



Transmission Expansion Advisory Committee (TEAC) Recommendations to the PJM Board

PJM Staff White Paper

PJM Interconnection
October 2023

For Public Use

This page is intentionally left blank

Contents

I.	Executive Summary	1
II.	Baseline Project Recommendations	1
III.	Baseline Reliability Projects Summary	1
IV.	Changes to Previously Approved Projects	2
	A. Scope/Cost Changes	2
V.	Review by the Transmission Expansion Advisory Committee (TEAC)	2
VI.	Cost Allocation	2
VII.	Board Approval	2
VIII.	Attachment A – Reliability Project Single-Zone Allocations	3
IX.	Attachment B – Reliability Project Multi-Zone Allocations	4

I. Executive Summary

On July 12, 2023, the PJM Board of Managers approved changes to the Regional Transmission Expansion Plan (RTEP), totaling a net increase of \$925.02 million for baseline projects, to resolve baseline reliability criteria violations and address changes to existing projects.

Since then, PJM has identified new baseline reliability criteria violations, and the transmission system enhancements needed to solve them, at an estimated cost of \$2.33 million. Scope changes to an existing project will result in a net decrease of \$1.64 million. This yields an overall RTEP net increase of \$0.69 million, for which PJM recommended Board approval. With these changes, RTEP projects will total approximately \$43,034.8 million since the first Board approvals in 2000.

PJM sought Reliability and Security Committee consideration and full Board approval of the RTEP baseline projects summarized in this white paper. On October 3, 2023, the Board approved the addition of RTEP baseline projects as well as other changes to the RTEP as summarized in this paper.

II. Baseline Project Recommendations

A key dimension of PJM's RTEP process is baseline reliability evaluation, which is necessary before subsequent interconnection requests can be analyzed. Baseline analysis identifies system violations to reliability criteria and standards, determines the potential to improve the market efficiency and operational performance of the system, and incorporates any public policy requirements. PJM then develops transmission system enhancements to solve identified violations and reviews them with stakeholders through the Transmission Expansion Advisory Committee (TEAC) and subregional RTEP committees prior to submitting its recommendation to the Board. Baseline transmission enhancement costs are allocated to PJM responsible customers.

III. Baseline Reliability Projects Summary

PJM recommended the approval of two immediate-need reliability projects driven by the Brandon Shores' notice to deactivate and Homer City generator deactivations. Brandon Shores 1 and 2 are coal units in the BGE zone with a total of approximately 1,282 MW capacity with a deactivation request of June 2025. In July 2023, the PJM Board approved 500 kV and 230 kV reinforcements related to the Brandon Shores deactivation. PJM recommended an additional 138 kV relay adjustment at Riverton substation on the Riverton-Bethel tap 138 kV line to mitigate remaining issues.

Homer City 1, 2 and 3 are coal units in the PENELEC zone with a total of approximately 1,884 MW capacity that recently deactivated in July 2023. FirstEnergy recently informed PJM of the necessary substation work associated with deactivating the units, and PJM recommended the approval of the additional, necessary substation work to deactivate the units.

A complete listing of all recommended projects and their associated cost allocations is included in Attachment A (allocations to a single zone) and Attachment B (allocations to multiple zones).

IV. Changes to Previously Approved Projects

A. Scope/Cost Changes

The following scope/cost modification was recommended:

DL & APS Transmission Zone

Baseline b3717.1 (install series reactor on Cheswick-Springdale 138 kV line) was originally designated to DL at the Cheswick substation; however, this will be relocated to the APS Springdale substation due to insufficient space at Cheswick. Consequently, the cost of the project has changed from \$9 million to \$7.36 million, resulting in a decrease of \$1.64 million.

V. Review by the Transmission Expansion Advisory Committee (TEAC)

Project needs and recommended solutions as discussed in this report were reviewed with stakeholders during 2023, most recently at the September 2023 TEAC meeting. Written comments were requested to be submitted to PJM to communicate any concerns with project recommendations. No comments have been received as of this white paper publication date.

VI. Cost Allocation

Cost allocations for recommended projects are shown in Attachment A (for allocation to a single zone) and Attachment B (for allocation to multiple zones).

Cost allocations are calculated in accordance with Schedule 12 of the Open Access Transmission Tariff (Tariff). Baseline reliability project allocations are calculated using a distribution factor methodology that allocates cost to the load zones that contribute to the loading on the new facility. The allocations will be filed at FERC no later than 30 days following approval by the Board.

VII. Board Approval

The PJM Reliability and Security Committee is requested to endorse the additions and changes to the RTEP proposed in this white paper and to recommend to the full Board for approval the new projects and changes to the existing RTEP projects as detailed in this white paper. On October 3, 2023, the Board approved the addition of RTEP baseline projects as well as other changes to the RTEP as summarized in this paper.

VIII. Attachment A – Reliability Project Single-Zone Allocations

Upgrade ID	Description	Cost Estimate (\$M)	TO	Cost Responsibility	Required In-Service Date
b3782	Adjust relay settings at Riverton substation on the Riverton-Bethel Tap 138 kV line.	\$0.08	APS	APS	6/1/2025
b3783	Cut and remove the 345 kV and 230 kV generator lead lines at Homer City. Install new station service supply, separate AC station service, separate protection and controls schemes, and review and adjust relay protection settings.	\$2.25	PENELEC	PENELEC	6/1/2025

IX. Attachment B – Reliability Project Multi-Zone Allocations

Upgrade ID	Description	Cost Estimate (\$M)	TO	Cost Responsibility	Required In-Service Date
b3717.1	Install a series reactor on Cheswick-Springdale 138 kV line.	\$7.36	APS	APS (1.93%) / DL (98.07%)	12/31/2024