



Final Review and Recommendation

2020 RTEP Proposal Window 1 – Cluster No. 7

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Final Review and Recommendation

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 - which includes competitive proposals 270, 804 and 538 – is discussed in this Final Review and Recommendation report and addresses those flowgates listed in **Table 1 and Figure 1**.

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

Flowgate	Voltage 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

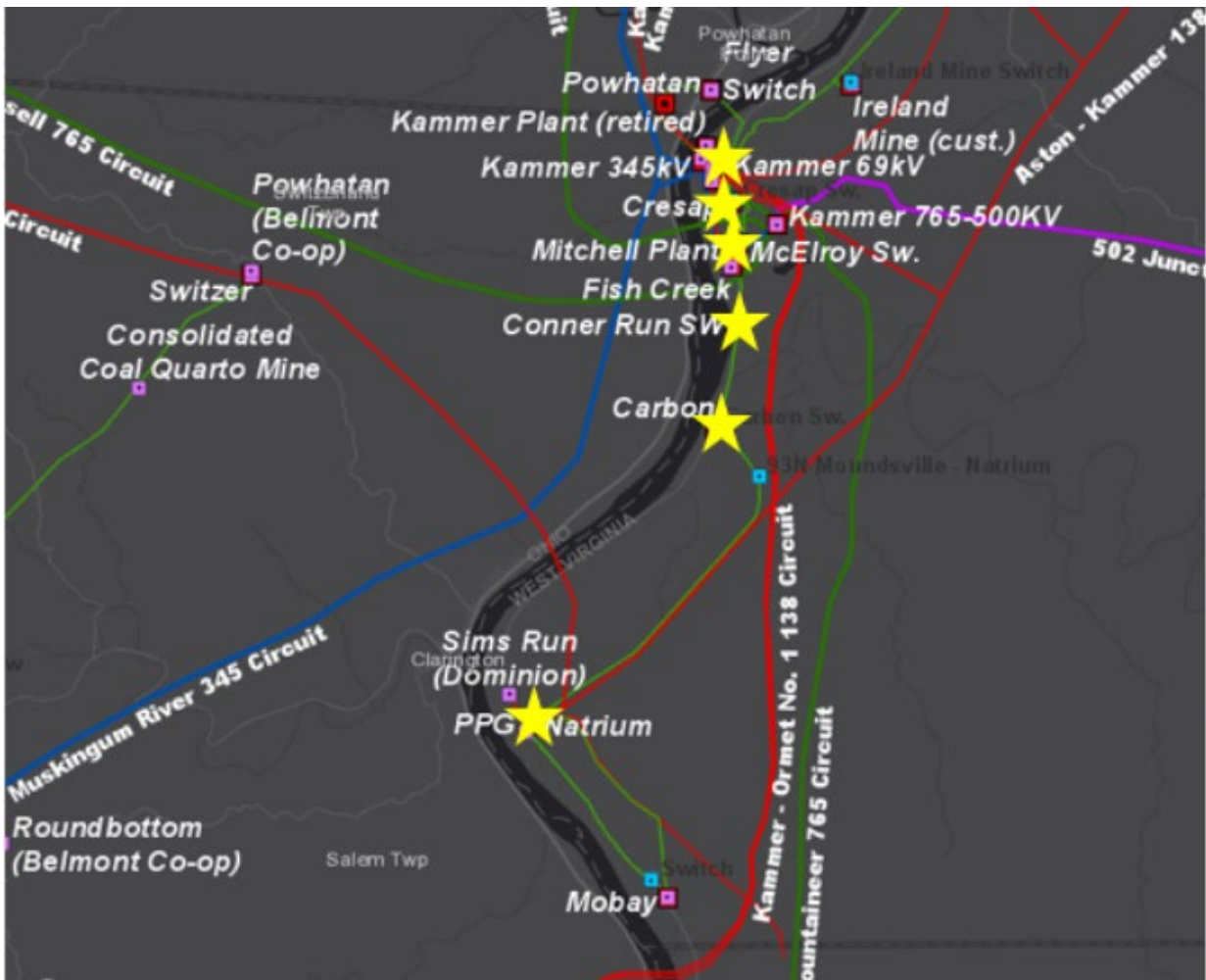
Proposals Submitted to PJM

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 Window No. 1 - Cluster No. 7 Proposal Cost Estimates

Proposal ID Number	Project Type	Project Description	Total Construction Cost Estimate (\$,Million)	Cost Capping Provisions (Y/N)
270	Greenfield	Birch Ridge - Natrium 138 kV New Transmission Line	16.64	Y
804	Upgrade	Kammer-Natrium 69 kV Upgrades	4.60	N
538	Upgrade	Natrium Area Line Reconfiguration	5.64	N

Figure 1 – 2020 RTEP Window No. 1 - Cluster No. 7



Final Review and Recommendation

PJM has completed a Final Review and Recommendation of the proposals listed in **Tables 2** below 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 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
- *M3 Needs Review* – M3 need identified as discussed as part of the Additional Benefits Review

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.

The cost review shows a cost commitment provision – a cap on capital costs - was included in Proposal No. 270. Proposal Nos. 804 and 538 did not contain cost commitment provisions.

PJM notes that Proposal No. 270 incorporates Greenfield construction which has the potential to impact project completion, as discussed below in the Recommended Solution section.

PJM presented a First Read and Second Read of the Initial Performance Review and Recommended Solution at the November 2020, and December 2020, TEAC meetings, respectively. No stakeholder comments in opposition to the selected solution were received at those meetings nor afterward via Planning Community.

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 that 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 reviewed to determine any overlap with solutions proposed to solve the violations identified as part of each 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 aging infrastructure issues as outlined below:

- From 2015 – 2020 the Kammer-Natrium 69kV circuit has experienced 6 momentary and 2 sustained 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 defects such as, top rot, heart rot, rotted/split poles, burnt insulators, and missing ground lead wires.
- 55 structures were replaced in the 2000s; remaining structures are wood poles from 1950s and 1960s with two steel lattice towers from 1927.

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

Recommended Solution

Proposal No. 804 solves the identified reliability criteria violations and offers additional benefits by eliminating an Attachment M-3 need which was not identified in the other proposals in this cluster and does so at the least cost as shown in **Table 2**. Notably, Proposal No. 804's estimated cost is about \$1 million less than Proposal No. 538 and \$12 million less than Proposal No. 270, a competing proposal submitted with a cost commitment provision.

Proposal No. 270, in addition to being more costly, would require Greenfield construction, which experience has shown frequently requires new land acquisition and related state regulatory approvals. Those project activities can negatively impact project schedules. By contrast, Proposal No. 804 comprises an upgrade to existing facilities which typically does not face the same type of project schedule risk.

PJM's initial planning level cost review and feasibility review revealed that further constructability review and financial analysis of other proposals in this cluster was not warranted. Such review would not materially change PJM proposed solution in this cluster: Proposal No. 804 is the more efficient or cost effective solution with a projected in-service date of 6/2025.

PJM presented this Recommended Solution with stakeholders at the December 1, 2020 TEAC. A final recommendation will be made to the PJM Board at its meeting scheduled for February 8th and 9th, 2021 for PJM Board review and approval.