Initial Review and Screening
2020 RTEP Proposal Window 1 – Cluster No. 7

Version 2

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2020 RTEP Proposal Window 1 – Cluster No. 7

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 No. 7 - discussed in this Initial Review and Screening report - includes those flowgates listed in **Table 1**.

Table 1. 2020 RTEP Window No. 1 - Cluster No. 7 List of Flowgates

Flowgate	kV Level	Analysis
N1-ST41, N1-ST42, GD-S298, GD-S446, GD-S315, AEP-T219, AEP-T221, AEP-T222, AEP-T223, AEP-T225, AEP-T226, AEP-T227, AEP-T228, AEP-T229, AEP-T230, AEP-T231, AEP-T232, AEP-T233, AEP-T234, AEP-T237, AEP-T238, AEP-T239, AEP-T240, AEP-T243, AEP-T244, AEP-T250	69kV, 138kV	Thermal, Generation Deliverability

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 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. 2020 RTEP Proposal Window 1 – Cluster No. 7 List of Proposals

Proposal ID#	Project Type	Project Description	Total Construction Cost M$	Cost Capping Provisions (Y/N)
270	Greenfield	Birch Ridge - Natrium 138kV Transmission Project	16.64	Y
804	Upgrade	Kammer-Natrium Upgrades	4.6	N
538	Upgrade	Natrium Area Line Reconfiguration	5.64	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 as part of their submitted proposals. This review and screening included the following preliminary analytical quality assessment:

- *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 containment 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. No significant difference among the three proposals as to their respective ability to solve the identified reliability criteria violations.
2. No creation of additional reliability criteria violations.

Initial cost reviews show a cost commitment provision was included in Proposal No. 270 offering, in summary, a cap on capital costs; Proposal Nos. 804 and 538 did not contain cost commitment provisions.

PJM also notes that Proposal No. 270 incorporates 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 any concerns at this stage of review.

Additional Benefits

To facilitate PJM's identification of more efficient or cost effective transmission solutions to identified regional needs, PJM may consider the secondary 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 are to 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 2020 Window No. 1 screening has identified potential benefits beyond solving identified reliability criteria violations. Based on the information provided by the sponsor, Proposal No. 804 will address needs associated with aging infrastructure as outlined below:

- From 2015 – 2020 the Kammer-Natrium 69kV circuit has experienced 6 momentary and 2 permanent outages resulting in approximately 100k CMI.
- The Kammer-Natrium 69kV circuit currently has 41 open conditions on 19 structures (20% of the total structures), including pole damage, rot top, rot heart, rotted/split poles, burnt insulators, and missing ground lead wires.
- 55 structures were replaced in the 2000s; remaining are wood poles from 1950s and 1960s with two steel lattice towers from 1927.

- The Kammer-Natrium 69kV circuit conductor was primarily installed in 1927 consisting of 336 ACSR (3.73 miles) and 556 ACSR (0.5 miles), and 4/0 ACSR (0.8 miles) from 1971. The remainder was replaced in the 2000s with 556 ACSR (2.6 miles).
- Proposal No. 804 is rebuilds overloaded sections of the Kammer-Natrium 69kV circuit that consist of the 1927 era 556 and 336 ACSR (1.17 miles) between Kammer and McElroy stations and the 4/0 ACSR sections (0.72 miles) between Connor Run and Natrium stations. Proposal No. 804 also replaces overloaded bus work and switches at Cresaps, McElroy, and Natrium stations.

Initial Review Conclusions and next steps

Proposal No. 804 solves the identified reliability criteria violations and offers additional benefits in the form of eliminating an Attachment M-3 need (not observed in the other proposals in this cluster), and it does so at a cost that is demonstrated in Table 2 above based on current year dollars and analysis to date. Notably, Proposal No. 804's cost is about $1 million less than Proposal No. 538 and $12 million less than Proposal No. 270, the competing proposal submitted with a cost commitment provision (meaning that Proposal No. 270 has a proposed cost that is 3.5 times greater than the cost in Proposal No. 804).

In addition to being more costly, Proposal No. 270 would require greenfield construction which may impact the ability to timely complete the project. In contrast, Proposal No.804 is an upgrade to existing facilities.

Based on this information, Proposal No. 804 appears to be the more efficient or cost effective solution in cluster No. 7. 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 this cluster.

PJM anticipates conducting a final review that PJM intends to share with stakeholders at the December TEAC after which a final recommendation will be made to the PJM Board for review and approval.