

A decorative graphic of thin, white, wavy lines flows across the top half of the page, starting from the left and curving towards the right.A horizontal bar with several colored segments (green, grey, yellow, blue, orange, pink, light blue) spans the width of the page, separating the header from the main content.

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

Version 1

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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 flowgates that were put forward for proposals as part of the 2020/21 Long-Term Window 1. Specifically, Cluster No. 2 - discussed in this Initial Review and Screening report - includes the flowgate listed in **Table 1**.

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

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

Proposals Submitted to PJM

PJM opened the 2020/21 Long-Term Window No. 1 for 120 days beginning January 11, 2021 and closing May 11, 2021. For this window, four proposals were evaluated from 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

Initial Review and Screening

PJM has completed an initial review and screening of the proposals listed in **Table 2** above based on data and information provided by the project sponsors. This review and screening 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.

Initial performance reviews yielded the following results:

1. All proposals passed a preliminary N-1 thermal flowgate screening.
2. All proposals addressed the congestion driver by significantly decreasing the congestion on flowgate ME-6. The proposals did not create significant congestion on any additional flowgates.
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.

An initial 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 each of the four proposals did not reveal any other concerns at this stage of PJM's review.

Informational FSA Sensitivity

PJM completed an informational sensitivity of the proposals listed in Table 2. The sensitivity was conducted using a generation expansion plan that included additional generation, specifically generators which were added as part of the FSA (Facility Study Agreement) sensitivity. Proposal Nos. 399 and 704 yield benefit to cost ratios above 1.25. Proposal Nos. 227 and 735 yield benefit to cost ratios below 1.25.

Initial Review Conclusions and Next Steps

Proposal Nos. 399, 704, and 735 all exceed the benefit to cost ratio threshold of 1.25. Proposal No. 227 fails to meet the benefit to cost ratio threshold of 1.25. Proposal No. 704 yields a robust benefit to cost ratio that far exceeds all other proposals. All proposals addressed the congestion driver by significantly decreasing the congestion on flowgate ME-6. In all four proposals there is no significant shift of congestion.

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

Proposal ID#	Project Description	Estimated Total Construction Cost (\$, millions)	B/C Ratio Metric	B/C Ratio	Percent of Congestion Alleviated
227	Old Limestone-Doe Run 500/230kV Project	\$73.51	Low voltage	0.84	99.81%
399	Plymouth Meeting-Whitpain 230kV Terminal Upgrades and SmartWires	\$8.42	Low voltage	6.18	100%
704	Plymouth Meeting-Whitpain 230kV Terminal Upgrades	\$0.62	Low voltage	77.06	97.82%
735	Plymouth Meeting-Whitpain 230kV Line Reconnector	\$14.98	Low voltage	2.60	100%

Based on this information, Proposal No. 704 appears to be the more efficient or cost effective solution in Cluster No. 2. PJM performed preliminary reliability analysis on Proposal No. 704 and no reliability violations were identified. PJM anticipates a retol of the Market Efficiency case that will be used to conduct a final review of all proposals. PJM intends to share the results of this final review with stakeholders at the December TEAC. After which a final recommendation will be made to the PJM Board for review and approval.