Final Review and Recommendation
2022 RTEP Proposal Window 1 - Cluster No. 1

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Final Review and Recommendation

As part of its 2022 RTEP process cycle of studies, PJM identified clustered groups of flowgates that were put forward for proposals as part of 2022 RTEP Window No. 1. Specifically, Cluster No. 1 - discussed in this Final Review and Recommendation report - includes those flowgates listed in **Table 1**.

Table 1. 2022 RTEP Proposal Window No. 1 – Cluster No. 1 List of Flowgates

Flowgate	kV Level	Driver
2022W1-GD-S586, 2022W1-GD-W377	138	Thermal

Proposals Submitted to PJM

PJM conducted 2022 RTEP Proposal Window No. 1 for 60 days beginning July 1, 2022 and closing August 30, 2022. During the window, several entities submitted three proposals through PJM's Competitive Planner Tool. 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. 2022 RTEP Proposal Window No. 1– Cluster No.1 List of Proposals

Proposal ID#	Project Type	Project Description	Total Construction Cost M$	Cost Capping Provisions (Y/N)
27	Upgrade	Install a 345KV breaker "R" at Tanners Creek and move the Tanners Creek – East Bend 345kV circuit from the "T" and "T1" line position to the "R" and "R1" line position.	3.07	N
994	Greenfield	Build a new 138 kV 3-breaker ring station called "Johnson Fork" just North of the existing Wesley SW 138 kV station (AEP). Bring the existing Tanners Creek–College Corner 138 kV line (AEP) "in and out" of Johnson Fork. Build a new 138 kV line from Johnson Fork (AEP) to Willey (Duke) stations (13 miles). Install 2 breakers at Willey to terminate the new line.	25.52	Y
446	Greenfield	Build a new 138 kV 4-breaker ring station called "Pribble." Bring the existing Tanners Creek–College Corner (AEP) & Miami Fort–Hubbell (Duke) 138 kV lines "in and out" of Pribble station. Rebuild Tanners Creek–Pribble 138 kV (5 miles) and upgrade station equipment at Tanners Creek 138 kV. Rebuild Pribble-Miami Fort 138 kV (6 miles).	39.7	Y

Proposal ID#	Project Type	Project Description	Total Construction Cost M$	Cost Capping Provisions (Y/N)
893	Greenfield	Build a new 345 kV line from Tanners Creek station (AEP) to Miami Fort (Duke) station (11.4 miles). Rebuild a portion of the existing Tanners Creek – Hanna 345 kV and Greendale – Miami Fort 138 kV lines to double circuit (4 & 3 miles respectively) to facilitate construction of the new line. Install 1 breaker at Tanners Creek and 2 breakers at Miami Fort to terminate the new line.	58.11	Y

PJM Identified Option

Besides the proposals submitted through 2022 RTEP Window 1, PJM also identified that part of the existing supplemental project s2585 is a candidate for solving the identified violations. As originally submitted to PJM part of the M3 supplemental process, S2585 is to address the Dayton supplemental needs: Dayton-2020-011, Dayton-2021-001, and Dayton-2021-008. The project was initially presented on 8/16/2021 and posted to Dayton 2022 local plan. The detailed AEP scope of the project was presented on 11/18/2022. The portion of the S2585 project that needs to be converted to baseline is described below:

S2585.2: Construct a 138kV 1.86-mile single circuit transmission line from New Westville – AEP Hayes station. (**B3766.1**) Estimated Cost: $3.7M, Projected IS date: 12/31/2025
S2582.3: Construct a new approximate 11-mile single circuit 138kV line from New Westville to the Lewisburg tap off 6656. Convert a portion of 6656 West Manchester – Garage Rd 69kV line between West Manchester - Lewisburg to 138kV operation (circuit is built to 138kV). This will utilize part of the line already built to 138kV and will take place of the 3302 that currently feeds New Westville. The 3302 line will be retired as part of this project. (**B3766.2**) Estimated Cost: $16.0M, Projected IS date: 12/31/2026
S2582.4: The West Manchester Substation will be expanded to a double bus double breaker design where AES Ohio will install one 138kV circuit breaker, a 138/69kV transformer, and eight new 69kV circuit breakers. (**B3766.3**) Estimated Cost: $9.9M, Projected IS date: 12/31/2026
S2582.11: Hayes – New Westville 138 kV line: Build ~0.19 miles of 138 kV line to the Indiana/ Ohio State line to connect to AES's line portion of the Hayes – New Westville 138 kV line with the conductor size 795 ACSR26/7 Drake. (**B3766.4**) Estimated Cost: $0.38M, Projected IS date: 12/31/2025
S2582.12: Hayes – Hodgin 138 kV line: Build ~0.05 miles of 138 kV line with the conductor size 795 ACSR26/7 Drake. (**B3766.5**) Estimated Cost: $1.22M, Projected IS date: 12/31/2025
S2582.13: Hayes 138 kV: Build a new 4-138 kV circuit breaker ring bus. (**B3766.6**) Estimated Cost: $7.44M, Projected IS date: 12/31/2025

Total Estimated cost: $38.64M

The projected IS date (12/31/2026) is before the required system reliability need IS date (6/1/2027) to address the violations summarized in **Table 1**.

Final Review

PJM has completed a Final review of the proposals listed in **Table 2** and PJM identified the option described in the preceding section based on data and information provided by the project sponsors as part of their submitted proposals. This review included the following preliminary analytical quality assessment steps:

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

Performance reviews yielded the following results:

1. Proposals 27, 996, 446, 893 and PJM identified option solve all the flowgates listed in **Table 1**.
2. Proposal 27 still leaves the highest loading on the College Corner - Collinsville 138kV line at 99.4% of the emergency rating in winter generator deliverability test for a different contingency.

Initial cost reviews show a cost commitment provision was included in Proposal Nos. 996, 446, and 893 offering, in summary, a cap on capital costs; Proposal No. 27 did not include cost commitment provisions.

PJM also notes that the PJM identified option, Proposal Nos. 996, 446 and 893 incorporate greenfield construction which may impact the ability to timely complete the project. A high level review of the plans identified in the proposals does not reveal concerns at this stage of review.

PJM presented a First Read and Second Read of the Initial Performance Review and Recommended Solution at the December 2022, and January 2023, TEAC meetings, respectively. No stakeholder comments in opposition to the selected solution were received at those meetings nor afterward via Planning Community.

Additional Benefits

In order to ensure that PJM develops more efficient or cost effective transmission solutions to identified regional needs, RTEP Process consideration must be given to the additional benefits a proposal window-submitted project may provide beyond those required to solve identified reliability criteria violations. As discussed in Section 1.1 and Section 1.4.2 of PJM manual 14B, Transmission Owner Attachment M-3 needs and projects must be reviewed to determine any overlap with solutions proposed to solve the violations identified as part of opening an RTEP proposal window.

A review of these overlaps as part of PJM's 2022 Window No. 1 screening has identified potential benefits beyond solving identified reliability criteria violations. The PJM identified option, baseline conversion of part of existing supplemental project s2585, also solves supplemental needs: Dayton-2020-011, Dayton-2021-001, and Dayton-2021-008, which all need to be constructed anyway to address the supplemental needs. The conversion doesn't cause any additional transmission cost.

Final Review Conclusions

As explained in the previous section, the conversion of part of s2585 (s2585.2, s2585.3, s2585.4, s2585.11, s2585.12, s2585.13), will address the Dayton supplemental needs: Dayton-2020-011, Dayton-2021-001, and Dayton-2021-008 and at the same time address the identified reliability needs. PJM understands that the supplemental needs would not be resolved by any of the other submitted proposals 27, 996, 446, and 893, leaving the RTEP exposed to increased costs as then the scopes of work for any of these proposals would need to be pursued and costs for both scopes (supplemental and baseline) of work would be incurred.

Recommended Solution

Based on the summary above, the PJM identified option to convert portions of Dayton Supplemental project s2585 (s2585.2, s2585.3, s2585.4, s2585.11, s2585.12, s2585.13) to PJM baseline upgrades, is the most efficient and cost-effective solution in cluster No. 1, with a total cost of $38.64 M and required in-service date of 6/1/2027.

PJM's planning level cost review and feasibility review suggests that further constructability review and financial analysis would not materially contribute to the analysis of the other proposals submitted for this cluster.

PJM reviewed this Recommended Solution with stakeholders at the January 10, 2023 TEAC. A final recommendation will be made to the PJM Board at its meeting scheduled in February 2023 for PJM Board review and approval.