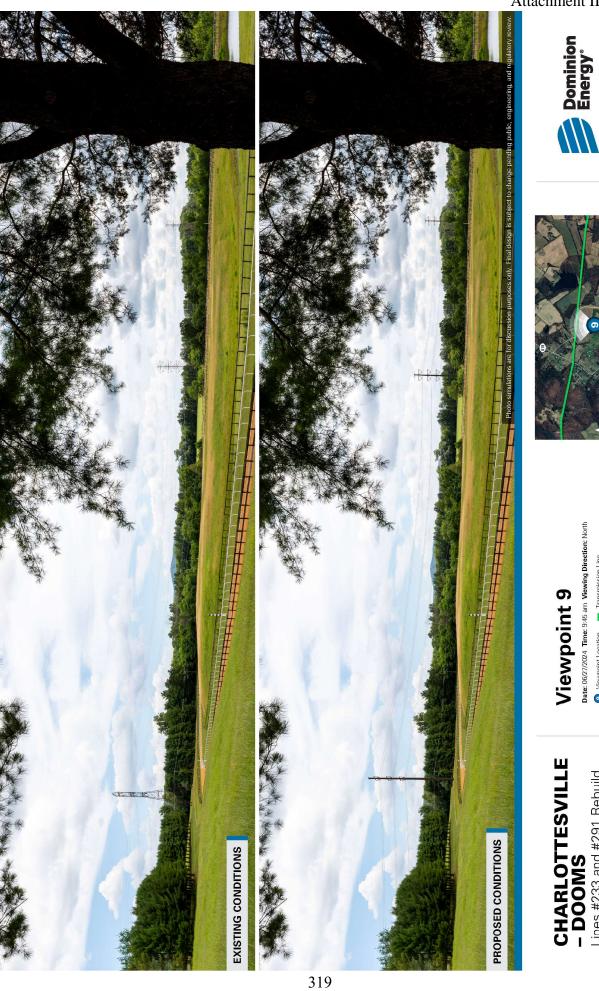


Date: 06/29/2024 Time: 3:25 pm Viewing Direction: South

(i) Viewpoint Location — Transmission Line

Viewpoint Location — Transmission Line

Lines #233 and #291 Rebuild









Date: 06/27/2024 Time: 9:39 am Viewing Direction: Southeast

© Viewpoint Location — Transmission Line







Date: 06/27/2024 Time: 8:59 am Viewing Direction: Northeast

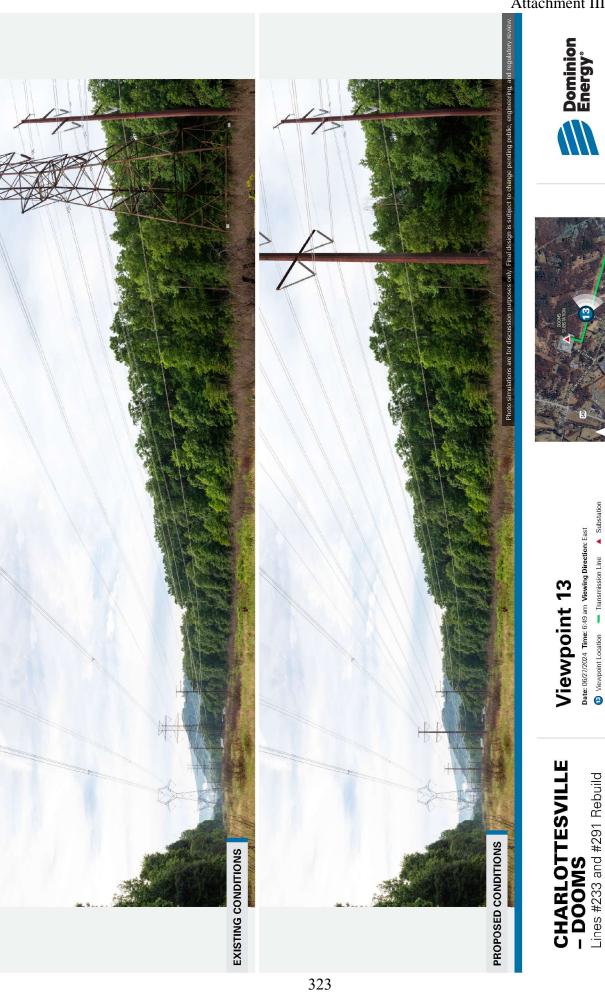
U Viewpoint Location — Transmission Line







Date: 06/27/2024 Time: 7:00 am Viewing Direction: East Viewpoint Location — Transmission Line





#### **Environmental Justice: Ongoing Commitment to Our Communities**

At Dominion Energy, we are committed to providing reliable, affordable, clean energy in accordance with our values of safety, ethics, excellence, embrace change and team work. This includes listening to and learning all we can from the communities we are privileged to serve.

Our values also recognize that environmental justice considerations must be part of our everyday decisions, community outreach and evaluations as we move forward with projects to modernize the generation and delivery of energy.

To that end, communities should have a meaningful voice in our planning and development process, regardless of race, color, national origin, or income. Our neighbors should have early and continuing opportunities to work with us. We pledge to undertake collaborative efforts to work to resolve issues. We will advance purposeful inclusion to ensure a diversity of views in our public engagement processes.

Dominion Energy will be guided in meeting environmental justice expectations of fair treatment and sincere involvement by being inclusive, understanding, dedicated to finding solutions, and effectively communicating with our customers and our neighbors. We pledge to be a positive catalyst in our communities.

November 2018

C. Detail the nature, location, and ownership of each building that would have to be demolished or relocated if the project is built as proposed.

Response:

During the Company's initial review of the transmission corridor for the Rebuild Project, it identified approximately 33 unauthorized encroachments within the Rebuild Project area, which include—among other things—residences, sheds, vehicles, above ground pools, a fence, and a barn. These encroachments may need to be removed or relocated to ensure safe construction and operation of the Rebuild Project. The Company intends to confirm the location of these structures prior to construction and will coordinate with property owners, as appropriate, to address these encroachments.

D. Identify existing physical facilities that the line will parallel, if any, such as existing transmission lines, railroad tracks, highways, pipelines, etc. Describe the current use and physical appearance and characteristics of the existing ROW that would be paralleled, as well as the length of time the transmission ROW has been in use.

Response:

Construction of Lines #233 and #291 was completed in 1973, and the right-of-way has been in continuous use since that time. The proposed Rebuild Project is located in the existing cleared transmission line right-of-way that contains several parallel transmission lines. From Structure #233/122, #291/122 to the Dooms Substation, 115 kV Line #39 and 500 kV Line #534 parallel the Rebuild Project for approximately 4.0 miles.

E. Indicate whether the Applicant has investigated land use plans in the areas of the proposed route and indicate how the building of the proposed line would affect any proposed land use.

Response:

The Company reviewed the City of Charlottesville Comprehensive Plan (adopted 2021),<sup>21</sup> the Albermarle County Comprehensive Plan (adopted 2015),<sup>22</sup> and the Augusta County Comprehensive Plan (adopted 2007-2027, updated 2014-2015),<sup>23</sup> to evaluate the potential effect the Rebuild Project could have on future development. The Rebuild Project is not expected to affect any surrounding proposed land use as it is being constructed within the existing right-of-way or on Company-owned property.

The City of Charlottesville Comprehensive Plan is a general guide for the government and neighborhoods of the City of Charlottesville in considering and making decisions about land use and urban development related matters. The placement and construction of electric transmission lines is not addressed within the plan.

The Albermarle County Comprehensive Plan is a general guide for public and private activities as they relate to land and resource use. The plan seeks commitment to the County's Growth Management Policy which directs development into specific, identified areas for vibrant growth while conserving the remainder of the county for rural uses, such as agriculture, forestry, and resource protection. The placement and construction of utility corridors is briefly addressed within the plan, in regard to concerns for additional habitat fragmentation. As the Rebuild Project is utilizing existing transmission line right-of-way, it will not increase the occurrence of habitat fragmentation. The County indicates in the Comprehensive Plan that efforts to inform electric utilities of site plan applications, development proposals, and long-term planning goals should be undertaken. Albemarle County has designated an Airport Impact Area overlay, which extends into the Rebuild Project area. Portions of the Rebuild Project also fall within the Charlottesville-Albemarle Airport Transitional Surface and Approach Surface as designated by the Federal Aviation Administration ("FAA"), shown on Attachment III.E. Heights for the Rebuild Project proposed structures will comply with required maximum heights defined for these zones by the FAA.

The Augusta County Comprehensive Plan is a general guide that consists of formal goals, objectives, and policies intended to guide land use. The placement and

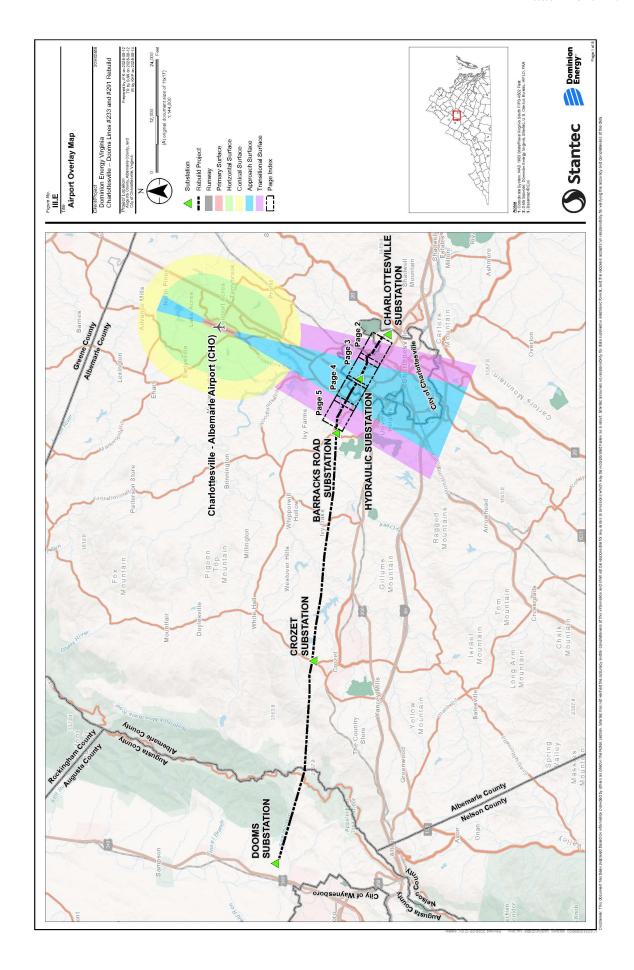
<sup>&</sup>lt;sup>21</sup> See https://www.charlottesville.gov/1111/Comprehensive-Plan.

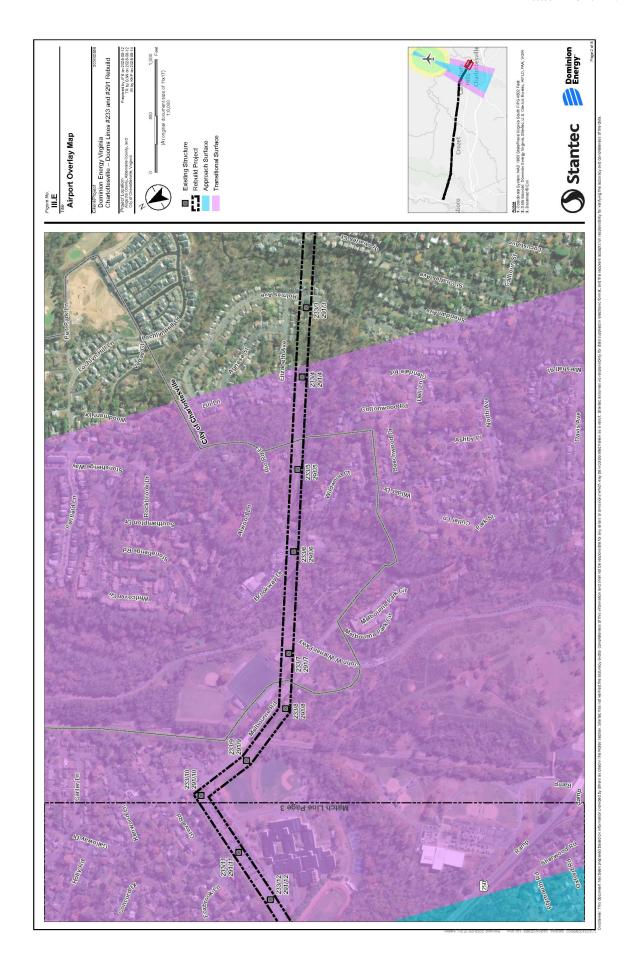
<sup>&</sup>lt;sup>22</sup> See https://www.albemarle.org/government/community-development/planning-codes/comprehensive-plan.

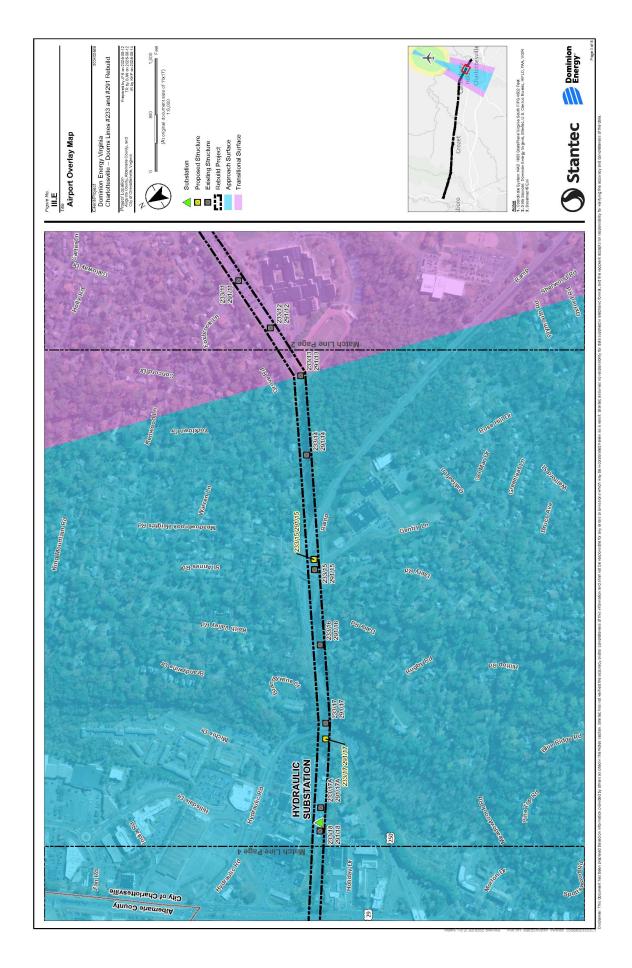
<sup>&</sup>lt;sup>23</sup> See https://augustacountyva.civilspace.io/en/projects/comprehensive-plan-economic-development-strategic-plan.

construction of electric transmission lines is briefly in the plan. In particular, new developments should map out utility corridors and easement needs during County rezoning and site plan reviews. The County also plans to engage with electric utility providers to coordinate future energy needs and planned expansions. The Plan suggests continuing coordination with energy utility providers and stakeholders to stay informed and organize periodic check-in calls.

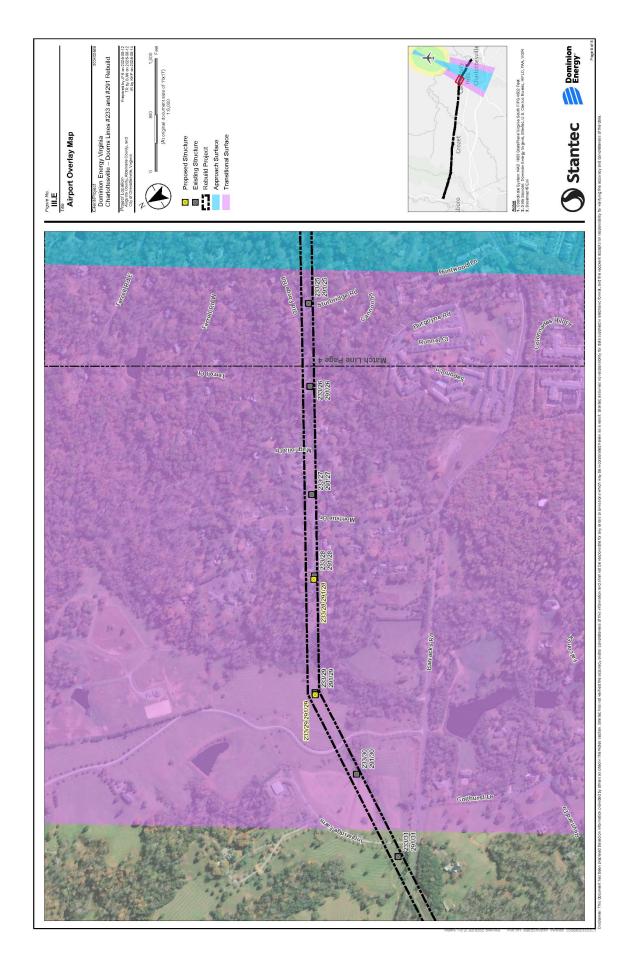
The proposed Rebuild Project utilizes existing cleared transmission line right-ofway for the entire length of the Rebuild Project. The existing right-of-way is regularly maintained from approximately 100 feet up to 300 feet for operation of transmission lines. The right-of-way currently crosses urban land near the Charlottesville Substation that transitions to suburban and agricultural land moving outside the City of Charlottesville. West of the Crozet Substation, the right-of-way crosses through forested land, including parts of the Shenandoah National Park, and low-density residential land near the Dooms Substation. As currently outlined in the City of Charlottesville, Albermarle County, and Augusta County Plans, no additional development zones are planned within the existing transmission line The Company engaged with the City of Charlottesville and Albermarle and Augusta Counties for feedback on the proposed Rebuild Project and to understand any concerns or comments on the Rebuild Project. See Section V.D. The Rebuild Project is not expected to interfere with future planning in the City of Charlottesville or Albermarle or Augusta Counties.











#### F. Government Bodies

- 1. Indicate if the Applicant determined from the governing bodies of each county, city and town in which the proposed facilities will be located whether those bodies have designated the important farmlands within their jurisdictions, as required by § 3.2-205 B of the Code.
- 2. If so, and if any portion of the proposed facilities will be located on any such important farmland:
  - a. Include maps and other evidence showing the nature and extent of the impact on such farmlands;
  - b. Describe what alternatives exist to locating the proposed facilities on the affected farmlands, and why those alternatives are not suitable; and
  - c. Describe the Applicant's proposals to minimize the impact of the facilities on the affected farmland.

Response:

1. Virginia Code §§ 3.2-200 – 3.2-206 were repealed effective July 1, 2024. However, the General Assembly enacted a substantially similar requirement to Va. Code § 3.2-205, which is codified at Va. Code § 10.1-1119.7. Accordingly, the Company reviewed Comprehensive Plans and County Ordinances to determine whether the governing bodies of the City of Charlottesville or Albemarle or Augusta Counties, in cooperation with the U.S. Department of Agriculture ("USDA"), have designated important farmlands within their jurisdiction under Va. Code § 10.1-1119.7 B.

Neither the City of Charlottesville nor the Albemarle or Augusta Counties have designated "important farmlands" within their jurisdiction pursuant to Va. Code § 10.1-1119.7 B. Additional discussion on the Rebuild Project's impact on prime farmland and farmland of statewide importance is discussed in Section 2.L of the DEQ Supplement. See Section III.A for information on prime farmland and farmland of statewide importance crossed by the Rebuild Project.

The proposed Rebuild Project is not expected to impact current land uses in the City of Charlottesville or Albemarle or Augusta Counties as the Rebuild Project is being constructed within the existing cleared right-of-way that has been in use since 1924, and agriculture is a compatible use within a transmission line corridor (see Section II.A).

2. Not applicable.

- G. Identify the following that lie within or adjacent to the proposed ROW:
  - 1. Any district, site, building, structure, or other object included in the National Register of Historic Places maintained by the U.S. Secretary of the Interior;
  - 2. Any historic architectural, archeological, and cultural resources, such as historic landmarks, battlefields, sites, buildings, structures, districts or objects listed or determined eligible by the Virginia Department of Historic Resources ("DHR");
  - 3. Any historic district designated by the governing body of any city or county;
  - 4. Any state archaeological site or zone designated by the Director of the DHR, or its predecessor, and any site designated by a local archaeological commission, or similar body;
  - 5. Any underwater historic assets designated by the DHR, or predecessor agency or board;
  - 6. Any National Natural Landmark designated by the U.S. Secretary of the Interior;
  - 7. Any area or feature included in the Virginia Registry of Natural Areas maintained by the Virginia Department of Conservation and Recreation ("DCR");
  - 8. Any area accepted by the Director of the DCR for the Virginia Natural Area Preserves System;
  - 9. Any conservation easement or open space easement qualifying under §§ 10.1-1009 1016, or §§ 10.1-1700 1705, of the Code (or a comparable prior or subsequent provision of the Code);
  - 10. Any state scenic river;
  - 11. Any lands owned by a municipality or school district; and
  - 12. Any federal, state or local battlefield, park, forest, game or wildlife preserve, recreational area, or similar facility. Features, sites, and the like listed in 1 through 11 above need not be identified again.

Response:

A Stage 1 Pre-Application Analysis was prepared by Stantec in accordance with VDHR's Guidelines for Assessing Impacts for Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia. That report is included as Attachment 2.I.1 to the DEQ Supplement and addresses the potential impacts from the Rebuild Project to historic resources identified by the VDHR's tiered survey guidance.

- 1. Districts, sites, buildings, structures, and objects listed on the NRHP that are within and adjacent to Rebuild Project are provided in Section 2.I of the DEQ Supplement.
- 2. Historic architectural, archeological, and cultural resources, such as historic sites, buildings, structures, districts or objects listed or determined eligible by the VDHR that are within or adjacent to the Rebuild Project right-of-way are provided in Section 2.I of the DEQ Supplement.
- 3. Historic Districts that are listed on or eligible for listing on the NRHP and within or adjacent to the Rebuild Project right-of-way are identified within Section 2.I of the DEQ Supplement.
- 4. Archaeological sites 44AB0122, 44AB0239, and 44AU0833 are located within the Rebuild Project right-of-way and are discussed in Section 2.I and Attachment 2.I.1 of the DEQ Supplement.

Archaeological sites 44AB0196, 44AB0238, and 44AU0830 are located adjacent and within 100 feet of the Rebuild Project right-of-way.

- 5. None.
- 6. None.
- 7. None.
- 8. None.
- 9. Conservation and open space easements within the Rebuild Project rightof-way are identified in the table below. All conservation easements were established after the Company's easement.

Easement Holder	Location
VOF ALB-VOF-3083	Existing Structure #233/31, #291/31
VOF ALB-VOF-1371	Existing Structure #233/32, #291/32
TNC	Between existing Structures #233/37, #291/37 and #233/38, #291/38
TNC	Existing Structures #233/38, #291/38 through #233/41, #291/41

Easement Holder	Location
TNC	Between existing Structures #233/41, #291/41 and #233/42, #291/42
ACEA PRFA	Between existing Structures #233/41, #291/41 and #233/42, #291/42
ACEA PRFA	Existing Structures #233/42, #291/42 through #233/45, #291/45
ACEA PRFA	Existing Structure #233/68, #291/68
VOF ALB-VOF-1046	Existing Structures #233/70, #291/70 and #233/71, #291/71
ACEA PRFA	Existing Structure #233/75, #291/75
ACEA	Between existing Structures #233/80, #291/80 and #233/81, #291/81
ACEA	Existing Structures #233/96, #291/96 through #233/98, #291/98
VOF ALB-VOF-845	Between Structures #233/98, #291/98 and #233/99, #291/99
VOF ALB-VOF-1186	Between existing Structures #233/98, #291/98 and #233/99, #291/99
ACEA	Existing Structures #233/112, #291/112 through #233/115, #291/115

- 10. The Rivanna River is designated as a state scenic river from the base of the South Fork Rivanna River Reservoir to the junction of the Rivanna with the James River. The Charlottesville Substation is approximately 0.17 mile west of the Rivanna River.
- 11. Mint Springs Valley Park and Beaver Creek Park are within and adjacent to the Rebuild Project right-of-way and owned by Albemarle County. McIntire Park, McIntire North Meadow Creek East Park, and Neighborhood Park are located within and adjacent to the Rebuild Project right-of-way and owned by the City of Charlottesville. The Rebuild Project intersects the Charlottesville High School parcels in the City of Charlottesville and Albemarle County. Walker Upper Elementary School and the Charlottesville City School district office are adjacent to the Rebuild Project in the City of Charlottesville. Additionally, there are several parcels of undeveloped land owned by the City of Charlottesville located at the intersection of Rio Road East and Agnese Street; the intersection between Dairy Road and 250 Bypass ramp; northwest of Holmes Avenue along Meadow Creek; and between 2300 Angus Road and 1704 Cedar Hill Road within 100 feet of the Rebuild Project.
- 12. The Shenandoah National Park and Appalachian Trail Corridor are within and adjacent to the Rebuild Project right-of-way in Augusta County.

H. List any registered aeronautical facilities (airports, helipads) where the proposed route would place a structure or conductor within the federally-defined airspace of the facilities. Advise of contacts, and results of contacts, made with appropriate officials regarding the effect on the facilities' operations.

Response:

The FAA is responsible for overseeing air transportation in the United States. The FAA manages air traffic in the United States and evaluates physical objects that may affect the safety of aeronautical operations through an obstruction evaluation. The prime objective of the FAA in conducting an obstruction evaluation is to ensure the safety of air navigation and the efficient utilization of navigable airspace by aircraft.

The Company has reviewed the FAA's website<sup>24</sup> to identify airports within 10.0 nautical miles ("nm") of the Rebuild Project. Based on this review, the following FAA-restricted airports are located within 10.0 nm of the Rebuild Project:<sup>25</sup>

Name	Approximate Distance and Direction from the Proposed Rebuild Project	Use
Charlottesville-Albermarle	5.9 nm northeast of Barracks Road Substation	Public
Airport ("CHO")	Barracks Road Substation	
Eagle's Nest Airport ("W1"3)	5.6 nm southwest of	Public
	Dooms Substation	rubiic

Albemarle County has designated an Airport Impact Area overlay for the Charlottesville-Albemarle Airport as described in Section III.E of this Appendix. The proposed structure heights for the Rebuild Project will comply with the height restrictions required by the various zones.

Since the FAA manages air traffic in the United States, it will evaluate any physical objects that may affect the safety of aeronautical operations through an obstruction evaluation. The Company will coordinate with the Virginia Department of Aviation ("DOAv") and the FAA as necessary to obtain all appropriate permits. If required during the permitting process, Dominion Energy Virginia will submit an FAA Form 7460-1 Notice pursuant to 14 CFR Part 77 for any structure locations that meet the review criteria.

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<sup>&</sup>lt;sup>24</sup> See https://oeaaa.faa.gov/oeaaa/external/portal.jsp and https://adip.faa.gov/agis/public/#/public.

<sup>&</sup>lt;sup>25</sup> The Company also identified 4 private airports and 4 private heliports that are located within 10 nm of the Rebuild Project. Because these airports are privately owned and do not fall within the purview of the FAA, the Company will not be submitting a Form 7460 for aeronautical studies. Additional information regarding these private airports can be found in Section 2.O of the DEQ Supplement.

I. Advise of any scenic byways that are in close proximity to or that will be crossed by the proposed transmission line and describe what steps will be taken to mitigate any visual impacts on such byways. Describe typical mitigation techniques for other highways' crossings.

Response:

The existing right-of-way to be used for the Rebuild Project crosses one National Scenic Byway, Skyline Drive.<sup>26</sup> Skyline Drive intersects a portion of the Rebuild Project between existing Structures #233/124, #291/124 and #233/125, #291/125. Proposed Structure #233/124, #291/124 will have a height increase of 10 feet and proposed Structure #233/125, #291/125 will not increase in height. Both structures will be the same material and type as the existing structures (weathering steel, DC monopole). The Company will work with the National Park Service to further address any potential impacts to Skyline Drive.

The existing right-of-way to be used for the Rebuild Project crosses one Virginia Byway, Old Garth Road (SR-601).<sup>19</sup> Old Garth Road intersects a portion of the Rebuild Project between existing Structures #233/34, #291/34 and #233/33A, #291/33A. The Barracks Road Substation is located directly adjacent to this roadway. Proposed Structure #233/34, #291/34 will have a height increase of 5 feet and be the same material and type as the existing structure (weathering steel, DC monopole). Proposed Structure #233/33A will have a height increase of 30 feet and its type is proposed to be changed from a concrete, H-Frame Switch to a galvanized steel, DC backbone structure.

No new right-of-way will be required, and visual impacts are anticipated to be minimal as drivers are likely accustomed to the existing transmission line crossing this roadway. Use of the existing right-of-way minimizes or eliminates permanent incremental impacts at road crossings. At road crossings, to avoid the need for any additional right-of-way, the Rebuild Project will cross all roads at a similar angle and alignment as the existing crossings.

<sup>16.</sup> 

<sup>&</sup>lt;sup>26</sup> VDOT 2021 Virginia's Byways, available at <a href="https://www.vdot.virginia.gov/travel-traffic/travelers/virginia-byways/">https://www.vdot.virginia.gov/travel-traffic/travelers/virginia-byways/</a> (last accessed October 2025).

#### J. Identify coordination with appropriate municipal, state, and federal agencies.

Response:

As described in Section V.D, the Company solicited feedback from the City of Charlottesville's City Manager and City Council; the Albemarle County's Board of Supervisors Members and the County Executive; and the Augusta County's Administrator and the Board of Supervisors members regarding the proposed Rebuild Project. Below is a list of coordination efforts that have occurred with other municipal, state and federal agencies:

- · Coordination with the U.S. Army Corps of Engineers, National Park Service, DEQ, Virginia Marine Resources Commission, and VDOT will take place as appropriate to obtain necessary approvals for the Rebuild Project.
- A Wetland and Waters Review has been completed and sent to DEQ's Office of Wetlands and Stream Protection to initiate the wetlands impact consultation. See Attachment 2.D.1 of the DEQ Supplement.
- · A Stage I Pre-Application Analysis has been prepared and was submitted to VDHR on October 22, 2025. See Attachment 2.I.1 of the DEQ Supplement.
- On September 23, 2025, the Company solicited comments via letter from several federally-recognized and state-recognized Native American tribes, including:

Name	Tribe
Chief Walt "Red Hawk" Brown	Cheroenhaka (Nottoway) Indian Tribe
Mary Frances Wilkerson	Cheroenhaka (Nottoway) Indian Tribe
Chief Stephen Adkins	Chickahominy Indian Tribe
Assistant Chief Reginald Stewart	Chickahominy Indian Tribe
Chief Gerald A Stewart	Chickahominy Indian Tribe Eastern Division
Jessica Phillips	Chickahominy Indian Tribe Eastern Division
Dana Adkins	Chickahominy Tribe
Chief Mark Custalow	Mattaponi Tribe
Chief Diane Shields	Monacan Indian Nation

Chief Keith Anderson	Nansemond Indian Nation
Chief Lynette Allston	Nottoway Indian Tribe of Virginia
Ms. Beth Roach	Nottoway Indian Tribe of Virginia
Chief Robert Gray	Pamunkey Indian Tribe
Kendall Stevens	Pamunkey Indian Tribal Resource Office
Chief Charles (Bootsie) Bullock	Patawomeck Indian Tribe of Virginia
Chief G. Anne Richardson	Rappahannock Tribe
SUB: Assistant Chief	Rappahannock Tribe
Chief W. Frank Adams	Upper Mattaponi Indian Tribe
Leigh Mitchell	Upper Mattaponi Indian Tribe
Carissa Speck	Delaware Nation of Oklahoma
Caitlin Rogers	Catawba Indian Nation

A copy of the letter template is included as Attachment III.J.1.

See also Sections III.B and V.D of this Appendix and the DEQ Supplement.

Dominion Energy Virginia Dominion Energy North Carolina Electric Transmission 5000 Dominion Boulevard Glen Allen, VA 23060 DominionEnergy.com



September 23, 2025

#### Dooms-Charlottesville 230kV Electric Transmission Rebuild Project

Dear Chief Red Hawk,

Dominion Energy is dedicated to maintaining safe, reliable, and affordable electric service in the communities we serve. You are receiving this project announcement letter as part of our efforts to proactively communicate early with Tribal Nations who may have an interest in this area. With your unique perspective, you can help us better plan projects in their earliest stages. Please note, this letter is not a notification of formal government-to-government consultation from any state or federal agency. Dominion Energy has been and continues to be committed to creating and maintaining strong, open, supportive, and mutually beneficial relationships with Tribal Nations.

We are proposing to rebuild a 230 kilovolt (kV) electric transmission line between our Dooms and Charlottesville substations. This approximately 22-mile transmission line corridor crosses through Augusta and Albemarle counties and will not require new right of way. This project is needed to replace aging infrastructure that has reached the end of its service life.

This project requires review by the Virginia State Corporation Commission (SCC). We are still in the conceptual phase of the project and more details will be provided as activities progress. Enclosed is a project map for your reference. Providing your input now allows us to consider any concerns you may have as we work to meet the project's needs. Please feel free to notify other relevant organizations that may have an interest in the project area. For reference, other recipients of this letter include county and state historic, cultural, and scenic organizations.

If you have questions or would like to set up a meeting to discuss the project, contact me by calling 804-944-5313 or sending an email to Janae.p.johnson@dominionenergy.com. You may also contact Tribal Relations Manager Ken Custalow by sending an email to Ken.Custalow@dominionenergy.com or calling 804-837-2067.

Sincerely,

Janae Johnson

Communications Consultant

The Electric Transmission Project Team

Dominion Energy Virginia Dominion Energy North Carolina Electric Transmission 5000 Dominion Boulevard Glen Allen, VA 23060 DominionEnergy.com





## K. Identify coordination with any non-governmental organizations or private citizen groups.

Response:

On September 22, 2025, the Company solicited comments via letter from the community leaders, environmental groups, and business groups identified below. A copy of the letter template is included as <u>Attachment III.K.1.</u>

Name	Organization
Mr. Thomas Gilmore	American Battlefield Trust
Mr. Jim Campi	American Battlefield Trust
Mr. Max Hokit	American Battlefield Trust
Ms. Eleanor Breen, PhD, RPA	Council of Virginia Archaeologists
Ms. Elaine Chang	National Trust for Historic Preservation
Ms. Leighton Powell	Scenic Virginia
Ms. Julie Bolthouse	Piedmont Environmental Council
Mr. John McCarthy	Piedmont Environmental Council
Dr. Cassandra Newby- Alexander, Dean	Norfolk State University
Mr. Steven Williams	Colonial National Historic Park
Ms. Elizabeth S. Kostelny	Preservation Virginia
Mr. Roger Kirchen	Virginia Department of Historic Resources
Ms. Adrienne Birge-Wilson	Virginia Department of Historic Resources
Mr. Dave Dutton	Dutton + Associates, LLC

Dominion Energy Virginia Dominion Energy North Carolina Electric Transmission 5000 Dominion Boulevard Glen Allen, VA 23060 DominionEnergy.com



September 23, 2025

#### Dooms-Charlottesville 230kV Electric Transmission Rebuild Project

Dear Ms. Kostelny,

Dominion Energy is dedicated to maintaining safe, reliable, and affordable electric service in the communities we serve. As a valued stakeholder with a unique perspective, you can help us meet these objectives as we plan necessary electric infrastructure projects. We are reaching out to you as we have an upcoming project in your area that may interest you.

We are proposing to rebuild a 230 kilovolt (kV) electric transmission line between our Dooms and Charlottesville substations. This approximately 22-mile transmission line corridor crosses through Augusta and Albemarle counties and will not require new right of way. This project is needed to replace aging infrastructure that has reached the end of its service life.

Enclosed is a project map for your reference. This project requires review by the Virginia State Corporation Commission (SCC). Providing your input now allows us to consider any concerns you may have as we work to meet the project's needs. Please feel free to notify other relevant organizations that may have an interest in the project area. For reference, other recipients of this letter include county and state historic, cultural, and scenic organizations, as well as Tribal Nations.

We will host in-person community meetings prior to submitting to the SCC in fall 2025. Please visit the project webpage at DominionEnergy.com/Doomscharlottesville for meeting updates and more project information.

If you have questions or would like to set up a meeting to discuss the project, contact me by calling 804-944-5313 or sending an email to Janae.p.johnson@dominionenergy.com.

Sincerely,

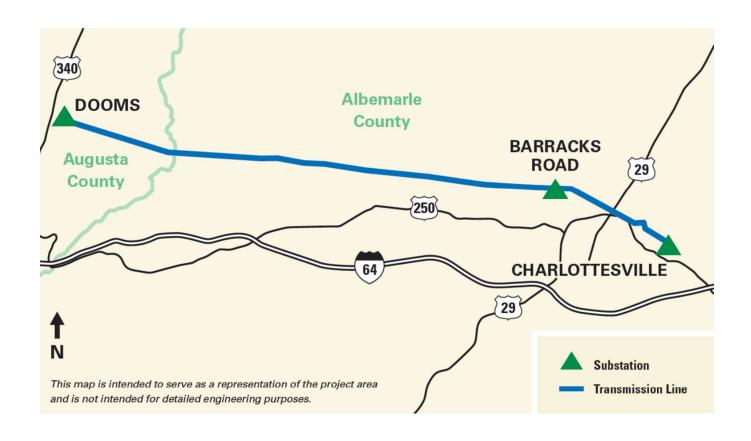
Janae Johnson

**Communications Consultant** 

The Electric Transmission Project Team

Dominion Energy Virginia Dominion Energy North Carolina Electric Transmission 5000 Dominion Boulevard Glen Allen, VA 23060 DominionEnergy.com





# III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL, AND HISTORIC FEATURES

# L. Identify any environmental permits or special permissions anticipated to be needed.

Response:

The permits or special permissions that are likely to be required for the Rebuild Project are listed below.

# **Potential Permits**

Activity	Potential Permit	Agency/Organization
Impacts to wetlands and other waters of the U.S.	Nationwide Permit 57	U.S. Army Corps of Engineers
Impacts to wetlands and other waters under Section 404 and 401	Virginia Water Protection Permit	Virginia Department of Environmental Quality
Work within, over, or under state subaqueous bottom	Subaqueous Bottom Permit	Virginia Marine Resources Commission
Discharges of Stormwater from Construction Activities	Construction General Permit	Virginia Department of Environmental Quality
Work within Shenandoah National Park	Special Use Permit	National Park Service
Work within VDOT right-of-way	Land Use Permit	Virginia Department of Transportation
Airspace obstruction evaluation	FAA 7460-1	Federal Aviation Administration
Work within railroad corridor	Right-of-Entry Permit	Norfolk Southern Corporation
Work within City right-of-way	Street & Sidewalk Closure Permit	City of Charlottesville

### IV. HEALTH ASPECTS OF ELECTROMAGNETIC FIELDS ("EMF")

A. Provide the calculated maximum electric and magnetic field levels that are expected to occur at the edge of the ROW. If the new transmission line is to be constructed on an existing electric transmission line ROW, provide the present levels as well as the maximum levels calculated at the edge of ROW after the new line is operational.

Response:

Public exposure to magnetic fields is best estimated by field levels from power lines calculated at annual average loading. For any day of the year, the EMF levels associated with average conditions provide the best estimate of potential exposure. Maximum (peak) values are less relevant as they may occur for only a few minutes or hours each year.

This section describes the levels of EMF associated with the existing and proposed transmission line. EMF levels are provided for both historical (2023) and future (2028) annual average and maximum (peak) loading conditions.

### **Existing Lines – Historical Average Loading in 2023**

EMF levels were calculated for the existing lines at *historical average* load conditions as shown in the ampacity table below and at an operating voltage of 230 kV for Lines #233 and #291 when supported on the existing structures. See Attachments II.A.5.a, II.A.5.b, II.A.5.c, and II.A.5.d, and II.A.5.e

Line No.	Historical Average Loading (Amps)
233	320
291	312

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at an historical average load operating temperature. The proposed future 230kV circuits were not included in the calculations.

EMF levels at the edge of the maintenance limits for the existing lines at the historical average loading:

Existing Conditions - Historical Average Loading (2023)				
Attachment	Per Attach	dge ROW nment Drawing View	Right Edge ROW Per Attachment Drawing View	
	Electric Field		Electric Field	Magnetic Field
	(kV/m)	(mG)	(kV/m)	(mG)

II.A.5.a	1.36	24.12	0.581	20.648
II.A.5.b	1.41	20.684	0.3	9.314
II.A.5.c	1.74	50.36	1.63	12.02
II.A.5.d	1.28	24.14	1.26	26.77
II.A.5.e	0.085	8.434	2.631	89.69

## **Existing Lines – Historical Peak Loading in 2023**

EMF levels were calculated for the existing lines at *historical peak* load conditions as shown in the ampacity table below and at an operating voltage of 230 kV for Lines #233 and #291 when supported on the existing structures. See <u>Attachments II.A.5.a</u>, <u>II.A.5.b</u>, <u>II.A.5.c</u>, and <u>II.A.5.d</u>, and <u>II.A.5.e</u>

Line No.	Historical Peak Loading (Amps)
233	902.0
291	978.5

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at an historical peak load operating temperature. The 138kV circuit was not included in the calculations.

EMF levels at the edge of the maintenance limits for the existing lines at the historical peak loading:

Existing Conditions - Historical Peak Loading (2023)				
Attachment	Left Edge ROW Per Attachment Drawing View		Right Edge ROW Per Attachment Drawing View	
	Electric Field	Magnetic Field	Electric Field	<u>Magnetic</u>
	(kV/m)	(mG)	(kV/m)	Field (mG)
II.A.5.a	0.57	55.75	0.58	64.17
II.A.5.b	1.56	66.16	0.301	28.73
II.A.5.c	1.925	56.108	0.422	18.63
II.A.5.d	1.93	91.687	1.74	68.27
II.A.5.e	0.1	14.99	2.73	79.145

### Proposed Rebuild Project - Projected Average Loading in 2028

EMF levels were calculated for the proposed Rebuild Project at the *projected* average load conditions as shown in the ampacity table below and at an operating voltage of 230 kV for Lines #233 and #291 when supported on the proposed Rebuild Project structures. See <u>Attachments II.A.5.a</u>, <u>II.A.5.b</u>, <u>II.A.5.c</u>, and

II.A.5.d, and II.A.5.e.

Line No.	Projected Average Loading (Amps)
233	318.2
291	337.5

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at a projected average load operating temperature. The proposed future 230kV circuits were not included in the calculations.

EMF levels at the edge of the maintenance limits for the proposed Rebuild Project at the projected average loading:

Proposed Rebuild Project - Projected Average Loading (2028)				
Attachment	Left Edge ROW Per Attachment Drawing View		Right Edge ROW Per Attachment Drawing View	
	Electric Field	Magnetic Field	Electric Field	Magnetic Field
	(kV/m)	(mG)	(kV/m)	(mG)
II.A.5.a	1.46	26.64	0.59	22.36
II.A.5.b	1.545	22.89	0.3	10.02
II.A.5.c	1.908	52.01	0.422	10.44
II.A.5.d	1.58	31.59	1.31	22.7
II.A.5.e	0.095	8.2	2.72	79.889

#### Proposed Rebuild Project – Projected Peak Loading in 2028

EMF levels were calculated for the proposed Rebuild Project at the *projected peak* load conditions as shown in the ampacity table below and at an operating voltage of 230 kV for Lines #233 and #291 when supported on the proposed Rebuild Project structures. See <u>Attachments II.A.5.a</u>, <u>II.A.5.b</u>, <u>II.A.5.c</u>, and <u>II.A.5.d</u>, and <u>II.A.5.e</u>.

Line No.	Projected Peak Loading (Amps)
233	625
291	601

These field levels were calculated at mid-span where the conductors are closest to the ground and the conductors are at the projected peak load operating temperature. The proposed future 230kV circuits were not included in the calculations.

EMF levels at the edge of the maintenance limits for the proposed Rebuild Project at the projected peak loading:

Proposed Rebuild Project - Projected Peak Loading (2028)					
Attachment	Left Edge ROW Per Attachment Drawing View		Right Edge ROW Per Attachment Drawing View		
	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)	
II.A.5.a	1.46	44.06	0.59	37	
II.A.5.b	0.81	32.07	0.304	16.57	
II.A.5.c	1.43	73.01	0.12	13.65	
II.A.5.d	1.58	51.29	1.306	35.02	
II.A.5.e	0.095	9.311	2.72	78.96	

#### IV. HEALTH ASPECTS OF ELECTROMAGNETIC FIELDS ("EMF")

B. If the Applicant is of the opinion that no significant health effects will result from the construction and operation of the line, describe in detail the reasons for that opinion and provide references or citations to supporting documentation.

Response:

The conclusions of multidisciplinary scientific review panels assembled by national and international scientific agencies during the past few decades are the foundation of the Company's opinion that no adverse health effects are anticipated to result from the operation of the proposed Rebuild Project. Each of these panels has evaluated the scientific research related to health and extremely low frequency ("ELF") EMF, also referred to as power-frequency (50/60 Hertz ["Hz"]) EMF, and provided conclusions that form the basis of guidance to governments and industries. The Company regularly monitors the recommendations of these expert panels to guide their approach to EMF.

Research on EMF and human health varies widely in approach. Some studies evaluate the effects on biological responses of high, short-term EMF exposure not typically found in people's day-to-day lives, while others evaluate the effects of common, low EMF exposures found throughout communities. Studies also have evaluated the possibility of effects (*e.g.*, cancer, neurodegenerative diseases, and reproductive effects) of long-term exposure. Altogether, this research includes well over 100 epidemiologic studies of people in their natural environment and many more laboratory studies of animals (*in vivo*) and isolated cells and tissues (*in vitro*). Standard scientific procedures, such as weight-of-evidence methods, were used by the expert panels assembled by scientific agencies to identify, review, and summarize the results of this large and diverse research.

The reviews of biological and health research related to ELF EMF have been conducted by numerous scientific and health agencies, including, for example, the European Health Risk Assessment Network on Electromagnetic Fields Exposure ("EFHRAN"), the International Commission on Non-Ionizing Radiation Protection ("ICNIRP"), the World Health Organization ("WHO"), the Institute of Electrical and Electronics Engineers ("IEEE")'s International Committee on Electromagnetic Safety ("ICES"), the Scientific Committee on Health, Environmental and Emerging Risks ("SCHEER") (formerly the Scientific Committee on Emerging and Newly Identified Health Risks ["SCENIHR"]) of the European Commission, and the Swedish Radiation Safety Authority ("SSM") (formerly the Swedish Radiation Protection Authority ["SSI"]) (WHO, 2007; SCENIHR, 2009, 2015; EFHRAN, 2010, 2012; ICNIRP, 2010; SSM, 2015, 2016, 2018, 2019, 2020, 2021, 2022, 2024a, 2024b; ICES, 2019; SCHEER, 2024). The general scientific consensus of the agencies that have reviewed this research, relying on generally accepted scientific methods, is that the scientific evidence does not confirm that common sources of EMF in the environment, including transmission lines and other parts of the electric system, appliances, etc., are a cause of any adverse health effects.

The most recent reviews on this topic include the 2015 and 2024 reports by SCENIHR and SCHEER, respectively, and annual reviews published by SSM (*i.e.*, for the years 2015 through 2024). These reports, similar to previous reviews, found that the scientific evidence does not confirm the existence of any adverse health effects caused by environmental or community exposure to EMF.

WHO has recommended that countries adopt recognized international standards published by ICNIRP and ICES. Typical levels of EMF from Dominion Energy Virginia's high voltage power lines outside its property and rights-of-way are far below the screening reference levels of EMF recommended for the general public and still lower than exposures equivalent to restrictions to limits on fields within the body (ICNIRP, 2010; ICES, 2019).

Thus, based on the conclusions of scientific reviews and the levels of EMF associated with the proposed Rebuild Project, the Company has determined that no adverse health effects are anticipated to result from the operation of the proposed Rebuild Project.

#### References

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Report on the Analysis of Risks Associated to Exposure to EMF: *In Vitro* and *In Vivo* (Animals) Studies. Milan, Italy: EFHRAN, 2010.

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Risk Analysis of Human Exposure to Electromagnetic Fields (Revised). Report D2 of the EFHRAN Project. Milan, Italy: EFHRAN, 2012.

International Commission on Non-ionizing Radiation Protection (ICNIRP). Guidelines for limiting exposure to time-varying electric and magnetic fields (1 Hz to 100 kHz). Health Phys 99: 818-36, 2010.

International Committee on Electromagnetic Safety (ICES). IEEE Standard for Safety Levels with Respect to Human Exposure to Electromagnetic Fields 0 to 300 GHz. IEEE Std C95.1-2019. New York, NY: IEEE, 2019.

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). Health Effects of Exposure to EMF. Brussels, Belgium: European Commission, 2009.

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). Opinion on Potential Health Effects of Exposure to Electromagnetic Fields (EMF). Brussels, Belgium: European Commission, 2015.

Scientific Committee on Health, Environmental and Emerging Risks (SCHEER). Potential Health Effects of Exposure to Electromagnetic Fields (EMF): Update with Regard to Frequencies between 1 Hz and 100 kHz. Brussels, Belgium: Commission E, 2024.

Swedish Radiation Safety Authority (SSM). Research 2015:19. Recent Research on EMF and Health Risk - Tenth report from SSM's Scientific Council on Electromagnetic Fields. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2015.

Swedish Radiation Safety Authority (SSM). Research 2016:15. Recent Research on EMF and Health Risk - Eleventh report from SSM's Scientific Council on Electromagnetic Fields, 2016. Including Thirteen years of electromagnetic field research monitored by SSM's Scientific Council on EMF and health: How has the evidence changed over time? Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2016.

Swedish Radiation Safety Authority (SSM). Research 2018:09. Recent Research on EMF and Health Risk - Twelfth report from SSM's Scientific Council on Electromagnetic Fields, 2017. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2018.

Swedish Radiation Safety Authority (SSM). Research 2019:08. Recent Research on EMF and Health Risk – Thirteenth Report from SSM's Scientific Council on Electromagnetic Fields, 2018. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2019.

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Swedish Radiation Safety Authority (SSM). Research 2021:08. Recent Research on EMF and Health Risk – Fifteenth report from SSM's Scientific Council on Electromagnetic Fields, 2020. Stockholm, Sweden: Swedish Radiation Safety Authority (SSM), 2021.

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Swedish Radiation Safety Authority (SSM). 2024:05 Recent Research on EMF and Health Risk, Seventeenth report from SSM's Scientific Council on Electromagnetic Fields, 2022. Stockholm, Sweden: SSM, 2024a.

Swedish Radiation Safety Authority (SSM). 2024:12 Recent Research on EMF and Health Risk, Eighteenth report from SSM's Scientific Council on Electromagnetic Fields, 2023. Stockholm, Sweden: SSM, 2024b.

World Health Organization (WHO). Environmental Health Criteria 238: Extremely Low Frequency (ELF) Fields. Geneva, Switzerland: World Health Organization, 2007.

## IV. HEALTH ASPECTS OF ELECTROMAGNETIC FIELDS ("EMF")

- C. Describe and cite any research studies on EMF the Applicant is aware of that meet the following criteria:
  - 1. Became available for consideration since the completion of the Virginia Department of Health's most recent review of studies on EMF and its subsequent report to the Virginia General Assembly in compliance with 1985 Senate Joint Resolution No. 126;
  - 2. Include findings regarding EMF that have not been reported previously and/or provide substantial additional insight into findings; and
  - 3. Have been subjected to peer review.

Response:

The Virginia Department of Health ("VDH") conducted its most recent review and issued its report on the scientific evidence on potential health effects of extremely low frequency ELF EMF in 2000: "[T]he Virginia Department of Health is of the opinion that there is no conclusive and convincing evidence that exposure to extremely low frequency EMF emanated from nearby high voltage transmission lines is causally associated with an increased incidence of cancer or other detrimental health effects in humans."<sup>27</sup>

The continuing scientific research on ELF EMF exposure and health has resulted in many peer-reviewed publications since 2000. The accumulating research results have been regularly and repeatedly reviewed and evaluated by national and international health, scientific, and government agencies, including most notably:

- WHO, which published one of the most comprehensive and detailed reviews of the relevant scientific peer-reviewed literature in 2007;
- SCHEER (formerly SCENIHR), a committee of the European Commission, which published its assessments in 2009, 2015, and 2024;
- The SSM, which has published annual reviews of the relevant peer-reviewed scientific literature since 2003, with its most recent reviews published in 2024; and,
- EFHRAN, which published its reviews in 2010 and 2012.

The above reviews provide detailed analyses and summaries of relevant recent peer-reviewed scientific publications. The conclusions of these reviews that the evidence overall does not confirm the existence of any adverse health effects due to exposure to EMF below scientifically established guideline values are consistent with the conclusions of the VDH report. With respect to the statistical association

<sup>&</sup>lt;sup>27</sup> See http://www.vdh.virginia.gov/content/uploads/sites/12/2016/02/highfinal.pdf.

observed in some of the childhood leukemia epidemiologic studies, the comprehensive review of the literature by SCENIHR, published in 2015, concluded that "no mechanisms have been identified and no support is existing [sic] from experimental studies that could explain these findings, which, together with shortcomings of the epidemiological studies prevent a causal interpretation" (SCENIHR, 2015, p. 16). In their 2024 report providing an update on the potential health effects of exposure to electromagnetic fields in the 1 Hz to 100 kilohertz ("kHz") range, SCHEER concluded that "overall, there is weak evidence concerning the association of ELF-MF [magnetic field] exposure with childhood leukaemia" (SCHEER 2024, p. 9).

While research is continuing on multiple aspects of EMF exposure and health, many of the recent publications have focused on an epidemiologic assessment of the relationship between EMF exposure and childhood leukemia and EMF exposure and neurodegenerative diseases. Of these, the following recent publications, published following the inclusion date (June 2014) for the SCENIHR (2015) report through February 15, 2025, provide additional evidence and contribute to clarification of previous findings. Overall, new research studies have not provided evidence to alter the previous conclusions of scientific and health organizations, including WHO and SCENIHR.

Epidemiologic studies of EMF and childhood leukemia published during the above referenced period include:

- Bunch et al. (2015) assessed the potential association between residential proximity to high voltage underground cables and development of childhood cancer in the United Kingdom largely using the same epidemiologic data as in a previously published study on overhead transmission lines (Bunch et al., 2014). No statistically significant associations or trends were reported with either distance to underground cables or calculated magnetic fields from underground cables for any type of childhood cancers.
- Pedersen et al. (2015) published a case-control study that investigated the potential association between residential proximity to power lines and childhood cancer in Denmark. The study included all cases of leukemia (n=1,536), central nervous system tumors, and malignant lymphoma (n=417) diagnosed before the age of 15 between 1968 and 2003 in Denmark, along with 9,129 healthy control children matched on sex and year of birth. Considering the entire study period, no statistically significant increases were reported for any of the childhood cancer types.
- Salvan et al. (2015) compared measured magnetic-field levels in the bedroom for 412 cases of childhood leukemia under the age of 10 and 587 healthy control children in Italy. Although the statistical power of the study was limited because of the small number of highly exposed subjects, no consistent statistical associations or trends were reported between measured magnetic-field levels and the occurrence of leukemia among children in the study.

- Bunch et al. (2016) and Swanson and Bunch (2018) published additional analyses using data from an earlier study (Bunch et al., 2014). Bunch et al. (2016) reported that the association with distance to power lines observed in earlier years was linked to calendar year of birth or year of cancer diagnosis, rather than the age of the power lines. Swanson and Bunch (2018) re-analyzed data using finer exposure categories (e.g., cut-points of every 50-meter distance) and broader groupings of diagnosis date (e.g., 1960-1979, 1980-1999, and 2000 and after) and reported no overall associations between exposure categories and childhood leukemia for the later periods (1980 and after), and consistent pattern for the periods prior to 1980.
- Crespi et al. (2016) conducted a case-control epidemiologic study of childhood cancers and residential proximity to high voltage power lines (60 kV to 500 kV) in California. Childhood cancer cases, including 5,788 cases of leukemia and 3,308 cases of brain tumor, diagnosed under the age of 16 between 1986 and 2008, were identified from the California Cancer Registry. Controls, matched on age and sex, were selected from the California Birth Registry. Overall, no consistent statistically significant associations for leukemia or brain tumor and residential distance to power lines were reported.
- Kheifets et al. (2017) assessed the relationship between calculated magneticfield levels from power lines and development of childhood leukemia within the same study population evaluated in Crespi et al. (2016). In the main analyses, which included 4,824 cases of leukemia and 4,782 controls matched on age and sex, the authors reported no consistent patterns, or statistically significant associations between calculated magnetic-field levels and childhood Similar results were reported in subgroup and leukemia development. sensitivity analyses. In two subsequent studies, Amoon et al. (2018a, 2019) examined the potential impact of residential mobility (i.e., moving residences between birth and diagnosis) on the associations reported in Crespi et al. (2016) and Kheifets et al. (2017). Amoon et al. (2018a) concluded that changing residences was not associated with either calculated magnetic-field levels or proximity to the power lines, while Amoon et al. (2019) concluded that while uncontrolled confounding by residential mobility had some impact on the association between EMF exposure and childhood leukemia, it was unlikely to be the primary driving force behind the previously reported associations in Crespi et al. (2016) and Kheifets et al. (2017).
- Amoon et al. (2018b) conducted a pooled analysis of 29,049 cases and 68,231 controls from 11 epidemiologic studies of childhood leukemia and residential distance from high voltage power lines. The authors reported no statistically-significant association between childhood leukemia and proximity to transmission lines of any voltage. Among subgroup analyses, the reported associations were slightly stronger for leukemia cases diagnosed before 5 years of age and in study periods prior to 1980. Adjustment for various potential confounders (e.g., socioeconomic status, dwelling type, residential mobility) had little effect on the estimated associations.

- Kyriakopoulou et al. (2018) assessed the association between childhood acute leukemia and parental occupational exposure to social contacts, chemicals, and electromagnetic fields. The study was conducted at a major pediatric hospital in Greece and included 108 cases and 108 controls matched for age, gender, and ethnicity. Statistically non-significant associations were observed between paternal exposure to magnetic fields and childhood acute leukemia for any of the exposure periods examined (1 year before conception; during pregnancy; during breastfeeding; and from birth until diagnosis); maternal exposure was not assessed due to the limited sample size. No associations were observed between childhood acute leukemia and exposure to social contacts or chemicals.
- Auger et al. (2019) examined the relationship between exposure to EMF during pregnancy and risk of childhood cancer in a cohort of 784,000 children born in Quebec. Exposure was defined using residential distance to the nearest high voltage transmission line or transformer station. The authors reported statistically non-significant associations between proximity to transformer stations and any cancer, hematopoietic cancer, or solid tumors. No associations were reported with distance to transmission lines.
- Crespi et al. (2019) investigated the relationship between childhood leukemia and distance from high voltage lines and calculated magnetic-field exposure, separately and combined, within the California study population previously analyzed in Crespi et al. (2016) and Kheifets et al. (2017). The authors reported that neither close proximity to high voltage lines nor exposure to calculated magnetic fields alone were associated with childhood leukemia; an association was observed only for those participants who were both close to high voltage lines (< 50 meters) and had exposure to high calculated magnetic fields ( $\ge 0.4$ microtesla [" $\mu$ T"]) (i.e.,  $\geq 4$  milligauss ["mG"]). No associations were observed with low-voltage power lines (< 200 kV). In a subsequent study, Amoon et al. (2020) examined the potential impact of dwelling type on the associations reported in Crespi et al. (2019). Amoon et al. (2020) concluded that while the type of dwelling at which a child resides (e.g., single-family home, apartment, duplex, mobile home) was associated with socioeconomic status and race or ethnicity, it was not associated with childhood leukemia and did not appear to be a potential confounder in the relationship between childhood leukemia and magnetic-field exposure in this study population.
- Swanson et al. (2019) conducted a meta-analysis of 41 epidemiologic studies of childhood leukemia and magnetic-field exposure published between 1979 and 2017 to examine trends in childhood leukemia development over time. The authors reported that while the estimated risk of childhood leukemia initially increased during the earlier period, a statistically non-significant decline in estimated risk has been observed from the mid-1990s until the present (*i.e.*, 2019).

- Talibov et al. (2019) conducted a pooled analysis of 9,723 cases and 17,099 controls from 11 epidemiologic studies to examine the relationship between parental occupational exposure to magnetic fields and childhood leukemia. No statistically significant association was found between either paternal or maternal exposure and leukemia (overall or by subtype). No associations were observed in the meta-analyses.
- Núñez-Enríquez et al. (2020) assessed the relationship between residential magnetic-field exposure and B-lineage acute lymphoblastic leukemia ("B-ALL") in children under 16 years of age in Mexico. The study included 290 cases and 407 controls matched on age, gender, and health institution; magnetic-field exposure was assessed through the collection of 24-hour measurements in the participants' bedrooms. While the authors reported some statistically significant associations between elevated magnetic-field levels and development of B-ALL, the results were dependent on the chosen cut-points.
- Seomun et al. (2021) performed a meta-analysis based on 33 previously published epidemiologic studies investigating the potential relationship between magnetic-field exposure and childhood cancers, including leukemia and brain cancer. For childhood leukemia, the authors reported statistically significant associations with some, but not all, of the chosen cut-points for magnetic-field exposure. The associations between magnetic-field exposure and childhood brain cancer were statistically non-significant. The study provided limited new insight as most of the studies included in the current meta-analysis, were included in previously conducted meta- and pooled analyses.
- Amoon et al. (2022) conducted a pooled analysis of four studies of residential exposure to magnetic fields and childhood leukemia published following a 2010 pooled analysis by Kheifets et al. (2010). The study by Amoon et al. (2022) compared the exposures of 24,994 children with leukemia to the exposures of 30,769 controls without leukemia in California, Denmark, Italy, and the United Kingdom. Exposure was assessed by measured or calculated magnetic fields at their residences. The exposure of these two groups to magnetic fields were found not to significantly differ. A decrease in the combined effect estimates in epidemiologic studies was observed over time, and the authors concluded that their findings, based on the most recent studies, were "not in line" with previous pooled analyses that reported an increased risk of childhood leukemia.
- Brabant et al. (2022) performed a literature review and meta-analysis of studies of childhood leukemia and magnetic-field exposure. The overall analysis included 21 epidemiologic studies published from 1979 to 2020. The authors reported a statistically significant association, which they noted was "mainly explained by the studies conducted before 2000." The authors reported a statistically significant association between childhood leukemia and measured or calculated magnetic-field exposures > 0.4 μT (4 mG); no statistically significant overall associations were reported between childhood leukemia and lower magnetic-field exposure (< 0.4 μT [4 mG]), residential distance from

power lines, or wire coding configuration. An association between childhood leukemia and electric blanket use was also reported. The overall results were likely influenced by the inclusion of a large number of earlier studies; 10 of the 21 studies in the main analysis were published prior to 2000. Studies published prior to 2000 included fewer studies deemed to be of higher study quality, as determined by the authors, compared to studies published after 2000.

- Nguyen et al. (2022) investigated whether potential pesticide exposure from living in close proximity to commercial plant nurseries confounds the association between magnetic-field exposure and childhood leukemia development reported within the California study population previously analyzed in Crespi et al. (2016) and Kheifets et al. (2017). The authors in Nguyen et al. (2022) noted that while the association between childhood leukemia and magnetic-field exposure was "slightly attenuated" after adjusting for nursery proximity or when restricting to subjects living > 300 meters from nurseries, their results "do not support plant nurseries as an explanation for observed childhood leukemia risks." The authors further noted that close residential proximity to nurseries may be an independent risk factor for childhood leukemia.
- Guo et al. (2023) reported conducting a systematic review and meta-analysis of studies published from 2015 to 2022 that evaluated associations between magnetic-field exposure and childhood leukemia development. Three metaanalyses were conducted to evaluate the relationship using different exposure metrics. In the first meta-analysis, magnetic-field levels ranging from 0.4 µT (4 mG) to 0.2 μT (2 mG) were associated with a statistically significant reduced risk of childhood leukemia development (i.e., a protective association). In the second meta-analysis, exposure was based on wiring configuration codes, and the reported pooled relative risk estimates demonstrated a statistically significant increased association with childhood leukemia. In the third metaanalysis, exposure was categorized into groupings of magnetic-field strength; no statistically significant associations with childhood leukemia were reported for any of the groupings, including for magnetic-field levels  $\geq 0.4 \mu T$  (4 mG). There are significant limitations of this study that prevent meaningful interpretations of the results. Most of the analyses of magnetic fields did not state whether measurements and calculations were included, and the authors provided no description of the methods used for their analyses, no data tables to support their findings, and no references to the number and type of studies included. In fact, much of the article's introduction discusses ionized radiation. The authors also do not report relevant metrics for evaluating meta-analyses such as study heterogeneity.
- Malagoli et al. (2023) examined associations between exposure to magnetic fields from high voltage power lines (≥ 132 kV) and childhood leukemia development in a case-control study of children in Italy. The study included 182 cases diagnosed with childhood leukemia between 1998 and 2019 and 726 controls matched based on age, sex, and Italian province. The authors assessed

magnetic-field exposure by calculating the distance from each participant's residence to the nearest high voltage power line and classifying that distance into one of three exposed categories (participants living < 100 meters, 100 to < 200 meters, or 200 to < 400 meters from the power lines) or as unexposed (participants living  $\ge 400$  meters from the power lines). The authors reported a non-statistically significant association between childhood leukemia and a residence distance of < 100 meters; no statistically significant associations were reported for any distance, including when stratifying by age (< 5 or  $\ge 5$  years) or when restricting to acute lymphoblastic leukemia ("ALL").

- Nguyen et al. (2023) extended their previous investigation (Nguyen et al., 2022) into whether pesticide exposure was an independent risk factor or confounder for childhood leukemia in the presence of magnetic-field exposure from high voltage power lines by examining the potential impact of specific pesticide exposure factors (e.g., intended use, chemical class, active ingredient). The authors found no statistically significant associations between distance to high voltage power lines or magnetic-field exposure and childhood leukemia, including when adjusting for pesticide exposures. Several of the examined pesticides were determined by the authors to be potential independent risk factors for childhood leukemia.
- Zagar et al. (2023) examined the relationship between magnetic fields and childhood cancers, including childhood leukemia, in Slovenia. Cancer cases, including 194 cases of leukemia, were identified from the Slovenian Cancer Registry; cases were then classified into one of five calculated magnetic-field exposure levels (ranging from < 0.1 μT [< 1 mG] to ≥ 0.4 μT [≥ 4 mG]) based on residential distance to high voltage (e.g., 110-kV, 220-kV, and 400-kV) power lines. The authors reported that less than 1% of Slovenian children and adolescents lived in an area near high voltage power lines. No differences in the development of childhood cancers, including leukemia, brain tumors, or all cancers combined, were reported across the five exposure categories.
- Crespi et al. (2024) assessed the association between residential proximity to electricity transformers in multi-story residential buildings and childhood leukemia development in the International Transformer Exposure study. Participants were required to live in an apartment building that contained a built-in transformer; exposure was estimated using the participants' apartment location relative to the transformer and categorized as high exposure (located above or adjacent to the transformer), intermediate exposure (located on the same floor as apartments in the high exposure category), or unexposed (all other apartments). In the pooled analyses of five countries' data, a total of 74 cases and 20,443 controls were included; 18 of the 74 cases were identified in the intermediate or high exposure categories. No significant associations were reported between proximity to residential transformers and childhood leukemia. Sensitivity analyses performed using the data from one of the five countries (Finland) where a cohort study design was used, also reported no significant associations. The authors concluded that the evidence for an elevated risk of

childhood leukemia from proximity to residential transformers was "weak."

- Duarte-Rodríguez et al. (2024) conducted a population-based case-control study to examine the geographical distribution of childhood ALL cases in Mexico City, Mexico. Cases and controls were geolocated using the most recent residential address, and a spatial scan statistic was used to detect spatial clusters of cancer cases. The authors identified eight spatial clusters of cases, representing nearly 40% of all cases included in the study (n=1,054 cases). The authors noted that six of the eight spatial clusters were located in proximity to high voltage power lines and high voltage electric installations (distances not specified), and that the remaining two clusters were located near former petrochemical industrial facility sites. Since the study did not directly assess magnetic-field exposure and made no conclusions about magnetic-field exposure and cancer development, this study adds little value to the existing literature regarding a potential association between exposure to ELF EMF and childhood leukemia development.
- Malavolti et al. (2024) examined the association between magnetic-field exposure from transformer stations and childhood leukemia in the same Italian study population as Malagoli et al. (2023). Magnetic-field exposure was estimated based on residential distance to the nearest transformer station, and participants were then categorized as exposed or unexposed using two different distance cut-points: residing within a radius of 15 or 25 meters from the transformer station (exposed); residing ≥ 15 meters or ≥ 25 meters from the transformer station (unexposed). No significant associations were reported for all leukemias, or ALL specifically, when either distance cut-point was used, and in fact no association at all (an odds ratio = 1.0) was observed when the more stringent cut-point of 15 meters was used. In sub-analyses that stratified by participant age (< 5 years vs. ≥ 5 years), no significant associations were reported for either age category.
- Norzaee et al. (2024) conducted a hospital-based case-control study that investigated the association between residential proximity to urban land uses (such as highways, petrol stations, power lines, and bus stations) and childhood leukemia and lymphoma in Tehran, Iran. The study population included 428 childhood leukemia and 428 childhood lymphoma cases, diagnosed between 2016 and 2021, and 428 controls, selected from the same hospitals as the cases. To be eligible for inclusion in the study, cases and controls had to have been living at their residence for at least 1 year prior to enrollment and be between 1 and 15 years of age. Logistic regression models adjusting for parental smoking, sex, birth year, and family history of cancer, indicated some statistically significant associations with proximity to petrol stations and highways but not with proximity to power lines. Children living within 100 meters of highways had increased odds of developing leukemia and lymphoma compared to children living at a further distance from highways, while proximity to petrol stations (< 100 meters) was associated with leukemia development but not lymphoma. The authors reported an association between

childhood leukemia development and living within 50 meters of power lines compared to living further away, but contrary to the authors' description, this finding was not statistically significant. The authors also noted that this evaluation was based on a limited sample size of only 12 cases. No associations were observed between proximity to power lines and childhood lymphoma development.

Epidemiologic studies of EMF and neurodegenerative diseases published during the above referenced period include:

- Seelen et al. (2014) conducted a population-based case-control study in the Netherlands and included 1,139 cases diagnosed with amyotrophic lateral sclerosis ("ALS") between 2006 and 2013 and 2,864 frequency-matched controls. The shortest distance from the case and control residences to the nearest high voltage power line (50 to 380 kV) was determined by geocoding. No statistically significant associations between residential proximity to power lines with voltages of either 50 to 150 kV or 220 to 380 kV and ALS were reported.
- Sorahan and Mohammed (2014) analyzed mortality from neurodegenerative diseases in a cohort of approximately 73,000 electricity supply workers in the United Kingdom. Cumulative occupational exposure to magnetic-fields was calculated for each worker in the cohort based on their job titles and job locations. Death certificates were used to identify deaths from neurodegenerative diseases. No associations or trends for any of the included neurodegenerative diseases (Alzheimer's disease, Parkinson's disease, and ALS) were observed with various measures of calculated magnetic fields.
- Koeman et al. (2015, 2017) analyzed data from the Netherlands Cohort Study of approximately 120,000 men and women who were enrolled in the cohort in 1986 and followed up until 2003. Lifetime occupational history, obtained through questionnaires, and job-exposure matrices on ELF magnetic fields and other occupational exposures were used to assign exposure to study subjects. Based on 1,552 deaths from vascular dementia, the researchers reported a statistically not significant association of vascular dementia with estimated exposure to metals, chlorinated solvents, and ELF magnetic fields. However, because no exposure-response relationship for cumulative exposure was observed and because magnetic fields and solvent exposures were highly correlated with exposure to metals, the authors attributed the association with ELF magnetic fields and solvents to confounding by exposure to metals (Koeman et al., 2015). Based on a total of 136 deaths from ALS among the cohort members, the authors reported a statistically significant, approximately

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<sup>&</sup>lt;sup>28</sup> In Table 2 of the paper, the reported adjusted odds ratio for living within 50 meters of power lines was 2.90, with a 95% confidence interval ranging from 0.92 to 9.14. An odd ratio with a 95% confidence interval including 1.0 is considered statistically non-significant. A 95% confidence interval reflects a range of values that is expected to include the true value 95% of the times.

two-fold association with ELF magnetic fields in the highest exposure category. This association, however, was no longer statistically significant when adjusted for exposure to insecticides (Koeman et al., 2017).

- Fischer et al. (2015) conducted a population-based case-control study that included 4,709 cases of ALS diagnosed between 1990 and 2010 in Sweden and 23,335 controls matched to cases on year of birth and sex. The study subjects' occupational exposures to ELF magnetic fields and electric shocks were classified based on their occupations, as recorded in the censuses and corresponding job-exposure matrices. Overall, neither magnetic fields nor electric shocks were related to ALS.
- Vergara et al. (2015) conducted a mortality case-control study of occupational exposure to electric shock and magnetic fields and ALS. They analyzed data on 5,886 deaths due to ALS and over 58,000 deaths from other causes in the United States between 1991 and 1999. Information on occupation was obtained from death certificates and job-exposure matrices were used to categorize exposure to electric shocks and magnetic fields. Occupations classified as "electric occupations" were moderately associated with ALS. The authors reported no consistent associations for ALS, however, with either electric shocks or magnetic fields, and they concluded that their findings did not support the hypothesis that exposure to either electric shocks or magnetic fields explained the observed association of ALS with "electric occupations."
- Pedersen et al. (2017) investigated the occurrence of central nervous system diseases among approximately 32,000 male Danish electric power company workers. Cases were identified through the national patient registry between 1982 and 2010. Exposure to ELF magnetic fields was determined for each worker based on their job titles and area of work. A statistically significant increase was reported for dementia in the high exposure category when compared to the general population, but no exposure-response pattern was identified, and no similar increase was reported in the internal comparisons among the workers. No other statistically significant increases among workers were reported for the incidence of Alzheimer's disease, Parkinson's disease, motor neuron disease, multiple sclerosis, or epilepsy, when compared to the general population, or when incidence among workers was analyzed across estimated exposure levels.
- Vinceti et al. (2017) examined the association between ALS and calculated magnetic-field levels from high voltage power lines in Italy. The authors included 703 ALS cases and 2,737 controls; exposure was assessed based on residential proximity to high voltage power lines. No statistically significant associations were reported and no exposure-response trend was observed. Similar results were reported in subgroup analyses by age, calendar period of disease diagnosis, and study area.

- Checkoway et al. (2018) investigated the association between Parkinsonism<sup>29</sup> and occupational exposure to magnetic fields and several other agents (endotoxins, solvents, shift work) among 800 female textile workers in Shanghai. Exposure to magnetic fields was assessed based on the participants' work histories. The authors reported no statistically significant associations between Parkinsonism and occupational exposure to any of the agents under study, including magnetic fields.
- Gunnarsson and Bodin (2018) conducted a meta-analysis of occupational risk factors for ALS. The authors reported a statistically significant association between occupational exposures to EMF, estimated using a job-exposure matrix, and ALS among the 11 studies included. Statistically significant associations were also reported between ALS and jobs that involve working with electricity, heavy physical work, exposure to metals (including lead) and chemicals (including pesticides), and working as a nurse or physician. The authors reported some evidence for publication bias. In a subsequent publication, Gunnarsson and Bodin (2019) updated their previous meta-analysis to also include Parkinson's disease and Alzheimer's disease. A slight, statistically significant association was reported between occupational exposure to EMF and Alzheimer's disease; no association was observed for Parkinson's disease.
- Huss et al. (2018) conducted a meta-analysis of 20 epidemiologic studies of ALS and occupational exposure to magnetic fields. The authors reported a weak overall association; a slightly stronger association was observed in a subset analysis of six studies with full occupational histories available. The authors noted substantial heterogeneity among studies, evidence for publication bias, and a lack of a clear exposure-response relationship between exposure and ALS.
- Jalilian et al. (2018) conducted a meta-analysis of 20 epidemiologic studies of occupational exposure to magnetic fields and Alzheimer's disease. The authors reported a moderate, statistically significant overall association; however, they noted substantial heterogeneity among studies and evidence for publication bias.
- Röösli and Jalilian (2018) performed a meta-analysis using data from five epidemiologic studies examining residential exposure to magnetic fields and ALS. A statistically non-significant negative association was reported between ALS and the highest exposed group, where exposure was defined based on distance from power lines or calculated magnetic-field level.
- Gervasi et al. (2019) assessed the relationship between residential distance to

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<sup>&</sup>lt;sup>29</sup> Parkinsonism is defined by Checkoway et al. (2018) as "a syndrome whose cardinal clinical features are bradykinesia, rest tremor, muscle rigidity, and postural instability. Parkinson disease is the most common neurodegenerative form of [parkinsonism]" (p. 887).

overhead power lines in Italy and risk of Alzheimer's dementia and Parkinson's disease. The authors included 9,835 cases of Alzheimer's dementia and 6,810 cases of Parkinson's disease; controls were matched by sex, year of birth, and municipality of residence. A weak, statistically non-significant association was observed between residences within 50 meters of overhead power lines and both Alzheimer's dementia and Parkinson's disease, compared to distances of over 600 meters.

- Peters et al. (2019) examined the relationship between ALS and occupational exposure to both magnetic fields and electric shock in a pooled study of data from three European countries. The study included 1,323 ALS cases and 2,704 controls matched for sex, age, and geographic location; exposure was assessed based on occupational title and defined as low (background), medium, or high. Statistically significant associations were observed between ALS and ever having been exposed above background levels to either magnetic fields or electric shocks; however, no clear exposure-response trends were observed with exposure duration or cumulative exposure. The authors also noted significant heterogeneity in risk by study location.
- Filippini et al. (2020) investigated the associations between ALS and several environmental and occupational exposures, including electromagnetic fields, within a case-control study in Italy. The study included 95 cases and 135 controls matched on age, gender, and residential province; exposure to electromagnetic fields was assessed using the participants' responses to questions related to occupational use of electric and electronic equipment, occupational EMF exposure, and residential distance to overhead power lines. The authors reported a statistically significant association between ALS and residential proximity to overhead power lines and a statistically non-significant association between ALS and occupational exposure to EMF; occupational use of electric and electronic equipment was associated with a statistically non-significant decrease in ALS development.
- Huang et al. (2020) conducted a meta-analysis of 43 epidemiologic studies examining potential occupational risk factors for dementia or mild cognitive impairment. The authors included five cohort studies and seven case-control studies related to magnetic-field exposure. For both study types, the authors reported positive associations between dementia and work-related magnetic-field exposures. The paper, however, provided no information on the occupations held by the study participants, their magnetic-field exposure levels, or how magnetic-field levels were assessed; therefore, the results are difficult to interpret. The authors also reported a high level of heterogeneity among studies. Thus, this analysis adds little, if any, to the overall weight of evidence on a potential association between dementia and magnetic fields.
- Jalilian et al. (2020) conducted a meta-analysis of ALS and occupational exposure to both magnetic fields and electric shocks within 27 studies from Europe, the United States, and New Zealand. A weak, statistically significant

association was reported between magnetic-field exposure and ALS; however, the authors noted evidence of study heterogeneity and publication bias. No association was observed between ALS and electric shocks.

- Chen et al. (2021) conducted a case-control study to examine the association between occupational exposure to electric shocks, magnetic fields, and motor neuron disease ("MND") in New Zealand. The study included 319 cases with a MND diagnosis (including ALS) and 604 controls, matched on age and gender; exposure was assessed using the participants' occupational history questionnaire responses and previously developed job-exposure matrices for electric shocks and magnetic fields. The authors reported no associations between MND and exposure to magnetic fields; positive associations were reported between MND and working at a job with the potential for electric shock exposure.
- Grebeneva et al. (2021) evaluated disease rates among electric power company workers in the Republic of Kazakhstan. The authors included three groups of "exposed" workers who "were in contact with equipment generating [industrial frequency EMF]" (a total of 161 workers), as well as 114 controls "who were not associated with exposure to electromagnetic fields." Disease rates were assessed "based on analyzing the sick leaves of employees" from 2010 to 2014 and expressed as "incidence rate per 100 employees." The authors reported a higher "incidence rate" of "diseases of the nervous system" in two of the exposed categories compared to the non-exposed group. No meaningful conclusions from the study could be drawn, however, because no specific diagnoses within "diseases of the nervous system" were identified in the paper and no clear description was provided on how the authors defined and calculated "incidence rate" for the evaluated conditions. In addition, no measured or calculated magnetic-field levels were presented by the authors.
- Filippini et al. (2021) conducted a meta-analysis to assess the dose-response relationship between residential exposure to magnetic fields and ALS. The authors identified six ALS epidemiologic studies, published between 2009 and 2020, that assessed exposure to residential magnetic fields by either distance from overhead power lines or magnetic-field modeling. They reported a decrease in risk of ALS in the highest exposure categories for both distance-based and modeling-based exposure estimates. The authors also reported that their dose-response analyses "showed little association between distance from power lines and ALS"; the data were too sparse to conduct a dose-response analysis for modeled magnetic-field estimates. The authors noted that their study was limited by small sample size, "imprecise" exposure categories, the potential for residual confounding, and by "some publication bias."
- Jalilian et al. (2021) conducted a meta-analysis of occupational exposure to ELF magnetic fields and electric shocks and development of ALS. The authors included 27 studies from Europe, the United States, and New Zealand that were published between 1983 and 2019. A weak, statistically significant association

was reported between magnetic-field exposure and ALS, and no association was observed between electric shocks and ALS. Indications of publication bias and "moderate to high" heterogeneity were identified for the studies of magnetic-field exposure and ALS, and the authors noted that "the results should be interpreted with caution."

- Goutman et al. (2022) examined occupational exposures, including "electromagnetic radiation" exposure, and associations with ALS in a case-control study of Michigan workers across various industries. The study included 381 cases diagnosed with ALS, all patients at the University of Michigan's Pranger ALS clinic, and 272 controls recruited from an online database for the University of Michigan. Participants were enrolled from 2010 to 2020 and completed a written survey of their work history and occupational exposures to nine exposure categories, including electromagnetic fields, particulate matter ("PM"), and pesticides. Exposure to electromagnetic fields was ascertained with a binary question asking whether they were "[e]xposed to power lines, transformation [sic] stations or other EM [electromagnetic radiation]?" The analysis was adjusted for age, sex, and military service. No association was observed between electromagnetic field exposure and ALS, while exposure to PM, pesticides, and metals, among others, were determined by the authors to be "associated with an increased ALS risk in this cohort."
- Sorahan and Nichols (2022) investigated magnetic-field exposure and mortality from MND in a large cohort of employees of the former Central Electricity Generating Board of England and Wales. The study included nearly 38,000 employees first hired between 1942 and 1982 and still employed in 1987. Estimates of exposure magnitude, frequency, and duration were calculated using data from the power stations and the employees' job histories, and were described in detail in a previous publication (Renew et al., 2003). Mortality from MND in the total cohort was observed to be similar to national rates. No statistically significant dose-response trends were observed with lifetime, recent, or distant magnetic-field exposure; statistically significant associations were observed for some categories of recent exposure, but not for the highest exposure category.
- Duan et al. (2023) conducted a meta-summary of ALS and exposure to magnetic fields, which was 1 of 22 non-genetic risk factors evaluated across 67 studies for its association with ALS. Six of the 67 studies examined magnetic-field exposure and associations with ALS; of the six studies identified, the authors included four case-control studies and one cohort study in their meta-analysis. Pooling results from these studies resulted in significant increased odds of ALS among individuals with higher (but undefined) exposure to magnetic fields. However, this pooled odds ratio for magnetic-field exposure (1.22) was below the minimum odds ratio threshold of 1.3 set by the authors as the criterion for defining an exposure as an ALS risk factor. In addition, the authors identified "substantial" heterogeneity between studies evaluating magnetic-field exposure and ALS.

- In a subsequent publication of the same study as Goutman et al. (2022), Goutman et al. (2023) assessed the potential for the same nine exposure categories, including "electromagnetic radiation" exposure, to be risk factors for ALS progression, including survival and onset segment (bulbar, cervical, lumbar). Electromagnetic field exposure was not significantly associated with ALS survival or with bulbar onset compared to lumbar, but was significantly associated with cervical onset compared to lumbar. It is worth noting that an association with cervical onset compared to lumbar was observed in the majority (7/9) of the exposure categories. The authors make no concluding statements on electromagnetic field exposure and ALS and instead emphasize that occupational pesticide exposure and working in military operations were significantly associated with worse ALS survival.
- Saucier et al. (2023) carried out three systematic reviews of studies that evaluated relationships between urbanization, air pollution, and water pollution, and ALS development. The authors identified five studies that assessed whether electromagnetic fields (of varying frequencies) and high voltage infrastructure were significant urbanization risk factors for ALS, but make no conclusion about magnetic-field exposure and ALS development based on these studies, therefore adding little value to the existing literature.
- Vasta et al. (2023) examined the relationship between residential distance to power lines and ALS development in a cohort study of 1,098 participants in Italy. The authors reported no differences in the age of ALS onset or ALS progression rate between low-exposed and high-exposed participants based on residential distance to power lines at the time of the participants' diagnosis. Similarly, no differences were observed when exposure was based on residential distance to repeater antennas.
- Vitturi et al. (2023) conducted a systematic review and meta-analysis of case-control studies examining potential occupational risk factors related to multiple sclerosis, including solvents, mercury, pesticides, and low-frequency magnetic fields. The authors included 24 studies in their review, but only one of the included studies investigated exposure to magnetic fields (Pedersen et al., 2017, discussed above), thereby adding little new information to the existing body of research.
- Jones et al. (2025) conducted an "umbrella review," which is a review of systematic reviews and meta-analyses of environmental risk factors for various types of dementia and mild cognitive impairment. The authors included 19 review articles, containing 37 meta-analyses, published between 2008 and 2023, in their analysis, and identified nine exposures associated with higher risk of all-cause dementia, including particulate matter, carbon monoxide, shift work, chronic noise, and ELF magnetic fields; several of these exposures, including ELF magnetic fields, were also identified as being associated with Alzheimer's disease dementia. The authors' analysis of ELF magnetic-field exposure and all-cause dementia, however, was based on a single study, and the

analysis of ELF magnetic-field exposure and Alzheimer's disease dementia was based on only four studies, three of which were rated as being of "low" or "moderate" study quality, thereby adding little valuable information to the existing body of research. The authors did not identify any systematic reviews reporting associations between any of these environmental factors and mild cognitive impairment.

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#### V. NOTICE

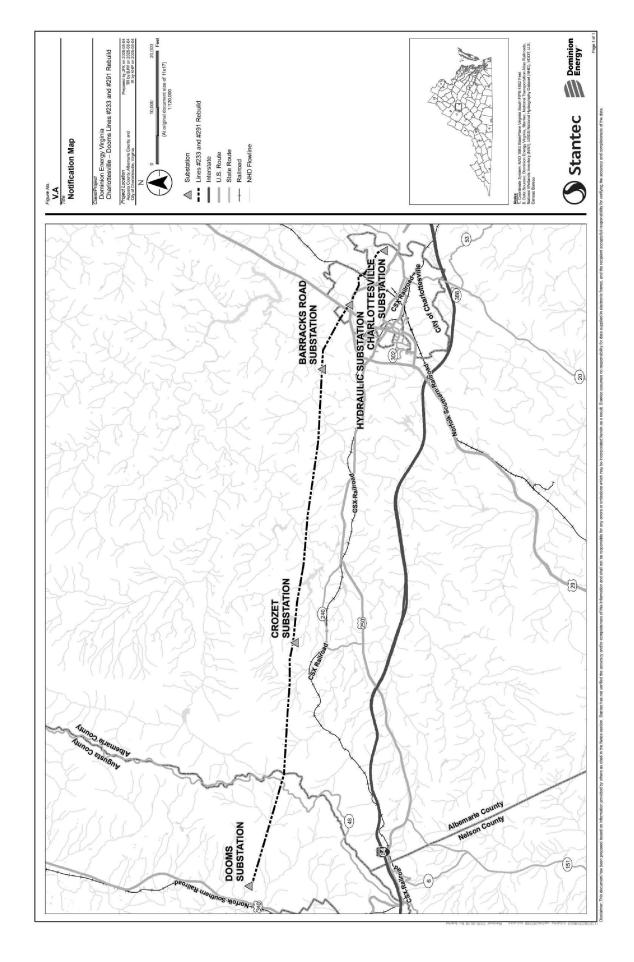
A. Furnish a proposed route description to be used for public notice purposes. Provide a map of suitable scale showing the route of the proposed project. For all routes that the Applicant proposed to be noticed, provide minimum, maximum and average structure heights.

Response:

A map showing the existing route to be used for the Rebuild Project is provided as Attachment V.A. A written description of the route is as follows:

The proposed route for the Rebuild Project is located within an approximately 22.3-mile right-of-way currently occupied by an existing transmission corridor with multiple circuits. The existing transmission corridor right-of-way for the proposed route originates at the Company's Charlottesville Substation in the City of Charlottesville and Lines #233 and #291 head northwest for approximately 2.3 miles crossing the Norfolk Southern/Amtrak route and U.S. Route 250 before entering the Hydraulic Road Substation adjacent to the Company's Charlottesville location. The route then leaves the substation continuing northwest for approximately 2.4 miles crossing U.S. Route 29 before entering the Barracks Road Substation in Albemarle County. The route then leaves the Barracks Road (Route 601) and Owensville Road (Route 678) and coming into the Crozet Substation. The route then continues west for approximately 8.4 miles crossing Jarmans Gap Road (Route 611) and Skyline Drive terminating at the Dooms Substation in Augusta County.

For the overall Rebuild Project, the minimum structure height is approximately 35 feet, the maximum structure height is approximately 145 feet, and the average structure height is approximately 113 feet, based on preliminary conceptual design, not including foundation reveal and subject to change based on final engineering design.



# V. NOTICE

B. List Applicant offices where members of the public may inspect the application. If applicable, provide a link to website(s) where the application may be found.

Response:

Shortly after filing, the application will be available electronically for public inspection at the following website:

 $\frac{https://www.dominionenergy.com/about/delivering-energy/electric-projects/power-line-projects/dooms-charlottesville.\\$ 

#### V. NOTICE

C. List all federal, state, and local agencies and/or officials that may reasonably be expected to have an interest in the proposed construction and to whom the Applicant has furnished or will furnish a copy of the application.

Response: Ms. Bettina Rayfield

Virginia Department of Environmental Quality Office of Environmental Impact Review 1111 East Main Street, Suite 1400

Richmond, Virginia 23219

bettina.rayfield@deq.virginia.gov

Ms. Michelle Henicheck Department of Environmental Quality Office of Wetlands and Streams 1111 East Main Street, Suite 1400 Richmond, Virginia 23219

Ms. Rene Hypes Virginia Department of Conservation and Recreation Division of Natural Heritage 600 East Main Street, 24th Floor Richmond, Virginia 23219

Environmental Reviewer Virginia Department of Conservation and Recreation Planning & Recreation Bureau 600 East Main Street, 17th Floor Richmond, Virginia 23219

Ms. Hannah Schul Virginia Department of Wildlife Resources Wildlife Information and Environmental Services 7870 Villa Park, Suite 400 Henrico, Virginia 23228

Mr. Keith Tignor Virginia Department of Agriculture and Consumer Services Office of Plant Industry Services 102 Governor Street Richmond, Virginia 23219

Mr. Clint Folks Virginia Department of Forestry Forestland Conservation Division 900 Natural Resources Drive, Suite 800 Charlottesville, Virginia 22903

Scoping at VMRC Virginia Marine Resources Commission Habitat Management Division Building 96, 380 Fenwick Road Ft. Monroe, Virginia 23651

Mr. Troy Andersen US Fish and Wildlife Service Virginia Field Office, Ecological Services 6669 Short Lane Gloucester, Virginia 23061

Ms. Regena Bronson U.S. Army Corps of Engineers Fredericksburg Field Office 10300 Spotsylvania Parkway, Suite 230 Fredericksburg, Virginia 22408

Ms. Arlene Fields Warren Virginia Department of Health Office of Drinking Water 109 Governor Street, 6th Floor Richmond, Virginia 23219

Ms. Martha Little Virginia Outdoors Foundation 39 Garrett Street, Suite 200 Warrenton, Virginia 20186

Mr. Roger Kirchen
Department of Historic Resources
Director, Review and Compliance Division
2801 Kensington Avenue
Richmond, Virginia 23221

Mr. Stephen Smiley Mr. Bill LaManque Virginia Department of Aviation Airport Services Division 5702 Gulfstream Road Richmond, Virginia 23250

Mr. Sean Nelson, P.E. Virginia Department of Transportation

Culpeper District Engineer 1601 Orange Road Culpeper, Virginia 22701

Mr. Todd Stevens, P.E. Virginia Department of Transportation Staunton District Administrator 811 Commerce Road Staunton, Virginia 24401

Mr. Samuel Sanders, Jr. City of Charlottesville – City Manager P.O. Box 911 Charlottesville, Virginia 22902

City of Charlottesville C/O City Council P.O. Box 911 Charlottesville, Virginia 22902

Mr. Jeff Richardson Albemarle County – County Executive 401 McIntire Road Charlottesville, Virginia 22902

Ms. Diantha McKeel Albemarle County - Jack Jouett District 103 Smithfield Court Charlottesville, Virginia 22901

Mr. Jim Andrews Albemarle County - Samuel Miller District 401 McIntire Road Charlottesville, Virginia 22902

Ms. Ann Mallek Albemarle County - White Hall District P.O. Box 207 Earlysville, Virginia 22936

Mr. Timothy Fitzgerald Augusta County- County Administrator 18 Government Center Lane, Suite 1102 P.O. Box 590 Verona, Virginia 24482 Mr. Gerald W. Garber Augusta County- Middle River Magisterial District 18 Government Center Lane, Suite 1102 P.O. Box 590 Verona, Virginia 24482

Mr. Scott Seaton Augusta County- Wayne Magisterial District 18 Government Center Lane, Suite 1102 P.O. Box 590 Verona, Virginia 24482

Mr. J. Tracy Stakely Superintendent Shenandoah National Park 3655 U.S. Highway 211 East Luray, Virginia 22835

Mr. Ed Clark Superintendent Appalachian National Scenic Trail Appalachian Trail Park Office P.O. Box 50 Harpers Ferry, West Virginia 25425

Steve Sims, Acting Regional Director National Park Service 1234 Market Street 20th Floor Philadelphia, PA 19107 215-201-2265

#### V. NOTICE

D. If the application is for a transmission line with a voltage of 138 kV or greater, provide a statement and any associated correspondence indicating that prior to the filing of the application with the SCC the Applicant has notified the chief administrative officer of every locality in which it plans to undertake construction of the proposed line of its intention to file such an application, and that the Applicant gave the locality a reasonable opportunity for consultation about the proposed line (similar to the requirements of § 15.2-2202 of the Code for electric transmission lines of 150 kV or more).

Response:

In accordance with Va. Code § 15.2-2202 E, letters dated September 20, 2025, were sent to (1) Mr. Samuel Sanders, Jr., City Manager for the City of Charlottesville; (2) the City Council members for the City of Charlottesville; (3) Mr. Jeff Richardson, County Executive for Albemarle County; (4) Ms. Diantha McKeel, Jack Jouett District for Albemarle County; (5) Mr. Jim Andrews, Samuel Miller District for Albemarle County; (6) Ms. Ann Mallek, White Hall District for Albemarle County; (7) Mr. Timothy Fitzgerald, County Administrator for Augusta County; (8) Mr. Gerald Garber, Middle River Magisterial District for Augusta County; and (9) Mr. Scott Seaton, Wayne Magisterial District for Augusta County, advising of the Company's intention to file this Application and inviting the localities to consult with the Company about the Rebuild Project. See Attachment V.D.



Mr. Samuel Sanders, Jr. City of Charlottesville- City Manager P.O. Box 911 Charlottesville, Virginia 22902

September 20, 2025

RE: Dominion Energy Virginia's Charlottesville- Dooms Lines #233 and

#291 Rebuild Project

Notice Pursuant to Va. Code § 15.2-2202 E

Dear Mr. Saunders,

Virginia Electric and Power Company d/b/a Dominion Energy Virginia (the "Company") is proposing to rebuild structures along approximately 22.3 miles of existing 230 kilovolt ("kV") Lines #233 and #291 between the Company's existing Charlottesville and Dooms substations by removing the existing 230 kV structures, the majority of which are lattice structures and steel monopole structures, and replacing them with new 230 kV double circuit galvanized steel and weathering steel structures (the "Rebuild Project"). The Rebuild Project is needed to comply with mandatory North American Electric Reliability Corporation ("NERC") reliability standards and to maintain reliable service to accommodate overall growth in the area.

The Company is preparing to file an application for a Certificate of Public Convenience and Necessity ("CPCN") for the Rebuild Project with the State Corporation Commission. Pursuant to § 15.2-2202 E of the Code of Virginia, the Company is writing to notify the City of Charlottesville of the proposed Rebuild Project in advance of filing the application and respectfully requests that you submit any comments or additional information you feel would have bearing on the Rebuild Project within 30 days of the date of this letter.



Enclosed is a Project Overview Map depicting the Rebuild Project and its general location. If you would like to receive a GIS shapefile of the Rebuild Project route to assist in your review, or if there are any questions, please do not hesitate to contact me at 804-298-5646 or Hannah.hurst@dominionenergy.com. We appreciate your assistance with the review of this Project and look forward to any additional information you may have to offer.

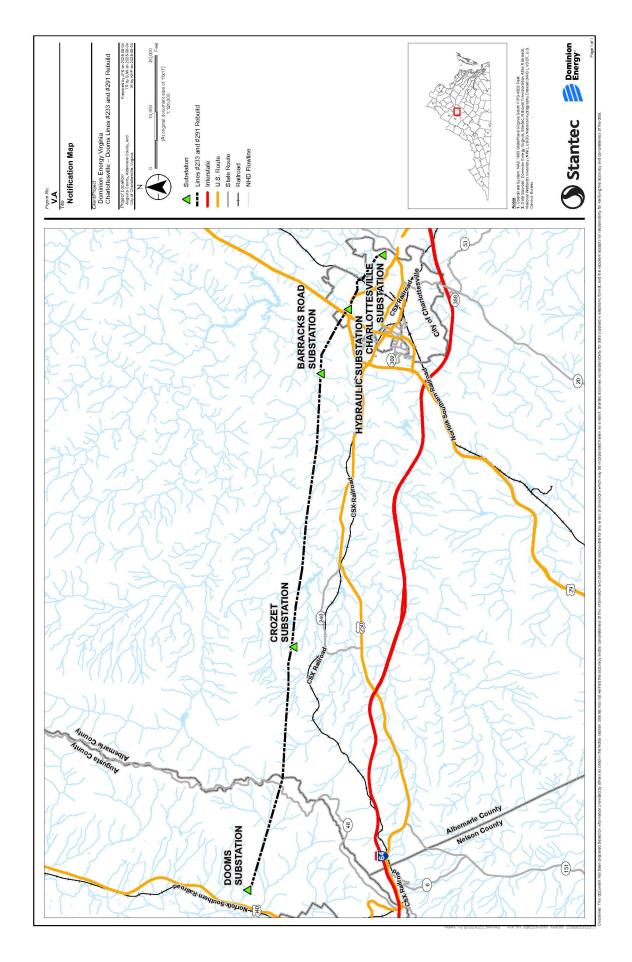
Regards,

**Hannah Hurst** 

Elizabeth Hurst

Hannah.hurst@dominionenergy.com

804-298-5646





City of Charlottesville C/O City Council P.O. Box 911 Charlottesville, Virginia 22902

September 20, 2025

RE: Dominion Energy Virginia's Charlottesville- Dooms Lines #233 and

#291 Rebuild Project

Notice Pursuant to Va. Code § 15.2-2202 E

Dear Council Members,

Virginia Electric and Power Company d/b/a Dominion Energy Virginia (the "Company") is proposing to rebuild structures along approximately 22.3 miles of existing 230 kilovolt ("kV") Lines #233 and #291 between the Company's existing Charlottesville and Dooms substations by removing the existing 230 kV structures, the majority of which are lattice structures and steel monopole structures, and replacing them with new 230 kV double circuit galvanized steel and weathering steel structures (the "Rebuild Project"). The Rebuild Project is needed to comply with mandatory North American Electric Reliability Corporation ("NERC") reliability standards and to maintain reliable service to accommodate overall growth in the area.

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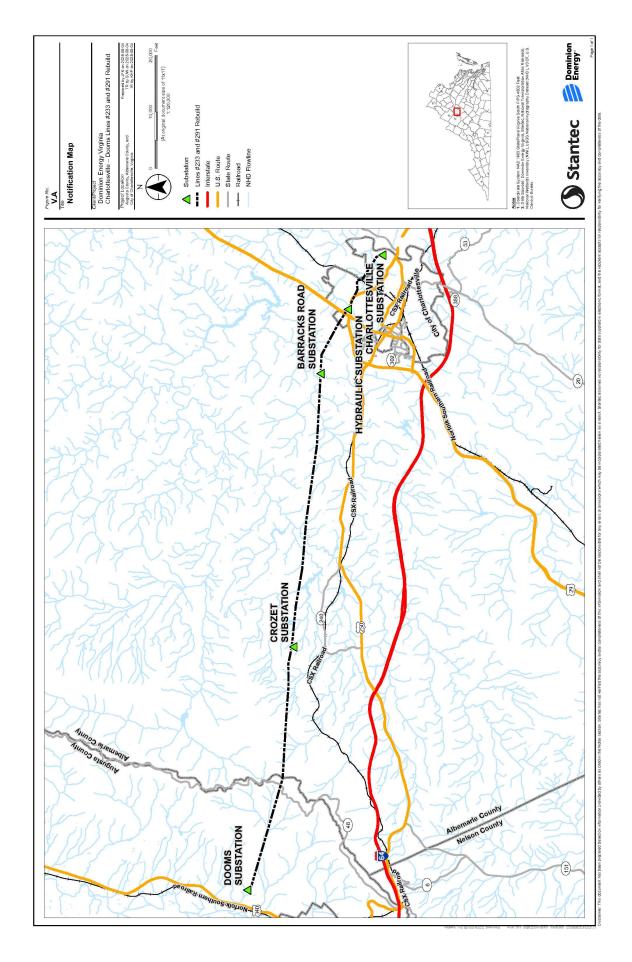
Regards,

**Hannah Hurst** 

Clizabeth Hurst

Hannah.hurst@dominionenergy.com

804-298-5646





Mr. Jeff Richardson Albemarle County – County Executive 401 McIntire Road Charlottesville, Virginia 22902

September 20, 2025

RE: Dominion Energy Virginia's Charlottesville- Dooms Lines #233 and

#291 Rebuild Project

Notice Pursuant to Va. Code § 15.2-2202 E

Dear Mr. Richardson,

Virginia Electric and Power Company d/b/a Dominion Energy Virginia (the "Company") is proposing to rebuild structures along approximately 22.3 miles of existing 230 kilovolt ("kV") Lines #233 and #291 between the Company's existing Charlottesville and Dooms substations by removing the existing 230 kV structures, the majority of which are lattice structures and steel monopole structures, and replacing them with new 230 kV double circuit galvanized steel and weathering steel structures (the "Rebuild Project"). The Rebuild Project is needed to comply with mandatory North American Electric Reliability Corporation ("NERC") reliability standards and to maintain reliable service to accommodate overall growth in the area.

The Company is preparing to file an application for a Certificate of Public Convenience and Necessity ("CPCN") for the Rebuild Project with the State Corporation Commission. Pursuant to § 15.2-2202 E of the Code of Virginia, the Company is writing to notify Albermarle County of the proposed Rebuild Project in advance of filing the application and respectfully requests that you submit any comments or additional information you feel would have bearing on the Rebuild Project within 30 days of the date of this letter.



Enclosed is a Project Overview Map depicting the Rebuild Project and its general location. If you would like to receive a GIS shapefile of the Rebuild Project route to assist in your review, or if there are any questions, please do not hesitate to contact me at 804-298-5646 or Hannah.hurst@dominionenergy.com. We appreciate your assistance with the review of this Project and look forward to any additional information you may have to offer.

Regards,

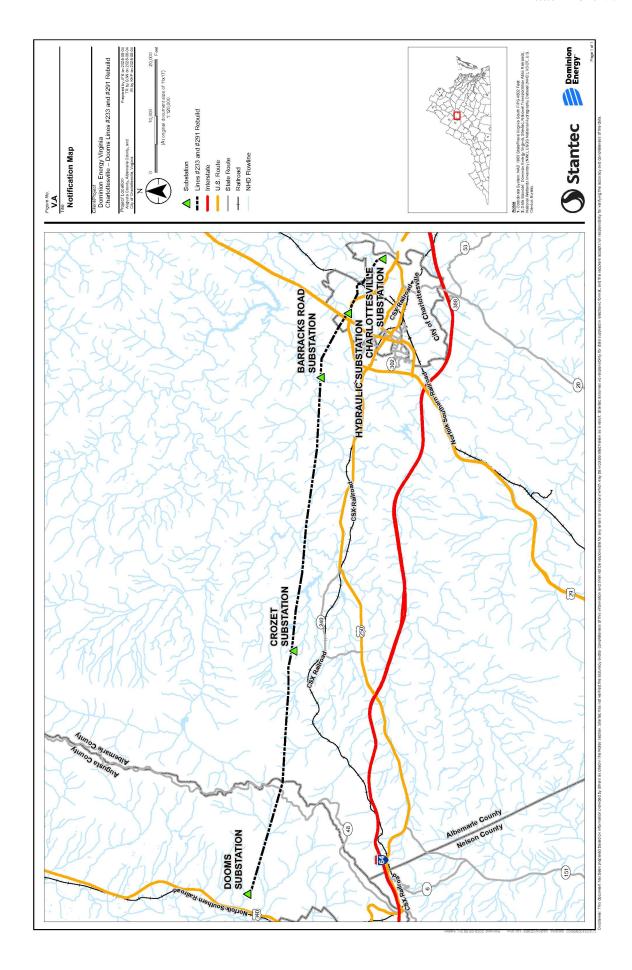
**Hannah Hurst** 

Hannah.hurst@dominionenergy.com

804-298-5646

Enclosure: Project Overview Map

Clizabeth Hurst





Ms. Diantha McKeel Albemarle County – Jack Jouett District 103 Smithfield Court Charlottesville, Virginia 22901

September 20, 2025

RE: Dominion Energy Virginia's Charlottesville- Dooms Lines #233 and

#291 Rebuild Project

Notice Pursuant to Va. Code § 15.2-2202 E

Dear Ms. McKeel.

Virginia Electric and Power Company d/b/a Dominion Energy Virginia (the "Company") is proposing to rebuild structures along approximately 22.3 miles of existing 230 kilovolt ("kV") Lines #233 and #291 between the Company's existing Charlottesville and Dooms substations by removing the existing 230 kV structures, the majority of which are lattice structures and steel monopole structures, and replacing them with new 230 kV double circuit galvanized steel and weathering steel structures (the "Rebuild Project"). The Rebuild Project is needed to comply with mandatory North American Electric Reliability Corporation ("NERC") reliability standards and to maintain reliable service to accommodate overall growth in the area.

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Regards,

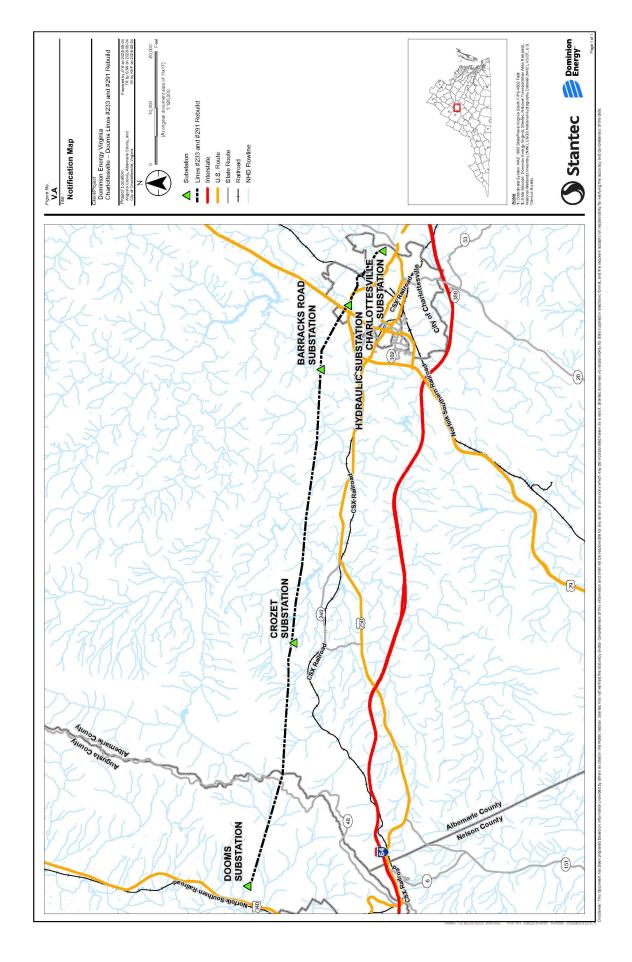
**Hannah Hurst** 

Hannah.hurst@dominionenergy.com

804-298-5646

Enclosure: Project Overview Map

Elizabeth Hurst





Mr. Jim Andrews Albemarle County - Samuel Miller District 401 McIntire Road Charlottesville, Virginia 22902

September 20, 2025

RE: Dominion Energy Virginia's Charlottesville- Dooms Lines #233 and

#291 Rebuild Project

Notice Pursuant to Va. Code § 15.2-2202 E

Dear Mr. Andrews,

Virginia Electric and Power Company d/b/a Dominion Energy Virginia (the "Company") is proposing to rebuild structures along approximately 22.3 miles of existing 230 kilovolt ("kV") Lines #233 and #291 between the Company's existing Charlottesville and Dooms substations by removing the existing 230 kV structures, the majority of which are lattice structures and steel monopole structures, and replacing them with new 230 kV double circuit galvanized steel and weathering steel structures (the "Rebuild Project"). The Rebuild Project is needed to comply with mandatory North American Electric Reliability Corporation ("NERC") reliability standards and to maintain reliable service to accommodate overall growth in the area.

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Enclosed is a Project Overview Map depicting the Rebuild Project and its general location. If you would like to receive a GIS shapefile of the Rebuild Project route to assist in your review, or if there are any questions, please do not hesitate to contact me at 804-298-5646 or Hannah.hurst@dominionenergy.com. We appreciate your assistance with the review of this Project and look forward to any additional information you may have to offer.

Regards,

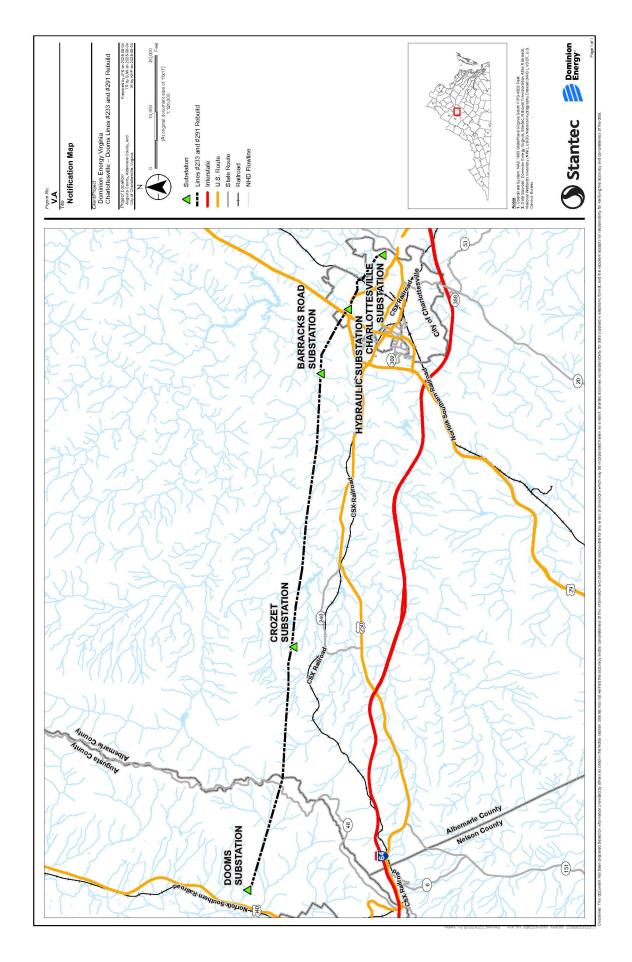
**Hannah Hurst** 

Hannah.hurst@dominionenergy.com

804-298-5646

Enclosure: Project Overview Map

Elizabeth Hurst





Ms. Ann Mallek Albemarle County – White Hall District P.O. Box 207 Earlysville, Virginia 22936

September 20, 2025

RE: Dominion Energy Virginia's Charlottesville- Dooms Lines #233 and

#291 Rebuild Project

Notice Pursuant to Va. Code § 15.2-2202 E

Dear Ms. Mallek,

Virginia Electric and Power Company d/b/a Dominion Energy Virginia (the "Company") is proposing to rebuild structures along approximately 22.3 miles of existing 230 kilovolt ("kV") Lines #233 and #291 between the Company's existing Charlottesville and Dooms substations by removing the existing 230 kV structures, the majority of which are lattice structures and steel monopole structures, and replacing them with new 230 kV double circuit galvanized steel and weathering steel structures (the "Rebuild Project"). The Rebuild Project is needed to comply with mandatory North American Electric Reliability Corporation ("NERC") reliability standards and to maintain reliable service to accommodate overall growth in the area.

The Company is preparing to file an application for a Certificate of Public Convenience and Necessity ("CPCN") for the Rebuild Project with the State Corporation Commission. Pursuant to § 15.2-2202 E of the Code of Virginia, the Company is writing to notify Albermarle County of the proposed Rebuild Project in advance of filing the application and respectfully requests that you submit any comments or additional information you feel would have bearing on the Rebuild Project within 30 days of the date of this letter.



Enclosed is a Project Overview Map depicting the Rebuild Project and its general location. If you would like to receive a GIS shapefile of the Rebuild Project route to assist in your review, or if there are any questions, please do not hesitate to contact me at 804-298-5646 or Hannah.hurst@dominionenergy.com. We appreciate your assistance with the review of this Project and look forward to any additional information you may have to offer.

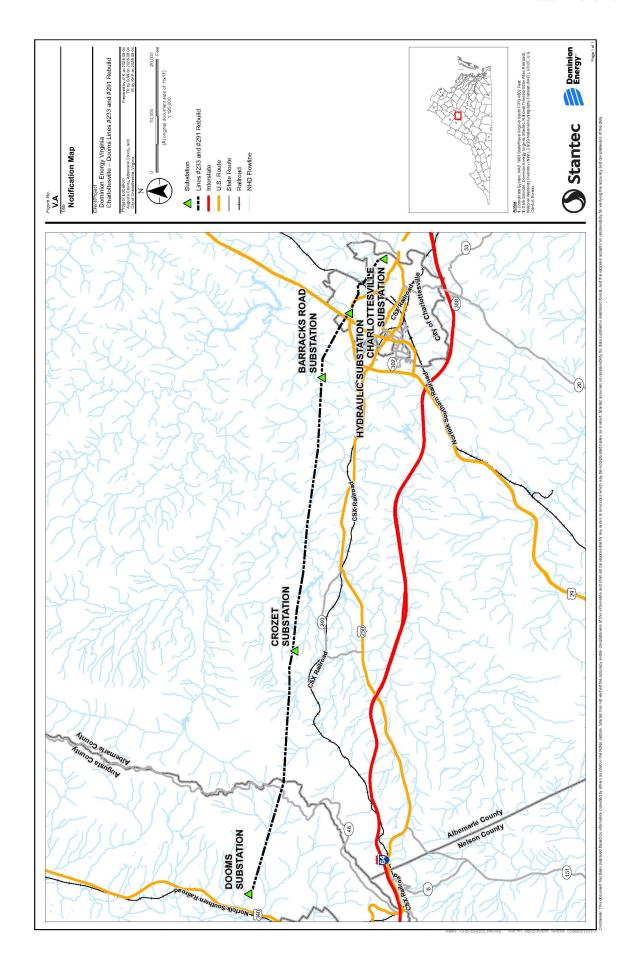
Regards,

**Hannah Hurst** 

Clizabeth Hurst

Hannah.hurst@dominionenergy.com

804-298-5646





Mr. Timothy Fitzgerald Augusta County- County Administrator 18 Government Center Lane, Suite 1102 P.O. Box 590 Verona, Virginia 24482

September 20, 2025

RE: Dominion Energy Virginia's Charlottesville- Dooms Lines #233 and

#291 Rebuild Project

Notice Pursuant to Va. Code § 15.2-2202 E

Dear Mr. Fitzgerald,

Virginia Electric and Power Company d/b/a Dominion Energy Virginia (the "Company") is proposing to rebuild structures along approximately 22.3 miles of existing 230 kilovolt ("kV") Lines #233 and #291 between the Company's existing Charlottesville and Dooms substations by removing the existing 230 kV structures, the majority of which are lattice structures and steel monopole structures, and replacing them with new 230 kV double circuit galvanized steel and weathering steel structures (the "Rebuild Project"). The Rebuild Project is needed to comply with mandatory North American Electric Reliability Corporation ("NERC") reliability standards and to maintain reliable service to accommodate overall growth in the area.

The Company is preparing to file an application for a Certificate of Public Convenience and Necessity ("CPCN") for the Rebuild Project with the State Corporation Commission. Pursuant to § 15.2-2202 E of the Code of Virginia, the Company is writing to notify Augusta County of the proposed Rebuild Project in advance of filing the application and respectfully requests that you submit any comments or additional information you feel would have bearing on the Rebuild Project within 30 days of the date of this letter.



Enclosed is a Project Overview Map depicting the Rebuild Project and its general location. If you would like to receive a GIS shapefile of the Rebuild Project route to assist in your review, or if there are any questions, please do not hesitate to contact me at 804-298-5646 or Hannah.hurst@dominionenergy.com. We appreciate your assistance with the review of this Project and look forward to any additional information you may have to offer.

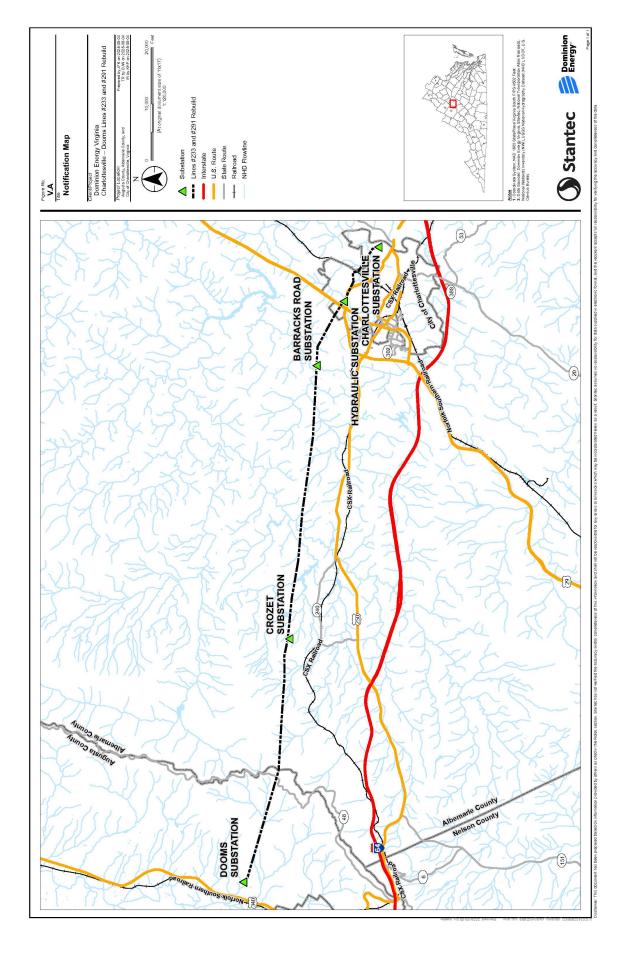
Regards,

**Hannah Hurst** 

Clizabeth Hurst

Hannah.hurst@dominionenergy.com

804-298-5646





Mr. Gerald W. Garber Augusta County- Middle River Magisterial District 18 Government Center Lane, Suite 1102 P.O. Box 590 Verona, Virginia 24482

September 20, 2025

RE: Dominion Energy Virginia's Charlottesville- Dooms Lines #233 and

#291 Rebuild Project

Notice Pursuant to Va. Code § 15.2-2202 E

Dear Mr. Garber,

Virginia Electric and Power Company d/b/a Dominion Energy Virginia (the "Company") is proposing to rebuild structures along approximately 22.3 miles of existing 230 kilovolt ("kV") Lines #233 and #291 between the Company's existing Charlottesville and Dooms substations by removing the existing 230 kV structures, the majority of which are lattice structures and steel monopole structures, and replacing them with new 230 kV double circuit galvanized steel and weathering steel structures (the "Rebuild Project"). The Rebuild Project is needed to comply with mandatory North American Electric Reliability Corporation ("NERC") reliability standards and to maintain reliable service to accommodate overall growth in the area.

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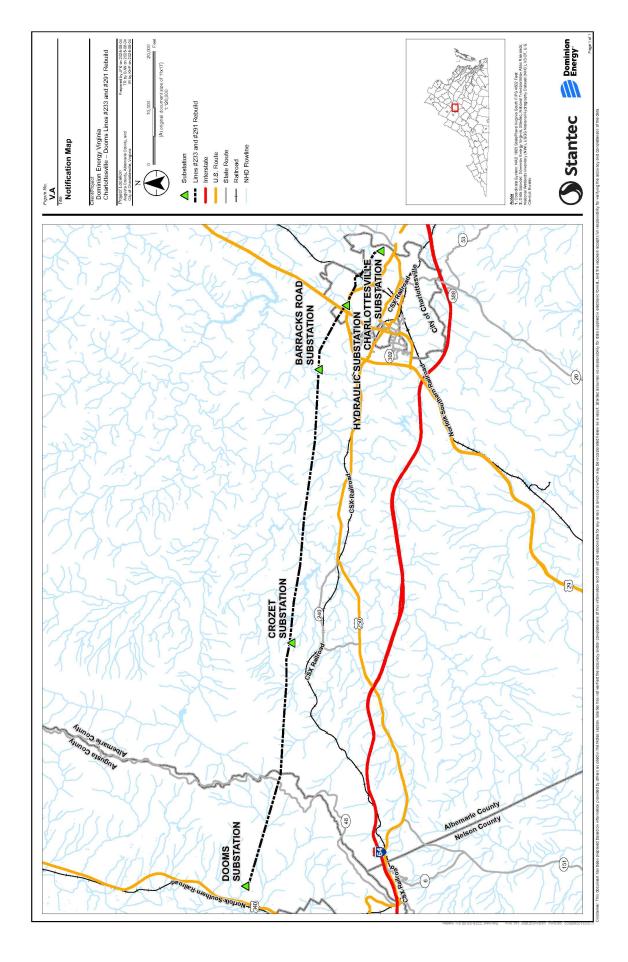
Regards,

**Hannah Hurst** 

Clizabeth Hurst

Hannah.hurst@dominionenergy.com

804-298-5646





Mr. Scott Seaton Augusta County- Wayne Magisterial District 18 Government Center Lane, Suite 1102 P.O. Box 590 Verona, Virginia 24482

September 20, 2025

RE: Dominion Energy Virginia's Charlottesville- Dooms Lines #233 and

#291 Rebuild Project

Notice Pursuant to Va. Code § 15.2-2202 E

Dear Seaton,

Virginia Electric and Power Company d/b/a Dominion Energy Virginia (the "Company") is proposing to rebuild structures along approximately 22.3 miles of existing 230 kilovolt ("kV") Lines #233 and #291 between the Company's existing Charlottesville and Dooms substations by removing the existing 230 kV structures, the majority of which are lattice structures and steel monopole structures, and replacing them with new 230 kV double circuit galvanized steel and weathering steel structures (the "Rebuild Project"). The Rebuild Project is needed to comply with mandatory North American Electric Reliability Corporation ("NERC") reliability standards and to maintain reliable service to accommodate overall growth in the area.

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Enclosed is a Project Overview Map depicting the Rebuild Project and its general location. If you would like to receive a GIS shapefile of the Rebuild Project route to assist in your review, or if there are any questions, please do not hesitate to contact me at 804-298-5646 or Hannah.hurst@dominionenergy.com. We appreciate your assistance with the review of this Project and look forward to any additional information you may have to offer.

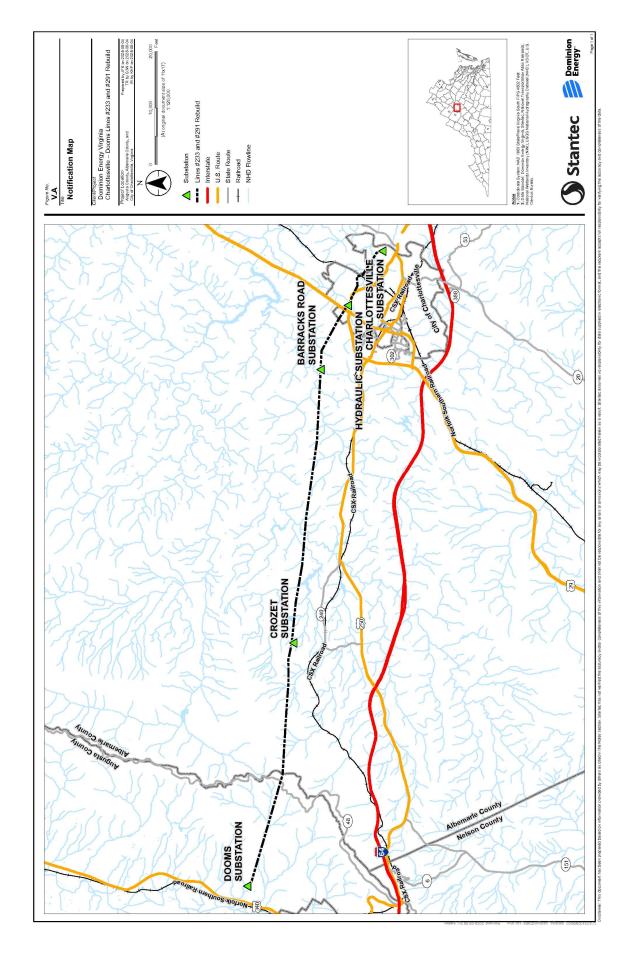
Regards,

**Hannah Hurst** 

Clizabeth Hurst

Hannah.hurst@dominionenergy.com

804-298-5646



#### COMMONWEALTH OF VIRGINIA

#### STATE CORPORATION COMMISSION

APPLICATION OF	)	
	)	
VIRGINIA ELECTRIC AND POWER	)	Case No. PUR-2025-00189
COMPANY	)	
	)	
For approval and certification of electric	)	
transmission facilities: Charlottesville-	)	
Dooms Lines #233 and #291 Rebuild	)	

#### IDENTIFICATION, SUMMARIES AND TESTIMONY OF DIRECT WITNESSES OF VIRGINIA ELECTRIC AND POWER COMPANY

#### **David Osorio Garcia**

Witness Direct Testimony Summary

**Direct Testimony** 

Appendix A: Background and Qualifications

#### Sarah Gilroy

Witness Direct Testimony Summary

**Direct Testimony** 

Appendix A: Background and Qualifications

#### **George Brimmer**

Witness Direct Testimony Summary

Direct Testimony

Appendix A: Background and Qualifications

#### **Hannah Hurst**

Witness Direct Testimony Summary

**Direct Testimony** 

Appendix A: Background and Qualifications

#### **Lucas DuPont**

Witness Direct Testimony Summary

**Direct Testimony** 

Appendix A: Background and Qualifications

#### WITNESS DIRECT TESTIMONY SUMMARY

Witness: David Osorio Garcia

<u>Title:</u> Electric Transmission Area Planning Engineer

<u>Summary</u>: Company Witness David Osorio Garcia will sponsor those portions of the Appendix describing the Company's transmission system and the need for, and benefits of, the proposed Rebuild Project, as follows:

- <u>Section I.B</u>: This section details the engineering justifications for the Rebuild Project.
- <u>Section I.C</u>: This section describes the present system and details how the proposed Rebuild Project will effectively satisfy present and projected future load demand requirements.
- <u>Section I.D</u>: This section describes critical contingencies and associated violations due to the inadequacy of the existing system.
- <u>Section I.E</u>: This section explains that there are no feasible Rebuild Project alternatives.
- Section I.G: This section provides a system map for the affected area.
- <u>Section I.H</u>: This section provides the desired in-service date of the proposed Rebuild Project and the estimated construction time.
- <u>Section I.J</u>: This section provides information about the Rebuild Project if it has been approved by the RTO.
- <u>Section I.K</u>: Although not applicable to the proposed Rebuild Project, this section provides outage history and maintenance history for existing transmission lines if the proposed Rebuild Project is a rebuild and is due in part to reliability issues.
- <u>Section I.M</u>: Although not applicable to the proposed Rebuild Project, this section contains information for transmission lines interconnecting a non-utility generator.
- <u>Section I.N</u>: Although not applicable to the proposed Rebuild Project, this section, when applicable, provides the proposed and existing generating sources, distribution circuits or load centers planned to be served by all new substations, switching stations, and other ground facilities associated with the proposed Rebuild Project.
- <u>Section II.A.10</u>: This section provides details of the construction plans for the proposed Rebuild Project, including requested and approved line outage schedules.

Additionally, Mr. Osorio Garcia co-sponsors the following portions of the Appendix:

- Executive Summary (co-sponsored with Company Witnesses Hannah Hurst and Sarah Gilroy): The Executive Summary provides a brief overview of the proposed Rebuild Project.
- <u>Section I.A (co-sponsored with Company Witness Sarah Gilroy)</u>: This section details the primary justifications for the proposed Rebuild Project.
- <u>Section I.L (co-sponsored with Company Witness Sarah Gilroy)</u>: Although not applicable to the proposed Rebuild Project, this section provides details on the deterioration of structures and associated equipment as applicable.

A statement of Mr. Osorio Garcia's background and qualifications is attached to his testimony as Appendix A.

#### **DIRECT TESTIMONY** OF

#### DAVID OSORIO GARCIA ON BEHALF OF

#### VIRGINIA ELECTRIC AND POWER COMPANY **BEFORE THE**

#### VIRGINIA STATE CORPORATION COMMISSION CASE NO. PUR-2025-00189

1 Q. Please state your name, business address and position with Virginia Electric and 2 Power Company ("Dominion Energy Virginia" or the Company"). 3 My name is David Osorio Garcia, and I am an Electric Transmission Area Planning A. 4 Engineer for the Company. My business address is 5000 Dominion Boulevard, Glen Allen, 5 Virginia 23060. A statement of my qualifications and background is provided as Appendix 6 A. 7 O. Please describe your areas of responsibility with the Company. 8 A. I am responsible for planning the Company's electric transmission system for voltages 9 of 69 kilovolts ("kV") through 500 kV. 10 0. What is the purpose of your testimony in this proceeding? 11 A. In order to maintain the structural integrity and reliability of the networked transmission 12 system in compliance with mandatory North American Electric Reliability Corporation ("NERC") Reliability Standards, Virginia Electric and Power Company ("Dominion 13 14 Energy Virginia" or the "Company") proposes, in the City of Charlottesville and Albemarle 15 and Augusta Counties, to: (1) rebuild, within the existing cleared right-of-way or on 16 Company-owned property, approximately 22.3 miles of 230 kilovolt ("kV") 17 Charlottesville-Dooms Lines #233 and #291, starting at the existing Charlottesville

Substation and ending at the existing Dooms Substation, by removing the majority <sup>1</sup> of the
existing structures, which are lattice structures and steel monopole structures, and replacing
them with new galvanized steel and weathering steel structures; and (2) replace the existing
conductors on Lines #233 and #291 with new bundled 768.2 Aluminum Conductor Steel
Supported/Trapezoidal Wire/High Strength ("ACSS/TW/HS") conductors with 3948
Amperes ("A") ampacity, with a minimum summer emergency rating of 1573 Mega-Volt
Amperes ("MVA") (collectively, the "Rebuild Project"). <sup>2</sup>
The purpose of my testimony is to describe the Company's transmission system and the
need for, and benefits of, the proposed Rebuild Project. I am sponsoring Sections I.B, I.C,
I.D, I.E, I.G, I.H, I.J, I.K, I.M, I.N, and II.A.10 of the Appendix. Additionally, I am co-
sponsoring the Executive Summary with Company Witnesses Hannah Hurst and Sarah
Gilroy, and Sections I.A and I.L with Company Witness Sarah Gilroy.

### 13 Q. Does this conclude your testimony?

14 A. Yes, it does.

<sup>&</sup>lt;sup>1</sup> Seven structures are white-painted steel monopole structures; they will be replaced with galvanized steel monopole structures as part of the Rebuild Project.

<sup>&</sup>lt;sup>2</sup> The Company will also perform work associated with the Rebuild Project at the Charlottesville, Dooms, Barracks Road, Hydraulic Road, and Crozet Substations. The Company considers the work at these substations to qualify as an "ordinary extension[] or improvement[] in the usual course of business (i.e., "ordinary course") pursuant to § 56-265.2 A 1 of the Code of Virginia ("Va. Code") and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a certificate of public convenience and necessity ("CPCN") from the Commission.

#### BACKGROUND AND QUALIFICATIONS OF DAVID OSORIO GARCIA

David Osorio Garcia received his Bachelor of Science degree in Electrical Engineering from the Universidad Tecnologica de Pereira (Colombia) in 2016, and his Master of Science degree in Electrical Engineering from University of Puerto Rico, Mayaguez in 2023. Mr. Osorio Garcia joined the Company in 2023 as Electric Transmission Long-Term Planning Engineer and later transitioned in 2025 to his current role as an Electric Transmission Area Planning Engineer. His responsibilities at the Company include performing transmission system studies in compliance with NERC, PJM, and Dominion Energy planning standards; developing solutions for reliability violations; conducting power flow and Do No Harm (DNH) analyses; collaborating with internal and external stakeholders on planning projects; and representing the Transmission Planning team in PJM meetings to present system needs and propose infrastructure improvements.

Mr. Osorio Garcia has not previously testified before the Virginia State Corporation Commission.

#### WITNESS DIRECT TESTIMONY SUMMARY

**Witness**: Sarah Gilroy

<u>Title:</u> Staff Engineer – Conceptual Engineering

#### **Summary**:

Company Witness Sarah Gilroy will sponsor those portions of the Appendix providing an overview of the design characteristics of the transmission facilities for the proposed Rebuild Project and discussing electric and magnetic field levels, as follows:

- <u>Section I.F</u>: This section describes any lines or facilities that will be removed or replaced upon completion of the proposed Rebuild Project.
- <u>Section II.A.5</u>: This section provides drawings of the right-of-way cross section showing typical transmission lines structure placements.
- <u>Sections II.B.1 to II.B.4</u>: These sections provide the line design and operational features of the proposed Rebuild Project.
- <u>Section IV</u>: This section provides analysis on the health aspects of electric and magnetic field levels.

Additionally, Ms. Gilroy co-sponsors the following portions of the Appendix:

- Executive Summary (co-sponsored with Company Witnesses David Osorio Garcia and Hannah Hurst): The Executive Summary provides a brief overview of the proposed Rebuild Project.
- <u>Section I.A (co-sponsored with Company Witness David Osorio Garcia)</u>: This section details the primary justifications for the proposed Rebuild Project.
- <u>Section I.I (co-sponsored with Company Witness George Brimmer)</u>: This section provides the estimated total cost of the proposed Rebuild Project and substation-related work.
- <u>Section I.L (co-sponsored with Company Witness David Osorio Garcia)</u>: Although not applicable to the proposed Rebuild Project, this section provides details on the deterioration of structures and associated equipment as applicable.
- <u>Section II.A.4 (co-sponsored with Company Witness Hannah Hurst)</u>: This section explains why the existing cleared right-of-way is adequate to serve the need.
- <u>Section II.B.5 (co-sponsored with Company Witness Hannah Hurst)</u>: This section provides the mapping and structure heights for the existing and proposed overhead structures.
- <u>Section II.B.6 (co-sponsored with Company Witness Hannah Hurst)</u>: This section provides photographs of existing facilities, representations of proposed facilities, and visual simulations.

A statement of Ms. Gilroy's background and qualifications is attached to her testimony as Appendix A.

### DIRECT TESTIMONY

#### **OF**

## SARAH GILROY

#### ON BEHALF OF

# VIRGINIA ELECTRIC AND POWER COMPANY BEFORE THE

# VIRGINIA STATE CORPORATION COMMISSION CASE NO. PUR-2025-00189

- Power Company ("Dominion Energy Virginia" or the Company").

  A. My name is Sarah Gilroy, and I am a Staff Engineer in the Electric Transmission Line
  Overhead Engineering Department of the Company. My business address is 5000
  Dominion Boulevard, Glen Allen, Virginia 23060. A statement of my qualifications and background is provided as Appendix A.
- 7 Q. Please describe your areas of responsibility with the Company.
- 8 A. I am responsible for the estimating and conceptual design on high voltage transmission
  9 line projects from voltages of 69 kilovolts ("kV") to 500 kV.
- 10 Q. What is the purpose of your testimony in this proceeding?
- 11 A. In order to maintain the structural integrity and reliability of the networked transmission
  12 system in compliance with mandatory North American Electric Reliability Corporation
  13 ("NERC") Reliability Standards, Virginia Electric and Power Company ("Dominion
  14 Energy Virginia" or the "Company") proposes, in the City of Charlottesville and Albemarle
  15 and Augusta Counties, to: (1) rebuild, within the existing cleared right-of-way or on
  16 Company-owned property, approximately 22.3 miles of 230 kilovolt ("kV")
  17 Charlottesville-Dooms Lines #233 and #291, starting at the existing Charlottesville

17	Q.	Does this conclude your testimony?
16		Company Witness Hannah Hurst.
15		Section II.A.4 with Company Witness Hannah Hurst, and Sections II.B.5 and II.B.6 with
14		Brimmer, Section I.L of the Appendix with Company Witness David Osorio Garcia,
13		Witness David Osorio Garcia, Section I.I of the Appendix with Company Witness George
12		David Osorio Garcia and Hannah Hurst, Section I.A of the Appendix with Company
11		Appendix. I am also co-sponsoring the Executive Summary with Company Witnesses
10		("EMF") levels. I am sponsoring Sections I.F, II.A.5, II.B.1 to II.B.4, and IV of the
9		facilities for the proposed Rebuild Project and to discuss electric and magnetic field
8		The purpose of my testimony is to describe the design characteristics of the transmission
7		Amperes ("MVA") (collectively, the "Rebuild Project"). <sup>2</sup>
6		Amperes ("A") ampacity, with a minimum summer emergency rating of 1573 Mega-Volt
5		Supported/Trapezoidal Wire/High Strength ("ACSS/TW/HS") conductors with 3948
4		conductors on Lines #233 and #291 with new bundled 768.2 Aluminum Conductor Steel
3		them with new galvanized steel and weathering steel structures; and (2) replace the existing
2		existing structures, which are lattice structures and steel monopole structures, and replacing
1		Substation and ending at the existing Dooms Substation, by removing the majority <sup>1</sup> of the

<sup>1</sup> Seven structures are white-painted steel monopole structures; they will be replaced with galvanized steel monopole structures as part of the Rebuild Project.

18

A.

Yes, it does.

<sup>&</sup>lt;sup>2</sup> The Company will also perform work associated with the Rebuild Project at the Charlottesville, Dooms, Barracks Road, Hydraulic Road, and Crozet Substations. The Company considers the work at these substations to qualify as an "ordinary extension[] or improvement[] in the usual course of business (i.e., "ordinary course") pursuant to § 56-265.2 A 1 of the Code of Virginia ("Va. Code") and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a certificate of public convenience and necessity ("CPCN") from the Commission.

### BACKGROUND AND QUALIFICATIONS OF SARAH GILROY

Sarah Gilroy received a Bachelor of Science degree in Civil Engineering from West Virginia University in 2015. She was employed by Exelon from 2016–2019 and from 2022–2025, by American Electric Power from 2019–2022, and has worked with Dominion since 2025. Ms. Gilroy's experience includes Substation Structural and Civil Engineering (2016–2019), Underground Transmission Engineering (2022–2025), and Overhead Transmission Engineering (2019–2022, 2025–Present).

Ms. Gilroy has not previously testified before the Virginia State Corporation Commission.

### WITNESS DIRECT TESTIMONY SUMMARY

<u>Witness</u>: George Brimmer

<u>Title</u>: Engineer III – Substation Conceptual

### **Summary**:

Company Witness George Brimmer will sponsor those portions of the Appendix describing the Company's proposed substation work and associated costs, as follows:

• <u>Section II.C</u>: This section describes the work to be performed on existing substations associated with the Rebuild Project.

Additionally, Company Witness George Brimmer co-sponsors the following portion of the Appendix:

• <u>Section I.I (co-sponsored with Company Witness Sarah Gilroy):</u> This section provides the estimated total cost of the proposed Rebuild Project and substation-related work.

A statement of Mr. Brimmer's background and qualifications is attached to his testimony as Appendix A.

#### DIRECT TESTIMONY OF

### **GEORGE BRIMMER** ON BEHALF OF

### VIRGINIA ELECTRIC AND POWER COMPANY **BEFORE THE**

### VIRGINIA STATE CORPORATION COMMISSION CASE NO. PUR-2025-00189

- 1 Q. Please state your name, business address and position with Virginia Electric and 2 Power Company ("Dominion Energy Virginia" or the "Company"). 3 My name is George Brimmer, and I am an Engineer III in the Substation Conceptual section A. 4 of the Electric Transmission Group of the Company. My business address is 5000 Dominion Boulevard, Glen Allen, Virginia 23060. A statement of my qualifications and 5 6 background is provided as Appendix A.
- 7 O. Please describe your areas of responsibility with the Company.
- 8 A. I am responsible for evaluation of the substation project requirements, feasibility studies, 9 conceptual physical design, scope development, preliminary engineering, and cost 10 estimating for high voltage transmission and distribution substations.
- 11 0. What is the purpose of your testimony in this proceeding?
- 12 In order to maintain the structural integrity and reliability of the networked transmission A. system in compliance with mandatory North American Electric Reliability Corporation 13 14 ("NERC") Reliability Standards, Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company") proposes, in the City of Charlottesville and Albemarle 15 16 and Augusta Counties, to: (1) rebuild, within the existing cleared right-of-way or on 17 Company-owned property, approximately 22.3 miles of 230 kilovolt ("kV") Charlottesville-Dooms Lines #233 and #291, starting at the existing Charlottesville 18

Substation and ending at the existing Dooms Substation, by removing the majority <sup>1</sup> of the
existing structures, which are lattice structures and steel monopole structures, and replacing
them with new galvanized steel and weathering steel structures; and (2) replace the existing
conductors on Lines #233 and #291 with new bundled 768.2 Aluminum Conductor Steel
Supported/Trapezoidal Wire/High Strength ("ACSS/TW/HS") conductors with 3948
Amperes ("A") ampacity, with a minimum summer emergency rating of 1573 Mega-Volt
Amperes ("MVA") (collectively, the "Rebuild Project"). <sup>2</sup>
The purpose of my testimony is to describe the work to be performed at the Charlottesville,
Dooms, Crozet, Barracks Road, and Hydraulic Road Substations. I am sponsoring Section
II.C of the Appendix. In addition, I am co-sponsoring Section I.I of the Appendix with
Company Witness Sarah Gilroy, specifically as it pertains to the cost estimate for
substation work.

### 31 Q. Does this conclude your testimony?

32 A. Yes, it does.

<sup>1</sup> Seven structures are white-painted steel monopole structures; they will be replaced with galvanized steel monopole structures as part of the Rebuild Project.

<sup>&</sup>lt;sup>2</sup> The Company will also perform work associated with the Rebuild Project at the Charlottesville, Dooms, Barracks Road, Hydraulic Road, and Crozet Substations. The Company considers the work at these substations to qualify as an "ordinary extension[] or improvement[] in the usual course of business (i.e., "ordinary course") pursuant to § 56-265.2 A 1 of the Code of Virginia ("Va. Code") and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a certificate of public convenience and necessity ("CPCN") from the Commission.

# BACKGROUND AND QUALIFICATIONS OF GEORGE BRIMMER

George Brimmer received a Bachelor of Science degree in Electrical Engineering from Virginia Commonwealth University in 2014. Mr. Brimmer also received a Bachelor of Science degree in Psychology in 2008. Mr. Brimmer has been employed by the Company since 2013. Prior to joining the Company, he worked as Cable Technician for American Systems Corporation from 2010 to 2011. His areas of expertise are substation and grounding design.

Mr. Brimmer has previously testified before the Virginia State Corporation Commission.

#### WITNESS DIRECT TESTIMONY SUMMARY

**Witness**: Hannah Hurst

<u>Title:</u> Senior Siting and Permitting Specialist

### **Summary**:

Company Witness Hannah Hurst sponsors those portions of the Appendix providing an overview of the design of the route for the proposed Rebuild Project and related permitting, as follows:

- <u>Section II.A.l</u>: This section provides the length of the proposed corridor to the proposed Rebuild Project.
- <u>Section II.A.2</u>: This section provides a map showing the route of the proposed Rebuild Project in relation to notable points close to the proposed Rebuild Project.
- <u>Section II.A.3</u>: This section provides the colored maps of existing or proposed rights-of-way in the vicinity of the proposed Rebuild Project.
- <u>Sections II.A.6 to II.A.9</u>: These sections provide detail regarding the existing cleared right-of-way for the proposed Rebuild Project.
- <u>Section II.A.11</u>: This section details how the construction of the proposed Rebuild Project follows the provisions discussed in Attachment 1 of the Guidelines.
- <u>Section II.A.12</u>: This section identifies the counties and localities that the proposed Rebuild Project will pass and provides General Highway Maps for these localities.
- <u>Section III</u>: This section details the impact of the proposed Rebuild Project on scenic, environmental, and historic features.
- <u>Section V</u>: This section provides information related to public notice of the proposed Rebuild Project.

Additionally, Ms. Hurst co-sponsors the following portions of the Appendix:

- Executive Summary (co-sponsored with Company Witnesses David Osorio Garcia and Sarah Gilroy): The Executive Summary provides a brief overview of the proposed Rebuild Project.
- <u>Section II.A.4 (co-sponsored with Company Witness Sarah Gilroy)</u>: This section explains why the existing cleared right-of-way is adequate to serve the need.
- <u>Section II.B.5 (co-sponsored with Company Witness Sarah Gilroy)</u>: This section provides the mapping and structure heights for the existing and proposed overhead structures.
- <u>Section II.B.6 (co-sponsored with Company Witness Sarah Gilroy)</u>: This section provides photographs of existing facilities, representations of proposed facilities, and visual simulations.

Finally, Ms. Hurst co-sponsors the Department of Environmental Quality ("DEQ") Supplement (with Company Witness Lucas DuPont) filed with the Application.

A statement of Ms. Hurst's background and qualifications is attached to his testimony as Appendix A.

### DIRECT TESTIMONY

### OF

### HANNAH HURST ON BEHALF OF

### VIRGINIA ELECTRIC AND POWER COMPANY BEFORE THE

### VIRGINIA STATE CORPORATION COMMISSION CASE NO. PUR-2025-00189

- Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").
- A. My name is Hannah Hurst, and I am a Senior Siting and Permitting Specialist in the Siting and Permitting Group for the Company. My business address is 5000 Dominion Boulevard, Glen Allen, VA 23060. A statement of my qualifications and background is provided as Appendix A.
- 7 Q. Please describe your areas of responsibility with the Company.
- A. I am responsible for identifying appropriate routes for transmission lines and obtaining necessary federal, state, and local approvals and environmental permits for those facilities. In this position, I work closely with government officials, permitting agencies, property owners, and other interested parties, as well as with other Company personnel, to develop facilities needed by the public so as to reasonably minimize environmental and other impacts on the public in a reliable, cost-effective manner.
- 14 Q. What is the purpose of your testimony in this proceeding?
- 15 A. In order to maintain the structural integrity and reliability of the networked transmission
  16 system in compliance with mandatory North American Electric Reliability Corporation
  17 ("NERC") Reliability Standards, Virginia Electric and Power Company ("Dominion
  18 Energy Virginia" or the "Company") proposes, in the City of Charlottesville and Albemarle
  19 and Augusta Counties, to: (1) rebuild, within the existing cleared right-of-way or on

Company-owned property, approximately 22.3 miles of 230 kilovolt ("kV") Charlottesville-Dooms Lines #233 and #291, starting at the existing Charlottesville Substation and ending at the existing Dooms Substation, by removing the majority of the existing structures, which are lattice structures and steel monopole structures, and replacing them with new galvanized steel and weathering steel structures; and (2) replace the existing conductors on Lines #233 and #291 with new bundled 768.2 Aluminum Conductor Steel Supported/Trapezoidal Wire/High Strength ("ACSS/TW/HS") conductors with 3948 Amperes ("A") ampacity, with a minimum summer emergency rating of 1573 Mega-Volt Amperes ("MVA") (collectively, the "Rebuild Project).<sup>2</sup> The purpose of my testimony is to provide an overview of the route and permitting for the proposed Rebuild Project. As it pertains to routing and permitting, I sponsor Sections II.A.1, II.A.2, II.A.3, II.A.6, II.A.7, II.A.8, II.A.9, II.A.11, II.A.12, III, and V of the Appendix. I co-sponsor the Executive Summary with Company Witnesses Sarah Gilroy and David Osorio Garcia, Section II.A.4 of the Appendix with Company Witness Sarah Gilroy, and Sections II.B.5 and II.B.6 of the Appendix with Company Witness Sarah Gilroy. I also co-sponsor (with Company Witness Lucas DuPont) the DEQ Supplement filed with the Application.

### Q. Has the Company complied with Va. Code § 15.2-2202 E?

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<sup>&</sup>lt;sup>1</sup> Seven structures are white-painted steel monopole structures; they will be replaced with galvanized steel monopole structures as part of the Rebuild Project.

<sup>&</sup>lt;sup>2</sup> The Company will also perform work associated with the Rebuild Project at the Charlottesville, Dooms, Barracks Road, Hydraulic Road, and Crozet Substations. The Company considers the work at these substations to qualify as an "ordinary extension[] or improvement[] in the usual course of business (i.e., "ordinary course") pursuant to § 56-265.2 A 1 of the Code of Virginia ("Va. Code") and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a certificate of public convenience and necessity ("CPCN") from the Commission.

Yes. In accordance with Va. Code § 15.2-2202 E, letters dated September 20, 2025, were 1 A. 2 sent to Mr. Samuel Sanders, Jr., City Manager for the City of Charlottesville; the City Council members for the City of Charlottesville; Mr. Jeff Richardson, County Executive 3 4 for Albemarle County; Ms. Diantha McKeel, Jack Jouett District for Albemarle County; 5 Mr. Jim Andrews, Samuel Miller District for Albemarle County; Ms. Ann Mallek, White 6 Hall District for Albemarle County; Mr. Timothy Fitzgerald, County Administrator for 7 Augusta County; Mr. Gerald Garber, Middle River Magisterial District for Augusta 8 County; and Mr. Scott Seaton, Wayne Magisterial District for Augusta County, advising 9 of the Company's intention to file this Application and inviting the counties to consult with 10 the Company about the proposed Rebuild Project. These letters are included as <u>Attachment</u> 11 <u>V.D.</u> to the Appendix.

- 12 Q. Does this conclude your testimony?
- 13 A. Yes, it does.

### BACKGROUND AND QUALIFICATIONS OF HANNAH HURST

Hannah Hurst received a bachelor's degree in Environmental Horticulture from Virginia Tech Polytechnic Institute in 2016. Ms. Hurst has been employed by the Company since 2022 as a Siting and Permitting Specialist within the Siting and Permitting group; in 2024, she was promoted to the position of Senior Siting and Permitting Specialist. Prior to joining the Company, she worked as an Environmental Planner for New Kent County where she was responsible for permitting procedures and inspections. Her areas of expertise are in local zoning, planning, and local environmental permitting.

Ms. Hurst has previously testified before the Virginia State Corporation Commission.

### WITNESS DIRECT TESTIMONY SUMMARY

Witness: Lucas DuPont

<u>Title:</u> Environmental Specialist III

### **Summary**:

Company Witness Lucas DuPont co-sponsors (with Company Witness Hannah Hurst) the Department of Environmental Quality ("DEQ") Supplement filed with the Application.

A statement of Mr. DuPont's background and qualifications is attached to his testimony as Appendix A.

### DIRECT TESTIMONY

### OF

### LUCAS DUPONT ON BEHALF OF

### VIRGINIA ELECTRIC AND POWER COMPANY BEFORE THE

## VIRGINIA STATE CORPORATION COMMISSION CASE NO. PUR-2025-00189

- Q. Please state your name, business address and position with Virginia Electric and Power Company ("Dominion Energy Virginia" or the "Company").
- 3 A. My name is Lucas DuPont, and I am an Environmental Specialist III with the Company.
- 4 My business address is 5000 Dominion Boulevard, Glen Allen, VA 23060. A statement
- of my qualifications and background is provided as Appendix A.
- 6 Q. Please describe your areas of responsibility with the Company.
- 7 A. I am responsible for obtaining necessary environmental permits for electric transmission
- 8 and substation projects. In this position, I work closely with government officials,
- 9 permitting agencies, property owners, and other interested parties, as well as with other
- 10 Company personnel, to develop facilities needed by the public to reasonably minimize
- environmental impacts on the public in a reliable, cost-effective manner.
- 12 Q. What is the purpose of your testimony in this proceeding?
- 13 A. In order to maintain the structural integrity and reliability of the networked transmission
- system in compliance with mandatory North American Electric Reliability Corporation
- 15 ("NERC") Reliability Standards, Virginia Electric and Power Company ("Dominion
- 16 Energy Virginia" or the "Company") proposes, in the City of Charlottesville and Albemarle
- and Augusta Counties, to: (1) rebuild, within the existing cleared right-of-way or on
- 18 Company-owned property, approximately 22.3 miles of 230 kilovolt ("kV")
- 19 Charlottesville-Dooms Lines #233 and #291, starting at the existing Charlottesville

Substation and ending at the existing Dooms Substation, by removing the majority of the
existing structures, which are lattice structures and steel monopole structures, and replacing
them with new galvanized steel and weathering steel structures; and (2) replace the existing
conductors on Lines #233 and #291 with new bundled 768.2 Aluminum Conductor Steel
Supported/Trapezoidal Wire/High Strength ("ACSS/TW/HS") conductors with 3948
Amperes ("A") ampacity, with a minimum summer emergency rating of 1573 Mega-Volt
Amperes ("MVA") (collectively, the "Rebuild Project"). <sup>2</sup>
The purpose of my testimony is to help facilitate review and analysis of the proposed
Rebuild Project by DEQ and other relevant agencies. I co-sponsor the DEQ Supplement
with Company Witnesses Hannah Hurst.

### 11 Q. Does this conclude your testimony?

12 A. Yes, it does.

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<sup>&</sup>lt;sup>1</sup> Seven structures are white-painted steel monopole structures; they will be replaced with galvanized steel monopole structures as part of the Rebuild Project.

<sup>&</sup>lt;sup>2</sup> The Company will also perform work associated with the Rebuild Project at the Charlottesville, Dooms, Barracks Road, Hydraulic Road, and Crozet Substations. The Company considers the work at these substations to qualify as an "ordinary extension[] or improvement[] in the usual course of business (i.e., "ordinary course") pursuant to § 56-265.2 A 1 of the Code of Virginia ("Va. Code") and, therefore, does not require approval pursuant to Va. Code § 56-46.1 B or a certificate of public convenience and necessity ("CPCN") from the Commission.

## BACKGROUND AND QUALIFICATIONS OF LUCAS DUPONT

Lucas Dupont received his Bachelor of Arts with a double major in English and Environmental Science from the University of Virginia in 2003. Mr. DuPont then received his Master of Science in Environmental Science and Policy from John Hopkins University in 2025. Mr. DuPont joined the Company in 2022 as an Environmental Specialist. Before joining the Company, Mr. DuPont worked at the Virginia Department of Transportation ("VDOT") as the Central Office Water Resources Permitting Section Manager and Wetland State Lead from 2014 to 2022. Before joining VDOT, Mr. DuPont worked for TEC Inc., subsequently acquired by Cardno, as a Project Manager and Environmental Planner from 2007 to 2014. Before joining TEC Inc., Mr. DuPont worked for Williamsburg Environmental Group, subsequently acquired by Stantec, as an Ecologist from 2005 to 2007.

Mr. DuPont has previously testified before the Virginia State Corporation Commission.