

A decorative graphic consisting of numerous thin, white, wavy lines that flow from the top left towards the bottom right, creating a sense of movement and depth against the blue background.

Final Review and Recommendation 2020 RTEP Proposal Window 1 – Cluster Nos. 1 & 2

January 8, 2021

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2020 RTEP Proposal Window No. 1 – Cluster No. 1 & 2

As part of its 2020 RTEP process cycle of studies, PJM identified clustered groups of flowgates that were put forward for proposals as part of 2020 RTEP Window No. 1. Specifically, Cluster Nos. 1 & 2 - discussed in this Final Review and Recommendation report and includes those flowgates listed in **Tables 1 & 2** below and in **Figures 1 and 2**.

Table 1. 2020 RTEP Window No. 1 - Cluster No. 1 List of Flowgates

Flowgates	Voltage Level	Driver
N1-ST33, GD-S11, GD-S12, N2-ST2, N2-ST4, N2-ST5, N2-ST6, N2-ST7, N2-ST9, N2-ST11, N2-WT2, N2-WT3, DOM-T2	230 kV	Thermal, Generation Deliverability

Table 2. 2020 RTEP Window No. 1 - Cluster No. 2 List of Flowgates

Flowgates	Voltage Level	Driver
N2-SLD8, N2-WLD4	230 kV	Load drop

Proposals Submitted to PJM

PJM conducted 2020 RTEP Proposal Window No. 1 for 60 days beginning July 1, 2020 and closing August 31, 2020. During the window, several entities submitted eight proposals through PJM's Competitive Planner Tool. The proposals are summarized in **Tables 3 & 4**. Publicly available redacted versions of the proposals are posted to PJM's web site: <https://www.pjm.com/planning/competitive-planning-process/redacted-proposals.aspx>.

Table 3. 2020 RTEP Proposal Window No. 1 – Cluster No. 1 List of Proposals

Proposal ID#	Project Type	Project Description	Estimated Total Construction Cost (\$, millions)	Cost Capping Provisions (Y/N)
479	Upgrade	Line #2172 Reconductor - Brambleton to Evergreen Mills - Partial	1.85	N
26	Upgrade	Line #2172 - Reconductor Brambleton to Evergreen Mills - Full	2.32	N
740	Upgrade	Line #2210 Reconductor - Brambleton to Evergreen Mills - Partial Reconductor	2.01	N
735	Upgrade	Line #2210 Reconductor - Brambleton to Evergreen Mills - Full Reconductor	2.26	N
721	Greenfield	Stonewater - Waxpool 230kV Transmission Project	29.25	Y

Table 4. 2020 RTEP Proposal Window No. 1 – Cluster No. 2 List of Proposals

Proposal ID#	Project Type	Project Description	Estimated Total Construction Cost (\$, millions)	Cost Capping Provisions (Y/N)
704	Greenfield	Waxpool Loop - Nimbus to Farmwell line extension	5.70	N
376	Greenfield	Waxpool Loop - Loop Line #2031 Option	17.70	N
883	Greenfield	Waxpool Loop - Shellhorn Option	41.20	N
721	Greenfield	Stonewater - Waxpool 230kV Transmission Project	29.25	Y

Figure 1 – 2020 RTEP Window No. 1 - Cluster No. 1

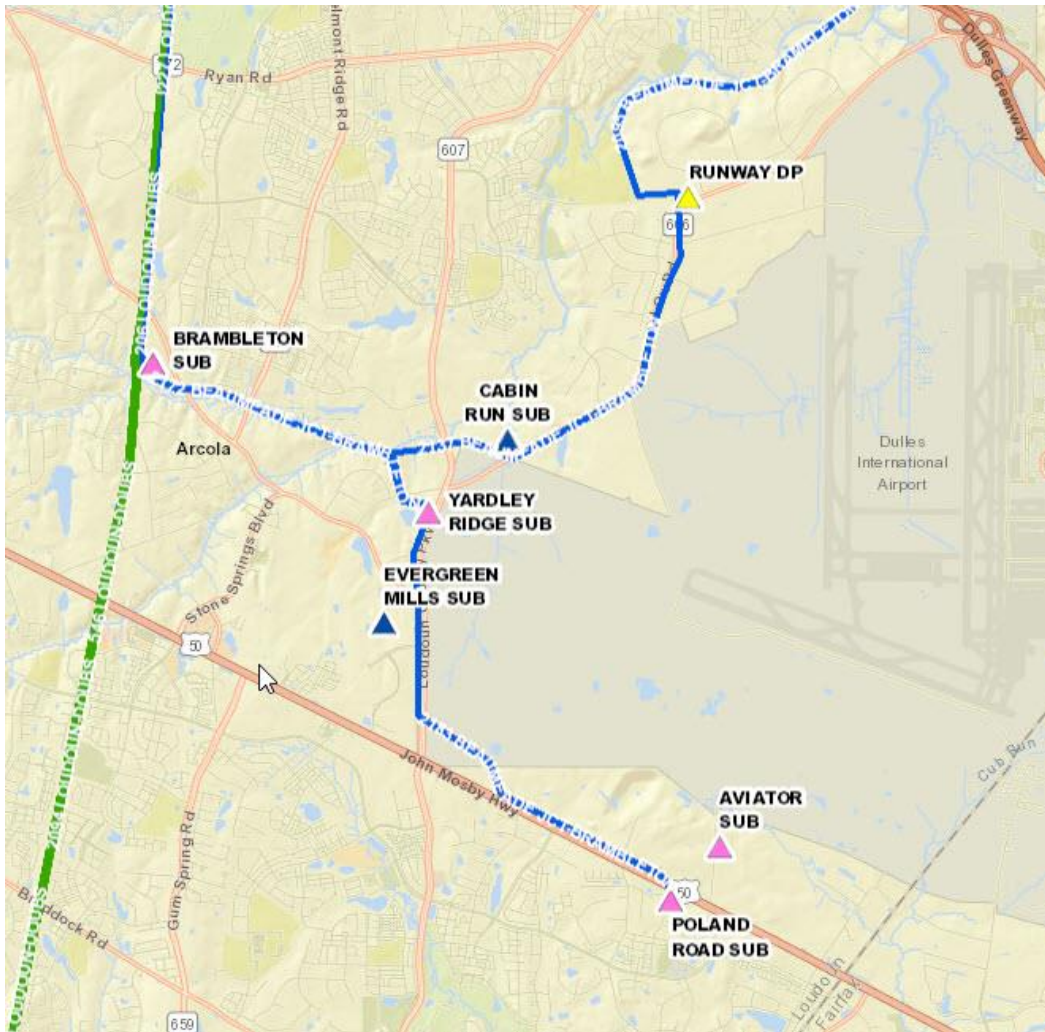
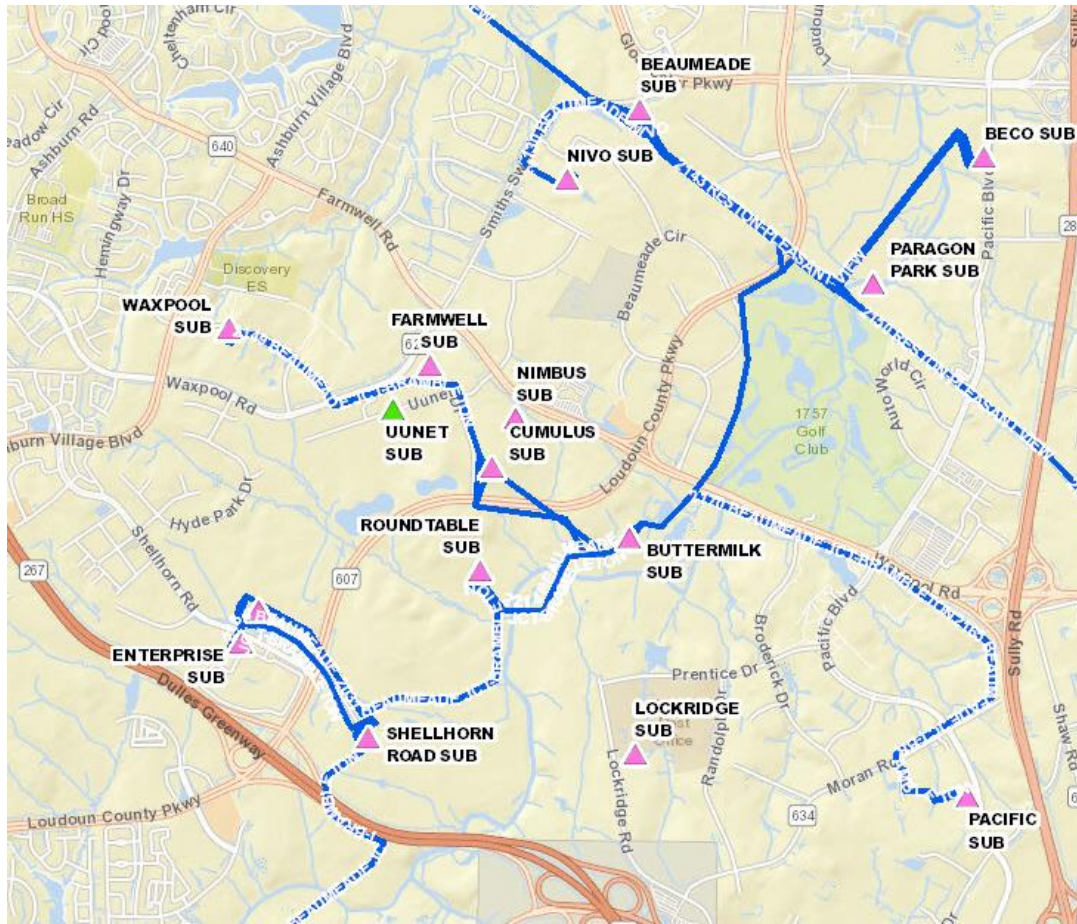


Figure 2 – 2020 RTEP Window No. 1 - Cluster No. 2



Final review and Recommendation

PJM has completed a Final Review and Recommendation of the proposals listed in **Tables 3 & 4** above based on data and information provided by the project sponsors as part of their submitted proposals. The data and information included the following preliminary analytical quality assessments:

Initial Performance Review – PJM evaluated whether or not the project proposal solved the required reliability criteria violation drivers posted as part of the open solicitation process.

Initial Planning Level Cost Review – PJM reviewed the estimated project cost submitted by the project sponsor and any relevant cost commitment mechanisms submitted as well.

Initial Feasibility Review – PJM reviewed the overall proposed implementation plan to determine if the project, as proposed, can feasibly be constructed.

Additional Benefits Review – PJM reviewed information provided by the proposing entity to determine if the project, as proposed, provides additional benefits such as the elimination of other needs on the system

Initial performance reviews yielded the following results:

1. Proposal No. 721 as submitted resolves violations for Cluster Nos. 1 & 2.
2. All remaining proposals submitted for the respective clusters also solve the respective violations for the individual clusters.
3. No creation of additional reliability criteria violations were identified.

Initial cost reviews showed cost commitment provisions from Proposal No. 721 that, in summary, would cap return on equity (ROE) and provide a binding equity percentage cap for the project; remaining proposals did not include cost commitment provisions.

PJM also notes that Proposal Nos. 721, 704, 376, and 883 incorporate Greenfield construction. The proposing entity for Proposal No. 721 notes that the project potentially cannot avoid impacts to a limited number of wetlands and waterways that introduce additional potential risks for timely completion of the project. Proposal No. 704 includes limited new right of way incorporating approximately 0.4 mile of new right of way in a commercial environment. Proposal No. 376 requires acquisition of new right of way, approximately 0.9 mile in length, as well as coordination with Supplemental Project s0605 that is expected to be completed in 2021. Proposal No 883 requires expansion of right of way in two areas, the first being approximately 0.3 mile in length and the second being approximately 0.4 mile in length as well as approximately 0.75 mile of new right of way.

PJM presented a First Read and Second Read of the Initial Performance Review and Recommended Solution at the December 2020, and January 2021, TEAC meetings, respectively. No stakeholder comments were received at those meetings nor afterward via Planning Community.

Proposal No. 721 solves the identified reliability criteria violations for both Cluster Nos. 1 and 2, as well as providing cost commitment provisions to consider. However, the Greenfield construction requirements, as well as the potential environmental impacts, are elements of significant consideration as well. Further examination of the other Greenfield proposals reveal less risk associated with the completion of those proposals as outlined.

Cluster No. 1 includes violations for both line 2210 and 2172 from Brambleton to Evergreen Mills. Proposal No. 26 proposes a full reconductoring of line 2172, while Proposal No. 479 proposes to solve the violation through a partial reconductoring of the same line. With the difference in the proposal costs being approximately \$0.5 million, the benefits of completely reconductoring the line, as opposed to partial reconductoring, will prevent the need for future mobilization to the same facility. Similarly, Proposal No. 735 proposes a full reconductor of line 2210 from Brambleton to Evergreen Mills, while Proposal No. 740 proposes a partial reconductoring, with the full reconductoring adding approximately \$0.24 million in costs. PJM notes again that these relatively modest increases in cost indicate the full reconductoring as the leading option for this portion of Cluster No. 1.

Turning to review Cluster No. 2, Proposal No. 704 addresses these violations considering the cost comparison of those projects received to mitigate Cluster No. 2 only, i.e., Proposal Nos. 704, 376, and 883. The limited Greenfield construction in the area indicated does not detract from Proposal No. 704.

Finally, consideration must be given to Proposal No. 721 given it will solve the violations for both Cluster Nos. 1 & 2. However, the combination of Proposal Nos. 26, 740, and 704 must also be considered in any review. Proposal No. 721 costs were provided as approximately \$29 million, which significantly exceed the costs of the combined Proposal Nos. 26, 740, and 704 that together are estimated to cost approximately \$10.3 million. Given that the costs for these three projects would have to almost triple to reach the costs of Proposal No. 721, and Proposal No. 721 has significant right of way and siting concerns in comparison with the three combined proposals as discussed here, the cost commitment provisions do not provide significant consideration in this review.

Recommended Solutions

Based on this information, Proposal Nos. 26 and 735 for Cluster 1, and Proposal 704 for Cluster 2 respectively, are the more efficient or cost effective solutions. PJM's initial planning level cost review and initial feasibility review suggests that further constructability review and financial analysis would not materially contribute to the analysis of the other proposals submitted for these clusters. The projected in service dates for each of the recommended proposals are listed below.

Proposal	Projected In-Service Date
Proposal 26	June 2024
Proposal 704	December 2025
Proposal 735	December 2025

PJM presented this Recommended Solution with stakeholders at the January 6, 2021 TEAC. A final review, recommendation and request for approval will be made to the PJM Board at its meeting scheduled for February 8th and 9th, 2021 for PJM Board review and approval.