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5-8-18

Gloria Sitton

From: Yon Lambert
Sent: Tuesday, May 08, 2018 2:34 PM
To: praveen@kathpal.com
Cc: City Council; Mark Jinks; Emily Baker; Karen Snow; James Banks; City Council Aides; Khattab Shammout; Lisa Jaatinen
Subject: RE: Council presentation on transmission line

Dear Praveen,

Thank you for your questions regarding the Dominion 230kV transmission line. We appreciate your interest and expertise, including your service to the Working Group where some of these concepts were previously discussed. I have placed your questions below along with the City response. Your original suggested responses remain in your original email below so Council may consider your perspective.

Q: The resolution drafted says existing facilities will be inadequate for reliability by 2020. The new line is not proposed to be built until 2023. What could cause the need for the line to continue being delayed?
City response: Dominion has cited economic slow-downs that slowed the pace of forecasted electric system growth as a reason for previous delays. The City is aware that similar conditions could arise in the future, further delaying the need. It is very important to note that the City has retained outside counsel and professional engineering services precisely so that it can participate in the determination of need and public interest as part of the State Corporation Commission's Certificate of Public Convenience and Necessity (CPCN) process in accordance with Virginia law. Staff anticipates the City will be an active participant at the SCC, which is the legal entity charged with making a determination of need.
The resolution under consideration by the City Council reflects justification for solutions proposed by Dominion. The City's resolution proposes "least objectionable alternatives" for routes but specifically does not take a position on the determination of need since it notes that the SCC is vested with the power to approve. Therefore, staff would recommend against placing any language in the resolution or as a condition of any easement since the City does not have the legal power to make such a determination.

Q: Is the line needed if Dominion's peak electricity demand doesn't grow?
City response: The SCC determines need as a threshold issue and this will be determined in the SCC proceeding in accordance with Virginia law.
For additional background, Dominion provided the following to the Working Group as the response to question #8 on February 16, 2018: "Power flow analyses based on PJM's 2016 Load Forecast support that the Company's transmission facilities are not projected to meet NERC Reliability Standards unless the Project is in service by June 1, 2020. While these analyses are currently being updated to reflect PJM's 2018 Load Forecast and to take into account recent cold storage announcements, the failure to address the identified deficiencies will limit the Company's ability to maintain reliable transmission service to its existing and future customers located in the identified load area. To be clear, the identified need is not going away. To address this need, the Company is proposing the Glebe-Potomac River Project, as well as the Rebuild Alternative, both of which will equally resolve the identified violations of NERC Reliability Standards."
**This response is also intended to address your query from Sunday, May 6 regarding where in the record the language on the bottom of PowerPoint slide #9 is substantiated ("load reduction/energy efficiency does not negate need for line").*

Q: If demand continues to grow slowly, can construction be delayed until after Potomac Yard metro is built?
City response: Yes. Again, the SCC will ultimately make a determination about need. City Council is not being asked to make a determination on need, only on the potential routes a line could take in Alexandria if the SCC issues a Certificate of Public Convenience and Necessity.

Q: Utilities around the country are pursuing "Non-Wires Alternatives" to defer or avoid transmission lines. Has staff or Dominion considered alternatives targeted toward avoiding or deferring the need for the line?
City response: City staff is familiar with the concept of non-wires alternatives and fully intends to participate actively in the SCC process. This includes the likelihood of providing testimony in support of non-wires alternatives or pursuing independent studies to identify feasible alternatives (and ensuring that those alternatives are considered) before the SCC issues a Certificate of Public Convenience and Necessity.
Additionally, Dominion provided the following to the Working Group on February 16, 2018 (question #13): "With respect to energy efficiency, both PJM and Dominion take into account current and projected energy efficiency levels (whether naturally occurring or utility-driven) when developing their load forecasts, along with a number of other drivers such as economics and solar distributed generation. Dominion has long been committed to cost-effective energy efficiency programs and initiatives and currently offers a portfolio of residential and non-residential programs that incent customers to reduce demand or peak energy consumption. While Dominion has plans to continue its current programs as well as introduce new offerings in the coming years, such plans are subject to regulatory approval. It is highly unlikely, however, that the load reduction achieved through such energy efficiency programs would negate or change the timing associated with the need for a new 230 kV transmission line in the Alexandria area."

If you have any additional questions, please let me know.

Best,
Yon

Yon Lambert, AICP | Director, Dept. of Transportation & Environmental Services
City of Alexandria | 301 King Street, Alexandria Va. 22314 | Room 4100
t. 703.746.4025 | m. 571.220.0842

From: Praveen Kathpal [mailto:praveen@kathpal.com]
Sent: Monday, May 07, 2018 11:28 PM
To: Yon Lambert <Yon.Lambert@alexandriava.gov>
Cc: Lisa Jaatinen <Lisa.Jaatinen@alexandriava.gov>
Subject: Re: Council presentation on transmission line

Yon and Lisa,

Below are a few questions you might want to prepare for, and what I believe are the answers. Let me know if you have any questions.

Regarding the last question/answer, do you believe the City could make it a condition of an easement (or permit in the case of the Route 1 option) that an independent study of non-wires alternatives be performed, such as the one DC DOEE staff commissioned last year? And if such a study found feasible alternatives, could a further condition of an easement/permit be that Dominion pursues those alternatives before building a line?

The softening demand forecast should buy us the time to get this done. I believe a study similar to what Synapse Economics did for DC DOEE could be done for roughly $50K-100K. Here's a link to the study: https://edocket.dcpsc.org/apis/pdf_files/32c43daa-5658-4623-89fd-cc0df091b882.pdf

Thanks,

Praveen

Q: The resolution drafted says existing facilities will be inadequate for reliability by 2020. The new line is not proposed to be built until 2023. What could cause the need for the line to continue being delayed?
A: The statement about a reliability need in 2020 was based on Dominion's 2016 peak demand forecast, which is the latest information provided to the City by Dominion. Since then, Dominion has revised their demand forecast downward for 2018, which has the effect of delaying the year in which the reliability need for the line occurs. In their current (2018) forecast, the demand levels previously (in 2016) projected to occur in 2023 that were driving the need for the line do not occur until 2029. If demand forecasts continue to fall, the need for the line will continue to be delayed.

Q: Is the line needed if Dominion's peak electricity demand doesn't grow?
A: No. The line is not needed if Dominion's peak demand does not increase. The main reason the need for the line has been delayed thus far is that Dominion's peak demand has not been increasing. The peak demand in 2017 was 18,903 MW and it was higher than that in five of the previous seven years.

Q: If demand continues to grow slowly, can construction be delayed until after Potomac Yard metro is built?
A: Yes. If the demand levels at which the line is needed do not occur until 2029 then construction could begin in 2024, after the Potomac Yard metro construction is complete, and the line could still be built by the time it is needed.

Q: Utilities around the country are pursuing "Non-Wires Alternatives" to defer or avoid transmission lines. Has staff or Dominion considered alternatives targeted toward avoiding or deferring the need for the line?
A: No. Dominion has only considered other transmission lines as alternatives to the proposed line. In a similar case in Washington, DC, District staff commissioned an independent study that evaluated the utility's demand forecast and identified a portfolio of energy efficiency, demand response, solar panels, and batteries, together known as "Non-Wires Alternatives", that would indefinitely defer the need for the transmission upgrade. Such a consideration has not been performed in this case.
Non-Wires Alternatives are being considered and deployed to defer or avoid transmission projects in New York, California, Washington/Oregon, Massachusetts, Arizona, and Texas, among other states.
Reference: Alternatives to Building a New Mt. Vernon Substation in Washington, DC, Synapse Economics, November 2017 (prepared for the DC Department of Energy and Environment)

On Mon, May 7, 2018 at 5:51 PM, Yon Lambert <Yon.Lambert@alexandriava.gov> wrote:

> Praveen,
>
> Thanks for sending this. Will have a response for you shortly (aiming tomorrow AM). Sorry but today has been really busy.
>
> Thanks for your patience.
>
> Yon

From: Praveen Kathpal [mailto:praveen@kathpal.com]
Sent: Sunday, May 06, 2018 3:00 PM
To: Lisa Jaatinen <Lisa.Jaatinen@alexandriava.gov>; Yon Lambert <Yon.Lambert@alexandriava.gov>
Subject: Council presentation on transmission line

Lisa and Yon,

I saw that the presentation to council for Tuesday's decision on the transmission line says this regarding the need for the line:

"load reduction/energy efficiency does not negate need for line"

Where is this substantiated in the record?

I believe you were both there when Dominion acknowledged that the need for the line assumes positive peak demand growth. To me that means that if demand does not continue to grow — which could be achieved through a naturally lower demand growth rate, or by directed demand reduction strategies — then there is not a need for the line. Did you hear the same thing? This was core to my dissent with the working group's recommendation.

The line was most recently justified as being needed by 2023 based on a demand forecast from 2016. Dominion's new 2018 demand forecast does not project the previous 2023

demand levels occurring until 2027.

What Dominion represented to the working group with regard to this topic was that they did not see *business as usual* energy efficiency adoption or an expansion of their *existing* energy efficiency programs negating the need for the line. This is very different than saying it could not be done if they pursued new approaches directed at deferring or eliminating the need for the line.

These approches — know as Non-Wires Alternatives — are being pursued by utilities, state regulatory commissions, and localities who do not want the adverse community impacts of transmission line construction in many parts of the country. Some examples are DC, New York, California, Massachusetts, Rhode Island, and Washington State.

I recommend you make yourself aware of these alternatives in case you are asked about them by Council. Here are a few resources:

https://www.utilitydive.com/news/non-wires-alternatives-whats-up-next-in-utility-business-model-evolution/446933/

http://www.storagealliance.org/Blog/Storage-as-NWA

https://youtu.be/Gpd0LzMj8Ls

Praveen

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32
5-8-18

Gloria Sitton

From: Seth Heald via Call.Click.Connect. <CallClickConnect@alexandriava.gov>
Sent: Tuesday, May 08, 2018 7:19 AM
To: City Council; City Council Aides; Alexis Lacy; Call Click Connect; Gloria Sitton
Subject: Call.Click.Connect. #146412: Mayor, Vice Mayor, City Council Dear Mayor Silberberg and Council...

Dear ***Call.Click.Connect.*** User

A request was just created using ***Call.Click.Connect.*** The request ID is 146412.

Request Details:

This is a "private" request. Information should only be provided to the original customer.

- Name: Seth Heald
- Approximate Address: No Address Specified
- Phone Number: 703-582-3870
- Email: seth.heald@gmail.com
- Service Type: Mayor, Vice Mayor, City Council
- Request Description: Dear Mayor Silberberg and Council members,

  As you consider Dominion Energy Virginia's proposed new transmission line in the City, I urge you to ask Dominion to consider what are known as "non-wires alternatives" before any new transmission line is approved. Non-wire alternatives are ways to delay or avoid altogether the need for new transmission lines by a variety of methods that can reduce the need for increased transmission capacity. For example, adding rooftop solar or other distributed generation reduces the need for transmission at peak summer hours, and energy-efficiency and conservation programs can reduce the need for transmission capacity at all times. It is my understanding that Dominion has not thus far analyzed those alternatives.

  Thank you.

  Seth Heald
  221 Wolfe St.
  Alexandria, VA 22314
- Expected Response Date: Sunday, May 13

Please take the necessary actions in responding, handling and/or updating this request at the ***Call.Click.Connect.*** staff interface.

If you need assistance with handling this request, please contact CallClickConnect@alexandriava.gov or call 703.746.HELP.

This is an automated email notification of a ***Call.Click.Connect.*** request. Please do not reply to this email.

ARLINGTON
VIRGINIA

OFFICE OF THE COUNTY MANAGER

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May 2, 2018

Mr. Mark B. Jinks
City Manager
City of Alexandria
301 King Street, Room 3500
Alexandria, VA 22314

Dear ~~Mr. Jinks~~, Mark

For informational purposes for Alexandria's elected and administrative leadership, this letter is intended to communicate Arlington's support for the Potomac Avenue alignment option (in addition to the previously approved Railroad Corridor alternative) as part of the Dominion Energy transmission line project to provide necessary high voltage capacity and redundancy to our communities.

Dominion Energy's team has kept us informed during the process to consider the various alignment options, with a focus on the much smaller Arlington footprint focused on the Glebe Substation, and the high voltage routing underground, under Four Mile Run.

We have been following the important public process in your community on the best alignment amongst the options presented by Dominion Energy, and although the situation on our side of Four Mile Run does not merit a parallel public process because the footprint is minimal, our staff has highlighted several important considerations in the decision process as it advances to the State Corporation Commission. We thought it may be helpful to share our feedback as you make your decisions and take a position with Dominion Energy that will inform the State Corporation Commission.

1. Both Potomac Avenue and US 1 are critical transportation and infrastructure links between our communities. We share a joint vision and operational approach for transit, other vehicular traffic, bike and pedestrian movements on these arterials.

    a. Simply put, the current volumes and operational conditions on Potomac Avenue are much lower, and the capacity to effectively accommodate a significant infrastructure upgrade on Potomac Avenue is much better than US 1.
    b. Selecting the US 1 option would effectively be a selection for prolonged breakdown level of service, as clearly demonstrated by existing traffic volumes and the analysis by Dominion's consultant Dewberry. The comparative increase in travel times during construction noted in your project FAQs (US1 Northbound increase from 6 to 24 minutes, vs Potomac Avenue from 3 to 5 minutes) makes a clear case for Potomac Avenue over US 1.
    c. The US 1 routing, even if done off-peak, would have a much more negative cumulative effect of delays and thus costs to all users in both communities, and we expect the project itself will take much longer, trying to keep maintenance of traffic at a tolerable level.

2. The Potomac Avenue or Railroad Corridor options offer superior long term capacity and redundancy.

    a. The operational traffic and density conditions on Potomac Avenue will change over time as development occurs in both of our communities along this corridor, following our respective plans, particularly with your Metro station investment.
    b. We believe now is the time to lay in the capacity and redundancy for the long term viability of both development areas.
    c. Unfortunately, while all the options presented are intended to resolve the identified violations of the NERC Reliability Standards, we understand that Dominion's forecasts for capacity needs are not based on the full buildout of our communities in the Potomac Yard service area. They are based on current trends, steady growth and near-term projections. In other words, we are concerned that the US 1 option will not ***strategically*** meet the long term need, and eventually Dominion would need to bring in more capacity along Potomac Avenue anyway; waiting until it is more developed and dense is a poor strategic choice.

3. We want to reaffirm our commitment to the undergrounding of the high voltage poles on the south bank and in Four Mile Run that would occur with this high voltage upgrade project. Clearly this will help both our communities achieve our mutual vision we share for the Four Mile Run planning area.

Please let me know how we can work collaboratively with you, preferably in a way where we are mutually advancing a shared position to Dominion and in turn a position that helps Dominion gain approval of the best long term investment for our communities.

Sincerely,

Mark J. Schwartz
County Manager

Cc: Greg Emanuel, Director, Department of Environmental Services
Shannon Flanagan-Watson, Assistant County Manager, County Manager's Office
Scott Reamy, External Affairs Manager, Dominion Energy Services, Inc.

Dominion item 32
5-8-18

I. NECESSITY FOR THE PROPOSED PROJECT

C. Describe the feasible alternatives, if any, for meeting the identified need without constructing the proposed project. Explain why these alternatives were rejected.

Response: In addition to the proposed Project, the following transmission alternatives were considered but rejected for the reasons described below. There are no feasible distribution alternatives to resolve the identified criteria violations.

The Company also reviewed the demand-side resources incorporated in Dominion Energy Virginia's planning studies used in support of this application in accordance with the Commission's November 26, 2013 Order entered in Case No. PUE-2012-00029. As shown in Attachment I.C.1, there are 1,337 customers participating in the Company's Air Conditioner ("AC") Cycling program within the zip codes that cover the Tysons and McLean areas of the Tysons Loop (22043, 22101, 22102, 22182). Because a customer may have multiple AC or heat pump units, the total number of switches available to cycle in these zip codes is 18,005. For the 2016 cycling season, the Company's Evaluation, Measurement & Verification vendor determined that there were approximately 0.97 kW per switch. This amount has fluctuated over time, based on numerous factors, such as heat, humidity, and duration of events. On average, the Company has called the AC Cycling program around 20 times per season. This past season, the Company operated the program 29 times. As approved, the Company is allowed to call on the program 30 times, or up to 120 hours. Typically, cycling events are called for three- to four-hour periods, typically between the hours of 2:00 p.m. and 6:00 p.m. The AC Cycling program can be operated June 1 through September 30 each year. Participants can opt out of two events each season without losing the $40 annual incentive.

Multiplying the number of switches by the 0.97 kW load reduction per switch results in an approximately 1.75 MW load reduction in the Tysons Loop. As such, the need to construct the 230 kV transmission line as proposed by the Company for this Project would not be diminished or eliminated, and is in fact wholly unaffected, by the application of demand-side resources.

1) Construct a 230 kV single circuit line from Idylwood Substation to a proposed Scott's Run Substation, located between Tysons Substation and Swinks Mill Substation, and cut into Tysons-Swinks Mill Line #2108 (Idylwood-Scott's Run Alternative)

For this alternative, the Company would construct a new 230 kV Scott's Run Substation between Tysons Substation and Swinks Mill Substation. Depending on the location of the new Scott's Run Substation, a 230 kV ring bus with between four and six breakers would be installed. Tysons-Swinks Mill Line #2108 would be cut and each end extended overhead to the new Scott's Run Substation, creating a new Tysons-Scott's Run line and a new Scott's Run-

Swinks Mill line. A new single-circuit 230 kV line would be constructed from Idylwood Substation to the new Scott's Run Substation.

Contingent upon the location of the new Scott's Run Substation, the ring bus at Scott's Run would have between four and six breakers in the ring, depending on whether the substation site could also accommodate distribution transformers. In addition to the three 230 kV breakers in the ring that are required to terminate both ends of the extended Line #2108 and the new line from Idylwood Substation, two additional breakers would be needed to create bus sections to feed distribution transformers. A sixth breaker would be required to terminate a future 230 kV line between the proposed Scott's Run Substation and the future Spring Hill Substation, if the combined loading on Spring Hill and Tysons Substations were to exceed 300 MW.

From an electrical perspective, introducing another 230 kV line into the Tysons Loop at any of the potential Scott's Run Substation locations would eliminate the concern of a possible NERC criteria violation in the near term (dropping 300 MW for an N-1-1 loss of Line #2010 out of Reston Substation and Line #2035 out of Idylwood Substation). However, it is expected that the combined load on the existing Tysons Substation and future Spring Hill Substation will grow to above 300 MW, at which time the N-1-1 loss of the line between Reston and Spring Hill Substations and the line between Scott's Run and Tysons Substations would drop the Tysons and Spring Hill Substation load. At that time, a new line from Scott's Run to Tysons/Spring Hill Substations would be required.

The Company purchased the Scott's Run Substation site in the summer of 2015. The property is large enough to potentially accommodate the substation; however, there were other constraints on the site that made the location for a substation problematic. The substation would be located adjacent to a flood plain and would be constrained by wetlands located on the property. Additionally, the site is zoned residential and a special exemption from Fairfax County would be required. Obtaining the special exemption at this location would require County Board of Supervisor approval, which is unlikely to be approved by Fairfax County.

For the foregoing reasons, the Idylwood-Scott's Run Alternative was rejected.

2) Construct an overhead 230 kV line from Reston Substation to Tysons Substation (Reston-Tysons Alternative).[8]

This alternative would construct a new overhead 230 kV line approximately 7.0 miles from existing Reston Substation to Tysons Substation. At Reston Substation, the existing footprint of the station does not provide space for an air insulated line terminal for a new overhead line. For this reason, this alternative

[8] This alternative was also referred to by the Company prior to filing this application as Overhead Route 06.

would require conversion of Reston Substation from an air insulated station to a 230 kV GIS six circuit breaker ring bus arrangement. The new line would exit Reston Substation along the W&OD Park trail for approximately 1.3 miles until reaching the DTR.[9] It would follow the DTR for approximately 5.4 miles on new right-of-way until reaching the Tysons-Swinks Mill Line #2108 crossing, at which point the new line would turn south for approximately 0.3 mile, terminating at the rebuilt Tysons Substation. The new Reston-Tysons line would require a new, primarily single circuit line[10] built using single-shaft steel poles with three twin-bundled 636 ACSR 24/7 phase conductors with a summer transfer capability of 1047 MVA.

The total estimated cost of the Reston-Tysons Alternative is approximately $172.0 million.

In addition to a higher cost than the proposed Project, this alternative would require seven crossings of a Metropolitan Washington Airport Authority ("MWAA") managed limited access roadway, of which, four would be non-perpendicular crossings. This Reston-Tysons Alternative requires extensive tree removal (more than 21 acres) parallel to a limited access highway. The trees removed would be primarily located along the DTR, removing a visual screen and sound buffer between adjacent residential neighborhoods and the toll road and/or sound wall. This tree removal would also result in a visual impact on users of the toll road. Three residences would be located within 60 feet of the right-of-way. A portion of the route would be located immediately adjacent to Wolf Trap National Park. The clearing of trees adjacent to the park would remove a significant amount of visual screening between the park and the DTR. Removal of the trees and installation of the transmission line facilities would result in permanent visual impacts on the park and its users. In addition, this route would require construction along 1.2 miles of the W&OD Park trail causing potential disruption to users of the trail during construction. See Attachments 2.N.1 and 2.N.2 to the DEQ Supplement for correspondence with the Virginia Department of Transportation ("VDOT") and MWAA, respectively, in regards to this alternative. For the foregoing reasons, the Reston-Tysons Alternative was rejected.

3) Construct an underground single circuit 230 kV line from Idylwood Substation to Tysons Substation primarily along I-495 ("I-495 Underground Alternative")[11]

This alternative would involve construction of a new underground single circuit 230 kV line approximately 5.4 miles from the existing Idylwood Substation to

[9] Only this 1.3-mile segment of the overhead 230 kV line would be double circuit; the remainder of the 6.7-mile line traveling along the DTR would be single circuit.

[10] *Id.*

[11] This alternative was also referred to by the Company prior to filing this application as Underground Alternative 07.

Tysons Substation. This alternative route is the longest of all of the underground alternatives considered for the Project. Significantly, it is 0.9 miles longer than the Proposed Route.

This alternative would follow the Company's existing Line #2035 out of the Idylwood Substation continuing north across Shreve Road. The route would then turn west at the W&OD Park and follow Line #202 along the park, crossing under I-66 and I-495. The route would then turn north and be installed within new right-of-way along I-495. The route would first follow the west side of I-495 for about 0.6 mile and then cross over to the east side of I-495 and continue north for about 2.5 miles. The alternative would next cross the DTR at the DTR/I-495 interchange, and turn west crossing I-495 to parallel Line #2108 along the north side of DTR for about 1.5 miles. After crossing Spring Hill Road, the route turns south crossing the DTR and terminating at the rebuilt Tysons Substation.

The total estimated cost of the I-495 Underground Alternative is approximately $179.5 million.

In addition to a higher cost than the proposed Project, this alternative would require two crossings of a MWAA managed roadway (the DTR/VA 267) and six crossings of a VDOT-managed roadway (I-495), of which two would be non-perpendicular crossings. The I-495 Underground Alternative would require 12 HDD segments. HDDs and additional workspace at the drill locations would be necessary to conduct the drilling operations for staging the drilling equipment and stringing the conduit. The route would require the removal of 4.3 acres of trees primarily within limited access right-of-ways associated with I-495 and the DTR, which is restricted by VDOT regulations. In addition, the removal of the trees would result in a loss of a visual screen and sound buffer between adjacent residential neighborhoods and the road and/or sound wall. This tree removal would also result in a visual impact on users of the road. Finally, there also would be three residences located within 60 feet of the edge of the right-of-way. For the foregoing reasons, the I-495 Underground Alternative was rejected.