Initial Review and Screening
2023 RTEP Proposal Window 1 - Cluster No. 2

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2023 RTEP Proposal Window No. 1 - Cluster No. 2

As part of its 2023 RTEP process cycle of studies, PJM identified clustered groups of flowgates that were put forward for proposals as part of 2023 RTEP Window No. 1. Specifically, Cluster No. 2 - discussed in this Initial Review and Screening report - includes those flowgates listed in **Table 1**.

Table 1. 2023 RTEP Proposal Window No. 1 – Cluster No. 2 List of Flowgates

Flowgate	kV Level	Driver
2023W1-GD-S554, 2023W1-GD-S1259, 2023W1-GD-S571, 2023W1-GD-S563, 2023W1-GD-S1260, 2023W1-GD-S570, 2023W1-GD-S190, 2023W1-GD-S548	345	Thermal

Proposals Submitted to PJM

PJM conducted 2023 RTEP Proposal Window No. 1 for 60 days beginning July 24, 2023 and closing September 22, 2023. During the window, several entities submitted six 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. 2023 RTEP Proposal Window No. 1 – Cluster No. 2 List of Proposals

Proposal ID#	Project Type	Project Description	Total Construction Cost M$	Cost Capping Provisions (Y/N)
35	UPGRADE	Reconductor 18.7 miles of 345 kV lines 11620 & 11622 from Elwood to Goodings Grove with two conductor bundled 1033.5 ACSS conductor. Modify and replace towers as necessary to accommodate the higher mechanical loads of the bundled conductor.	61.84	N
138	GREENFIELD	Install two new 345 kV circuits from Elwood to Joliet for a distance of approximately 8 miles.	97.50	N
663	GREENFIELD	The Elwood - Joliet 345kV transmission project consists of an approximately 4 mile double circuit 345kV transmission line from the Elwood Substation to the Joliet Substation.	29.37	Y
937	UPGRADE	Apply conductor coating to lines 11620 & 11622 from Elwood to Goodings Grove. The coating increases emissivity and reduces absorptivity of the conductor, allowing for increased ratings. This technology was presented at PJM's Emerging Technology Forum on 3/17/21.	8.52	N

Initial Review and Screening

PJM has completed an initial review and screening 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 and screening included the following preliminary analytical quality assessment:

1. *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.
2. *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.
3. *Initial Feasibility Review* – PJM reviewed the overall proposed implementation plan to determine if the project, as proposed, can feasibly be constructed.
4. *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:

PJM's initial performance review showed that all 4 proposals solve the posted/intended reliability criteria violations. However proposal 937 only just brought the loading below the required 100% threshold, and so was not considered further. PJM's short circuit analysis showed additional overdutied breakers for the remaining 3 proposals (proposals 35, 138 and 663).

Initial planning level cost reviews yielded the following results:

PJM's reviewed the remaining 3 proposal components and costs, and made adjustments based on the following:

- Where more accurate scope and costs were known from the incumbent TO
- Additional scope and cost required to address the identified overdutied breakers

The below **Table 3** provides a summary of PJM's independent review of the remaining 3 proposals. Additional scope considered in PJM's independent review is marked in red under the Project Description.

Table 3. 2023 RTEP Proposal Window No. 1 – Cluster No. 2 Summary of Independent Proposal Review

Proposal ID	Proposing Entity	Project Type	Project Description	Proposal Cost ($M)	Independent Cost ($M)	Independent Cost Adjustment Reasoning
35	COMED	UPGRADE	Reconductor 18.7 miles of 345 kV lines 11620 & 11622 from Elwood to Goodings Grove with two conductor bundled 1033.5 ACSS conductor. Modify and replace towers as necessary to accommodate the higher mechanical loads of the bundled conductor. Adjust reclosing cycle on for Goodings Grove 345 kV circuit breaker '116 9806' to eliminate the reclosing derating (zero cost).	61.84	61.84	Include scope to adjust reclosing for one of the breakers at Goodings Grove 345 kV at no additional cost.
138	COMED	GREENFIELD	Install two new 345 kV circuits from Elwood to Joliet for a distance of approximately 8 miles. Inclusion of additional breaker replacements at Lockport 345 kV.	97.5	102.7	Cost adjusted to account for 2 additional breaker replacements at Lockport 345 kV ($5.2 M).
663	CNTLTM	GREENFIELD	The Elwood - Joliet 345kV transmission project consists of an approximately 4 mile double circuit 345kV transmission line from the Elwood Substation to the Joliet Substation. Inclusion of ComEd substation scope of work from proposal 138 and additional breaker replacements at Lockport 345 kV.	29.37	58.02	The substation components were replaced with those from proposal 138 as ComEd identified the work required at their substations. Cost also adjusted to account for 2 additional breaker replacements at Lockport 345 kV ($5.2 M).

Initial feasibility reviews yielded the following results:

PJM conducted a feasibility review in the form of risk assessment, for which the criteria is shown below in **Table 4**. The summary of the risk assessment is shown in **Table 5**. Proposal 35 considerations include the lack of cost containment and potential outage coordination concerns with the planned reconductor of Elwood-Goodings Grove 345 kV double circuit. However, it is a Brownfield solution utilizing existing ROW, and is most likely to be constructed by the required in-service date. Proposal 138 considerations include the lack of cost containment also, and general constructability and schedule risks associated with a Greenfield solution. Proposal 663, while it includes cost containment provisions, there is risk for incremental cost increase should the route deviate from that which was proposed. The route proposed has more potential permitting concerns than alternate longer route proposed by proposal 138. A higher schedule risk is also assigned to proposal 663, taking into consideration that the proposing entity would need to apply to become an incumbent TO in the state of IL.

Table 4. PJM Risk Assessment Criteria

PJM Risk Assessment Criteria						
Risk Assessment	Cost Estimate Risks	Cost Containment Risk	Schedule Risks	Constructability Risks	Use of Existing ROW/Brownfield	Outage Coordination Risks
Low	Greater than or within 10% of Independent Estimate	Hard cost cap	Ratings assessed based on independent assessment of proposed in-service	Ratings assessed based on independent assessment of the number and severity	Rebuild/Reconductor Upgrades or Pure Brownfield	Minimal existing facility outages required, beyond short outages to cut-in to existing facilities

Medium	Within 10-30% of Independent Estimate	Soft cost containment (e.g. ROE caps)	dates, and assessment of significant schedule risks such as such as permitting and constraint mitigation, long-lead material procurement, land/ROW acquisition, construction complexity.	of constructability risks assessed for the proposed project scope, such as permitting and constraint mitigation, land/ROW acquisition, construction complexity.	Mostly Brownfield (i.e. Uses/Overlaps existing ROW but requires expansion)	Significant existing facility outages required, with reasonable outage coordination plan proposed
Medium-High	Within 30-50% of Independent Estimate	Less than comprehensive cost containment/Problematic Exclusions			Greenfield paralleling existing ROW	Significant existing facility outages required, with no coordination plan proposed
High	Less than 50% of Independent Estimate	No cost containment			Pure Greenfield	Significant existing facility outages required, with known operational concerns and no coordination plan proposed.

NOTE:
• PJM conducted its constructability evaluation of the project data submitted by proposers to evaluate the constructability, cost estimation, and cost containment risks of the projects.
• This risk assessment is not intended as a pass/fail or quantitative test, but rather as qualitative information on potential risks PJM has considered along with the reliability performance in selection of the finalist scenarios, and ultimately the recommended solution.

Table 5. PJM Risk Assessment Summary for 2023 Window No. 1 – Cluster No. 2

Proposal ID	Proposing Entity	Project Type	Proposal Cost ($M)	Independent Cost ($M)	Cost Estimate Risks	Cost Containment Risks	Schedule Risk	Constructability Risks	Use of Existing ROW & Brownfield	Outage Coordination Risks
35	COMED	UPGRADE	61.84	61.84	Low	High	Low	Low	Low	Medium
138	COMED	GREENFIELD	97.5	102.7	Low	High	Medium	Medium	High	Low
663	CNTLTM	GREENFIELD	29.37	58.02	Medium-High	Medium-High	Medium-High	Medium-High	High	Low

While PJM's planning level cost review shows that proposals 35 and 663 are comparable in cost, the feasibility review shows that proposal 35 poses less risk. For this reason PJM recommends proposal 35 to resolve the 2023 Window No. 1 Cluster No. 2 FGs.

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 2023 RTEP Proposal Window No. 1 screening has not identified any potential benefits beyond solving identified reliability criteria violations. However, the submitted proposals to provide the following additional benefits as identified by the proposing entity:

- **Proposal 35:** None noted.
- **Proposal 138:** Lessens the impact of the loss of Goodings Grove by providing a path for power from the generation congested Elwood area to the northern part of the ComEd system without going through Goodings Grove.
- **Proposal 663:** None noted.
- **Proposal 937:** Introduces new technology on the PJM system.

Initial Review Conclusions and next steps

Considering PJM's initial review and screening, proposal 35 appears to be the more efficient or cost effective solution in Cluster No. 2. 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.