Final Review and Recommendation 2020/21 Long-Term Window No. 1 – Cluster No. 2 (Plymouth Meeting to Whitpain 230 kV)

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2020/21 Long-Term Window No. 1 – Cluster No. 2

As part of its 2020/21 RTEP process cycle of studies, PJM identified clustered groups of congestion drivers that were put forward for proposals as part of the 2020/21 Long-Term Window 1. Specifically, Cluster No. 2 - discussed in this Final Review and Recommendation report - includes the congestion driver listed in **Table 1**.

Table 1. 2020/21 Long-Term Window No. 1 - Cluster No. 2 List of Congestion Drivers

Flowgate ID	Description	Voltage Level	Driver
ME-6	Plymouth Meeting to Whitpain	230 kV	Congestion Relief - Economic

Proposals Submitted to PJM

PJM conducted 2020/21 Long-Term Window No. 1 for 120 days beginning January 11, 2021 and closing May 11, 2021. During the window, several entities submitted four proposals, through PJM's Competitive Planner Tool, for this cluster. The proposals are summarized in **Table 2**. Publicly available redacted versions of the proposals can be found on PJM's web site: https://www.pjm.com/planning/competitive-planning-process/redacted-proposals.aspx.

Table 2. 2020/21 Long-Term Window No. 1 - Cluster No. 2 List of Proposals

Proposal ID#	Project Type	Project Description	Estimated Total In-Service Construction Cost ($, millions)	Cost Capping Provisions (Y/N)
227	Greenfield	Old Limestone-Doe Run 500/230kV Project	$73.51	Y
399	Upgrade	Plymouth Meeting-Whitpain 230kV Terminal Upgrades and SmartWires	$8.42	N
704	Upgrade	Plymouth Meeting-Whitpain 230kV Terminal Upgrades	$0.62	N
735	Upgrade	Plymouth Meeting-Whitpain 230kV Line Reconductor	$14.98	N

Final Review and Recommendation

PJM has completed a final review for the proposals listed in **Table 2** 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 satisfied the benefit to cost ratio threshold of 1.25 and solved the required congestion driver.

- *Initial Planning Level Cost Review* – PJM reviewed the estimated project cost submitted by the project sponsor and any relevant cost containment mechanisms submitted.
- *Initial Feasibility Review* – PJM reviewed the overall proposed implementation plan to determine if the project, as proposed, can feasibly be constructed.

The performance reviews yielded the following results:

1. All proposals passed an N-1 thermal flowgate screening.
2. All proposals addressed the congestion driver by significantly decreasing or eliminating congestion on the target driver ME-6. The proposals did not create significant congestion on other facilities.
3. Proposal Nos. 399, 704, and 735 yield benefit to cost ratios above 1.25. Proposal No. 227 yields a benefit to cost ratio below 1.25 (see **Table 3**).

Table 3. 2020/21 Long-Term Window No. 1 - Cluster No. 2 Comparison of Anticipated Costs and B/C Ratios

Proposal ID#	Project Description	In-Service Date	Estimated Total Construction Cost ($, millions)	B/C Ratio Metric	B/C Ratio	Percent of Congestion Alleviated
227	Old Limestone-Doe Run 500/230kV Project	6/1/2025	$73.51	Low voltage	1.09	99.80%
399	Plymouth Meeting-Whitpain 230kV Terminal Upgrades and SmartWires	6/1/2025	$8.42	Low voltage	5.33	100%
704	Plymouth Meeting-Whitpain 230kV Terminal Upgrades	6/1/2025	$0.62	Low voltage	75.30	99.91%
735	Plymouth Meeting-Whitpain 230kV Line Reconductor	6/1/2025	$14.98	Low voltage	3.23	100%

The cost review shows cost commitment provisions from Proposal No. 227 that, in summary, will cap ROE incentives for the project cost portion that exceeds estimated designated project capital costs. Proposal Nos. 704, 735, and 399 do not contain cost commitment provisions.

Proposal No. 227 incorporates greenfield construction that will require new or additional easements, and which may impact the ability to timely complete the proposal.

A high level review of the plans identified in the proposals did not reveal any other concerns.

Proposal No. 704 yields a robust benefit to cost ratio that far exceeds all other proposals. PJM performed reliability analysis on Proposal No. 704 and no reliability violation was identified associated with this solution.

PJM presented a First Read of the Initial Performance Review and Recommended Solution for Proposal No. 704 at the November 2nd, 2021 TEAC meeting. No stakeholder comments in opposition to the selected solution were received at that meeting nor afterward via Planning Community.

Informational Sensitivity Analyses

For proposals that passed the B/C ratio threshold and addressed the congestion driver, PJM also completed a set of informational sensitivity analyses. The results for the sensitivity analyses can be found in the Market Efficiency Update, Appendix A, presented at the November 2nd, 2021 TEAC meeting[1].

Recommended Solution

Based on this information, Proposal No. 704 is the more efficient or cost effective solution in Cluster No. 2 with a projected in-service date of 6/1/2025.

PJM will submit Proposal No. 704 to the PJM Board for review and approval to include in the RTEP at its February 2022 meeting.

[1] https://www.pjm.com/-/media/committees-groups/committees/teac/2021/20211102/20211102-item-03-market-efficiency-update.ashx