

## July 2022 Proposal Window Questions and Answers

### ***Scenario Development & Reliability Analysis***

**Are the Option 1A performance results in these slides all using the default POIs?**

Yes, the Option 1a performance results were examined under the default POIs. NJ may select a subset of the 26 scenarios that were examined. PJM would rerun the performance analysis on those selected scenarios for Option 1a proposals in competitive proposal clusters.

**The first topic involves the submarine cable project Transource proposed (Proposal ID 419) for which PJM appears to have identified an additional violation. We would appreciate knowing more about that additional violation and understand the planning assumptions and conditions that produced that additional violation. For Project ID 419 within the Southern NJ Cluster, in what model (season and year) did PJM see the new Bridgeport – Mickleton 230 kV overload? What was the % loading?**

Bridgeport – Mickleton is overloaded in the 2028 summer generator deliverability study with the addition of Option 1a proposal 419 for certain stuck breaker and bus faults that outage sections of the parallel 230 kV path from Mickleton to Chichester.

**The second topic pertains to the Transource North Delta (A and B) proposals (Proposal IDs 63 and 296) that PJM flagged as a low cost no frills solution or a more robust solution with greater operational flexibility. We were hoping that those characteristics would be referenced in the main portion of the presentation as opposed to (or in addition to) just being referenced in the appendices.**

PJM and the NJ BPU have not made any decisions with regard to which Option 1a proposal may be selected to move forward for approval. PJM welcomes the additional feedback on other benefits of proposals and will take these under consideration in the final selection. PJM plans to have further discussions with the TEAC as this selection process unfolds.

**I wanted to follow up on the question I had about the MVA rating for Project 594. You had mentioned that the project was capable of 4890MW....when I look at the bid, it shows that there are only 8 AC cables with a normal rating of 589 MVA. Good for approximately 4700 MVA. Are you saying the 4890 MW is achieved, where by installing more cables beyond the 8....(I believe they could expand to 12)...so 12 AC cables, @ 589 MVA, good for 7068 MVA...which converter to MW, is the 4890?**

Project 594 has an expansion option to go from a 4,000 MW injection involving eight, 345 kV submarine cables upward to a 6,000 MW involving 12, 345 kV submarine cables. The 4,890 MW injection scenario involved ten, 345 kV submarine cables.

**We have a few questions regarding the PJM Review process and POI Scenarios.**

- 1. Does PJM see the results presented 7/18 as (i) results for POIs where different proposal combinations and optimization of proposal combinations will be made later in further analysis, or (ii) results for POIs + the Specific Proposals and no further combinations will be reviewed going forward? For example,**
  - MAOD proposal 431 could be swapped in for POI scenarios 1.1, 1.2, 1.2a, 1.2b, etc.
  - PSEGRT Proposal 613, that 1200 MW at Larrabee could be swapped in for any other 1200 MW at Larrabee listed.

2. If no further combination / optimization of proposal combinations will be considered in further analysis, how were the combinations determined?
3. Scenario 2c is the only instance of 1148 +1510 at Cardiff. If this results in significant costs, would MAOD 551 effectively be removed from consideration?
4. Has PJM reviewed MAOD Proposal 431? From the email below, we understood it would be studied when/if lower MW warranted investigation. From the latest TEAC POI scenarios we note several scenarios with proposal combinations including 2400 MW or smaller included (e.g., 1.1, 1.2, 1.2a) while still achieving the overall total of 7500MW.
5. If PJM has not reviewed MAOD Proposal 431, will begin its review, similar to other 2400 MW Proposals (and smaller) from others currently under review (e.g., 1.1, 1.2, 1.2a)?

At this time, PJM does not anticipate studying further combinations of proposals. However, PJM will confer with NJ BPU on whether additional scenarios are necessary. The Point of Injection (POI) scenarios were determined based on the proposals submitted and selected for study based on consultation with NJ BPU. PJM has assessed the proposals and completed the evaluation to identify the list of proposals and combinations that satisfy the public policy criteria and reliability criteria and presented the results to NJ BPU for their consideration. NJ BPU is conducting its own evaluation and will decide whether any modifications may be appropriate or if any proposals are removed from consideration. NJ BPU may consider similar alternatives that inject at the same POI.

The table on slide 8 identifies 110 MW of Excess Capacity for Option 1b Proposals 781 and 629. However, the identified 5,000 MW limit is based on the associated 10-cable Option 2 facilities, and such limit doesn't apply to the Option 1b only facilities. The Option 1b proposals are able to accept a greater amount of power, for example from an OSW connecting directly to the Option 1b proposal at Lighthouse. Proposal #781 can accept 6,000 MW total and therefore should have 1110 MW of Excess Capacity. Proposal #629 can accept 5,600 MW total and therefore should have 710 MW of Excess Capacity.

PJM will update the tables to reflect this information.

Regarding slides 11-13, can PJM identify the Option 1a projects that are required for each scenario to arrive at the Option 1a cost estimates with each scenario? For example, we want to ensure that Proposals 180.1, 180.2, 180.5, and 180.6 are not included with the scenarios including Proposal 629/781 as we believe they would not be required.

PJM will post a workbook along with the reliability analysis report to show the reliability violations and associated onshore upgrades that were identified for each scenario.

## ***Constructability and Financial Analysis***

APT would like to inquire as to why the performance of our proposals 172, 210, and 769 are not represented on the NPV Scenario graphs on TEAC Slides 54 and 55? We believe that significant value related to our project should be represented in these graphs. Because our project costs do not change under the different scenarios presented, based on the terms of our bid (pre-determined revenue requirements), the fair way to express the performance of APT's proposals would be a straight line across the X-axis. APT's projects belong in this visual representation of risk to New Jersey under the conditions evaluated.

- PJM was unable to evaluate APT proposals using the modeled scenarios, because unlike other bidders, APT proposed a pre-determined revenue requirement approach instead of the standard approach.

- APT provided a fixed annual transmission revenue requirement (ATRR) schedule, starting with a first-year value intended to be lower than what would be the case if the standard approach was used. From years 2 and beyond, the revenue requirement grows annually, resulting in a gradually increasing ATRR schedule. APT’s proposal also includes a one-time adjustment factor to the ATRR schedule, where the adjustment factor itself and the approach APT would use to determine this factor are both unknown.
- APT stated that the proposed revenue schedule improves the intergenerational equity of cost recovery and allows for a much lower initial impact on ratepayers. Because the APT schedule was not calculated using the standard cost-of-service methodology, our scenario comparisons, described above, could not be applied to the APT proposals. The one-time adjustment factor meant to reflect changes in commodity prices, foreign exchange rates, etc., could also result in increases in cost recovery by an unknown percent, given the vagueness of its definition.
- This ambiguity is why PJM elected not to express the performance of APT’s proposals relative to other projects under different scenarios as a straight line across the X-axis, as suggested above.

**PJM’s constructability risk assessment makes it difficult to understand project assessments. PJM has presented a color-coded chart without clear explanation of the grading scale and how the assessments were derived.**

- PJM conducted its constructability evaluation of the project data submitted by proposers, engaged expert consultants to evaluate the constructability and permitting risks of the projects, the findings of which were found to be consistent with that of NJDEP regarding permitting in New Jersey.
- The constructability risk assessment is not intended as a pass/fail test, but rather as qualitative information on potential risks for NJ BPU to take into consideration in its independent evaluation. All proposals were found to be constructible as a result of PJM’s constructability review and remained under consideration.
- PJM’s constructability risk assessment scale is provided as follows:
  - A Low (Green) risk assessment is an indication that there are relatively minor potential risks to cost and schedule of the project identified by the constructability evaluation.
  - Medium (Yellow) and Medium-High (Orange) risk assessments are indications that there are moderate to significant potential risks identified in the evaluation, which if encountered would introduce significant delays or cost increases for the project. Neither of these are indications that a project is not viable as proposed, but a relative assessment of potential risks to a project that should be considered for a project if not properly mitigated.
  - A High (Red) risk assessment represents a severe potential risk identified by the evaluation, and is reserved for projects that may threaten the feasibility of the project as proposed, if left unmitigated.
  - Note that only one proposal (out of the 80 submitted) was assessed High risk due to its proposed substation land parcel proposed for construction on a State Park, and was also flagged by the NJDEP as a significant concern.

**PJM’s constructability analysis shows little differentiation among bidders. For example, multiple bidders are marked “medium” risk, presumably because of the need for BOEM permits. However, in the case of Coastal Wind Link, our project design ensures that the BOEM permitting process for the transmission project is kept separate from permitting for offshore wind farms, thus mitigating the level of risk for our project relative to other bidders.**

**PJM’s analysis does not clearly identify bidder experience and prior track record as differentiators. This is critical because depth of experience and prior successes are key for mitigating the risks associated with complex infrastructure projects. Moreover, PJM’s competitive transmission Manual 14F requires that it consider experience as a factor in its analysis.**

- PJM assessments are conservative in nature:
  - They are based on the routing/siting of the project and the potential issues that the entities may encounter in constructing the project.
  - In some cases, the findings may be appropriately mitigated, either by an entity’s experience and planning, or by an entity’s use of existing ‘pre-disturbed’ ROW. However, there is still a possibility of encountering issues during construction, especially if expansion beyond the existing ROW is required, and the fact that protected resources may have moved in since the initial disturbance of the ROW, potentially resulting in additional permitting. This is a key point stressed by the NJDEP during our discussions, and factors into PJM’s conservative stance in identifying potential risks.
  - An entity’s experience and their mitigation plans for the potential constructability risks, however, were part of the information requested as part of the NJ OSW SAA proposal window, and are important factors in the NJ BPU’s evaluation and decision process.

**PJM’s financial analysis does not reflect an apples-to-apples cost comparison. We are concerned that, unlike Coastal Wind Link, several bidders have heavily redacted the cost of their proposals. We are also concerned that PJM has misunderstood Coastal Wind Link’s cost cap proposal and that PJM’s financial analysis lacks a true apples-to-apples cost comparison of the proposals. In addition, the analysis does not recognize that Coastal Wind Link has cost caps on all seven of its proposals.**

**PJM’s analysis also erroneously shows large swings in project cost for changes in variables that Coastal Wind Link has in fact capped and would have zero customer impact. As a result of these flaws, PJM’s conclusions regarding Coastal Wind Link’s costs and cost containment mechanisms are inaccurate.**

- There are clarifications for materials presented in the TEAC slides that will be addressed in the financial analysis report that will be posted by PJM:
  - PJM recognizes that the financial analysis does not reflect an apples-to-apples cost comparison. In comparing the projects, PJM grouped projects addressing similar problem statements (Option 1b only, Option 1b/2, Option 1a – Peach Bottom – Conastone projects), and also accounted for the different injection levels each project provides, by evaluating them in terms of \$ per SAA MW.
  - However, even with these attempts to make the comparison of groups of projects more meaningful, PJM recognizes that projects still have key differences that prevent an apples-to-apples comparison. For example, some Option 1b projects do not reach the shore and additional costs would be incurred to similarly situate them to other Option 1b projects that do. The financial analysis report will note that not all the projects are an apples-to-apples cost comparison, and highlight some of the key differences. Nonetheless, the financial analysis provide insight into how the cost capping mechanisms perform relative to other projects.
  - The financial analysis is not intended to provide a precise calculation of a future rate, but rather a relative quantitative assessment of the life cycle costs for each project for the base case

- comparisons, and also relative performance of the cost containment measures proposed under different scenarios. A general note to reflect this is being added in the final report.
- A note on the cost containment summary table in the TEAC slides (Slide 43) made it appear that PJM only accounted for cost caps on the Project 683, and not all 7 of its proposals. The note was only intended to differentiate between PSEG-Orsted Coastal Wind Link projects (all 7 of them), and the PSEG Option 1a projects, which are not cost capped. This will be clarified in the report.
  - PJM’s analysis does recognize the cost caps on all seven of Coastal Wind Link proposals. This was reflected in the Option 1B/2 scenario analysis (slides 55 and 56) where two of Coastal Wind Link Proposals 871 and 683 cost caps are included for comparison.
  - Regarding the swings in project costs changes in the Proposer CapEx +25% scenario, the modeled performance reflects conservative modeling for the provided cost cap description and exclusions.
    - Most developers with Option 1B/2 proposals offer project cost caps, but those with “soft” caps are much less effective in limiting cost overrun risks, compared to “hard” caps.
    - PSEG-Orsted proposed a “soft” cap, with various exceptions to the cost caps aside from uncontrollable force events. The cap is subject to change due to changes in inflation, foreign exchange rates, as well as any delay in project award date beyond July of 2022.
    - PSEG-Orsted also indicated a significant portion of its projects will be purchased in foreign currency. Given the current high inflation rate environment, high exposure to foreign exchange risks, and a later-than-July award date, it is believed that PSEG-Orsted’s various exceptions to the cost cap may result in considerable increase to its project cost cap and ultimately, revenue requirement.
    - This is reflected in the PSEG-Orsted’s proposal 683 and 871 project costs increase by ~20% under the Proposer CapEx +25% scenario although capped, while other projects with “hard” caps increase by a lesser percentage.
    - These modeling details will be included in the report.

**PJM’s analysis does not appear to consider and evaluate other key elements of the proposals, including schedule guarantees and reliability and resilience benefits of Option 3 proposals.**

- Schedule guarantees were reviewed by PJM’s financial consultant for projects that incorporated them, and their modeling indicated that the schedule guarantees made a negligible impact on the relative performance of the projects, and as a result are not highlighted in the financial analysis.
- PJM performed constructability and financial analysis of the Option #3 proposals. PJM acknowledges that Option #3 proposals can provide additional resilience benefits. PJM did not perform reliability studies for the interties but recognizes the resilience benefits that those proposals may offer and will be a consideration

**TEAC Slide 34: Option 1b Only – Constructability Matrix – Environmental Risks shows ACE’s 1B option (proposal 05, 797) is high permitting/routing/siting risk, has Green Acres Impact and Pinelands permit is required.**

**The route we proposed is entirely underground along public right-of-way. The underground duct bank near ACE’s Scull substation will take county route Atlantic 651 also known as Jeffers Landing Road, for approximately 1.3 miles until reaching the intersection of county route Atlantic 559, also known as Somers**

Point Road. The duct bank will then have a large sweep into the westerly direction by turning approximately 90 degrees onto Somers Point Road. The line will continue on Somers Point Road for approximately 1.9 miles until reaching the intersection of English Creek Avenue. At this point the duct bank will turn approximately 90 degrees again in a northerly direction onto English Creek Avenue for another 6.2 miles until reaching the ACE right-of-way into Cardiff substation.

The entire route proposes to use a combination of public rights-of-way and ACE owned property. These details including a .kmz file showing the route was submitted to PJM.

**Can you please provide some insight into why this route was graded as Medium-High for permitting/routing/siting by PJM and where you are seeing Green Acres and Pinelands impact?**

- PJM assessments are conservative in nature:
  - They are based on the routing/siting of the project and the potential issues that the entities may encounter in constructing the project.
  - In some cases, the findings may be appropriately mitigated, either by an entity's experience and planning, or by an entity's use of existing 'pre-disturbed' ROW. However, there is still a possibility of encountering issues during construction, especially if expansion beyond the existing ROW is required, and the fact that protected resources may have moved in since the initial disturbance of the ROW, potentially resulting in additional permitting. This is a key point stressed by the NJDEP during our discussions, and factors into PJM's conservative stance in identifying potential risks.
  - Note that PJM's consultants, the NJDEP, the NJ BPU's consultants, all shared consistent findings regarding the potential Green acres and Pinelands impacts for the ACE's Option 1B proposal 797.

**Slide #34 from the July 18, 2022 TEAC presentation and slide #38 from the August 9, 2022 TEAC presentation, on the Option 1b environmental risks table, PJM identified a permitting/routing/siting medium-high risk for ACE's Option 1b proposal. While we understand that there is a Green Acres impact along with a requirement for a Pinelands permit, it is unclear why the medium-high risk was assigned.**

1. **The entire project is contained in an existing public ROW and on existing ACE owned land. The Pinelands permit pertains to the section of the route contained within ACE owned property which already holds other ACE owned transmission facilities.**
  2. **There's a track record showing that ACE has successfully built projects in the same area, but it appears that ROW ownership and ACE's experience having built transmission facilities in the same ROW were not taken into consideration.**
  3. **Additionally, there are different categories for areas subject to the Pinelands. The presentation does not seem to take that into consideration and automatically assumes a higher risk category. We believe the sensitivity of the area is low and there should be no added risk for the Pinelands permit.**
- PJM assessments are conservative in nature:
    - They are based on the routing/siting of the project and the potential issues that the entities may encounter in constructing the project.
    - In some cases, the findings may be appropriately mitigated, either by an entity's experience and planning, or by an entity's use of existing 'pre-disturbed' ROW. However, there is still a possibility of encountering issues during the construction phase, especially if expansion beyond the existing ROW is

- required, and the fact that protected resources may have moved in since the initial disturbance of the ROW, potentially resulting in additional permitting. This is a key point stressed by the NJDEP during our discussions, and factors into PJM's conservative stance in identifying potential risks.
- An entity's experience and their mitigation plans for the potential constructability risks, however, were part of the information requested as part of the NJ OSW SAA proposal window, and are important factors in the NJ BPU's evaluation and decision process.
  - Note that PJM's consultants, the NJDEP, the NJ BPU's consultants, all shared consistent findings regarding the potential Green acres and Pinelands impacts for the ACE's Option 1B proposal 797.
  - The constructability risk assessment is not intended as a pass/fail test, but rather as qualitative information on potential risks for NJ BPU to take into consideration in its independent evaluation. All proposals were found to be constructible as a result of PJM's constructability review and remained under consideration.
  - Medium (Yellow) and Medium-High (Orange) risk assessments are indications that there are moderate to significant potential risks identified in the evaluation, which if encountered could introduce significant delays or cost increases for the project. Neither of these are indications that a project is not viable as proposed, but a relative assessment of potential risks to a project that should be considered for a project if not properly mitigated.

**Both the July 18, 2022 and August 9, 2022 TEAC presentations, under the Option 1b engineering and construction section, identified a medium risk for ACE's 1b proposal. Several of the proposals sponsored by non-incumbents not only require underground construction but also require the removal, retirement, or rebuild of incumbent lines. These non-incumbent proposals received the same construction risk rating as the ACE 1b proposal but require significant more construction from a project sponsor with virtually zero experience doing this type of work in New Jersey.**

- The August 9, 2022 TEAC presentation that was posted does reflect a low risk for ACE's 1b proposal. The August 9, 2022 TEAC presentation was already updated from the July 18, 2022 version, which showed medium risks due to underground cable construction. Following other stakeholder feedback, PJM agreed that while there are risks assessed with the relative difficulty of underground construction compared to overhead line construction for other projects, in comparison with other medium construction risks identified, the project represented a lower risk, and accordingly PJM's assessment in the August 9, 2022 TEAC presentation was updated.

**Slide #48 on the July 18, 2022 TEAC presentation and slide #52 on the August 9, 2022 TEAC presentation includes a bullet stating that "both Transource and ACE have no capping mechanisms, exposing ratepayers to cost overrun and financing risk." The bullet falsely assumes that because the ACE proposals do not contain a capping mechanism this somehow results in ratepayers facing additional cost overrun risk.**

- **First, capping mechanisms do not guarantee that cost overruns do not occur and that the cost overruns will not be passed onto ratepayers. Capping mechanisms are only as good as the exclusion provisions contained in the bid. A carefully crafted binding bid with exclusion provisions may seemingly look aggressive on cost, but if the exclusion provisions do not encompass items that tend to move cost the most, then you end up with a non-binding bid that artificially looks good. Additionally, capping mechanisms do not provide assurance that the project developer will not attempt to recover cost overruns when filing for rates at FERC.**

- Second, PJM provides no evidence that a lack of capping mechanisms results in exposing ratepayers to cost overruns.
  - Third, capping mechanisms have the potential to cause adverse problems to the grid and to customers. Capping mechanisms may create the incentive for developers to defer necessary investments, or compromise on quality, to stay within their cost cap and to make their initial bid look more attractive.
  - Fourth, the lack of a capping mechanisms does not, by itself, necessarily mean that ratepayers are exposed to higher costs. Additionally, if cost overruns occur, PJM should not assume that those overruns will be passed on to ratepayers. This will be a FERC decision when the developer files for rate recovery at FERC.
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- PJM appreciates the feedback regarding the general effectiveness of capping mechanisms in mitigating cost overrun risks to ratepayers.
  - The financial analysis is not intended to provide a precise calculation of a future rate, but rather a relative quantitative assessment of the life cycle costs for each project for the base case comparisons, and also relative performance of the cost containment measures proposed under different scenarios.
  - PJM's scenario analysis evaluated similarly situated proposals, including those with and those without cost caps, and assessed their relative risk of exposure to cost overruns. This evaluation factored in the strength of the proposed capping mechanisms, as well as any exclusions that would render them less effective.

**Slide #50 from the July 18, 2022 TEAC presentation and slide #54 from the August 9, 2022 TEAC presentation include a bullet stating “Among 1B proposals, ACE appears to have the lowest base case NPVRR, followed by JCPL.” The sub-bullet states “Note the RR results only cover proposer capex, which may significantly understate the overall project cost of ACE’s proposed solution (\$506M in “work by others”).” This slide is addressing the Option 1b scenarios. We are unsure what is meant by “\$506M in works by others” as this proposal is a standalone 1b proposal with all work assigned to ACE and only impacts ACE facilities. This is not an Option 1a proposal where there could be network upgrades assigned to other transmission owner. We ask PJM to clarify why the ACE 1b proposal includes work by others.**

- PJM's modeling paired ACE Option 1b project #797 (ACE 05) with the ACE Option 1a project #929 (ACE 04) to enable the 2648 MW injection into Cardiff.
- PJM agrees that the “\$506M in work by others” Option 1a costs, which were included as components in ACE Option 1a project #929, are not part of the Option 1b proposal, and will update the TEAC presentation, and final reports to remove the sub-bullet. Note that the PJM's base case and scenario modeling already excluded these Option 1a costs.

**Slide #51 from the July 18, 2022 TEAC presentation and slide #55 from the August 9, 2022 TEAC presentation includes a sub-bullet stating “In the O&M +50% scenario, ACE % increase is 0% because the proposals assumed negligible O&M/A&G.” This bullet is misleading, and we request that PJM delete or change the bullet. Our proposals clearly stated that ACE intends to operate the assets using good utility practices and will be able to address all the O&M needs for the assets with the current ACE O&M program without the need to increase O&M costs.**

**Philosophically, ACE has concern with any transmission asset that is built but the owner/operator chooses to ignore or defer O&M needs. The consequences of ignoring O&M can be severe and poses a cascading risk to reliability across the transmission system. The way that the sub-bullet is worded gives the impression that ACE is ignoring O&M or chooses not to fund O&M for the project when the opposite is true. Not only will**

**ACE fold the project into its existing O&M process, but it will do so at virtually zero incremental cost which by default provides customers protection against O&M cost increases.**

- PJM appreciates the clarification provided by ACE regarding its Operations and Maintenance Process.
  - ACE supplied the following description regarding O&M, A&G costs in its original proposal submittal:

“ACE does not propose any cost containment language pertaining to O&M or G&A. However, from our answer to a and b above, for rate making purposes, we assume the O&M and G&A costs associated with the addition of the proposed assets is virtually zero. This does not imply that ACE intends to ignore O&M for the assets, it’s just the opposite, ACE intends to operate the assets using good utility practices and will be able to address all the O&M needs for the assets with the current ACE O&M program without the need to increase O&M costs.”
  - Based on the above, PJM’s financial evaluation reflected the negligible impact on the O&M +50% scenario, because the ACE proposal as stated above assumed “virtually zero” O&M costs.
  - In future versions of the TEAC presentation, PJM will include the clarification that ACE assumes virtually zero O&M A&G costs for their project due to their intention to incorporate the assets into their existing O&M program without any increase in costs.

### ***Document Revision History***

- 8/10/2022 - V1 - Original Proposal Window July 2022 FAQ posted to the PJM Competitive Planning Process webpage: <https://www.pjm.com/planning/competitive-planning-process.aspx>.
- 8/25/2022 - V1 - Update to Proposal Window July 2022 FAQ to add responses to additional feedback, additions start on page 6.