Transition Cycle #1 Phase I System Impact Study Results

FAQ for Developers

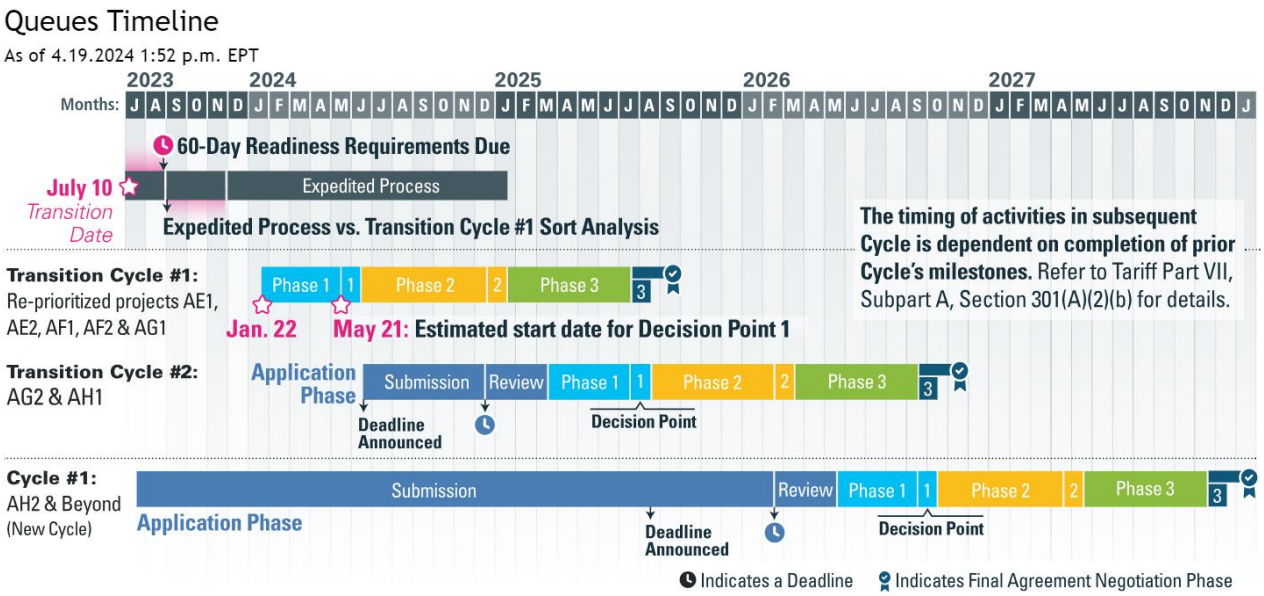
Version: 001, 05/20/2024

General Questions

Q1 **Who is impacted by these Transition Cycle #1 (TC1) Phase I study results?**

A1 Transition Cycle #1 projects are all projects in the AE1-AG1 queues that did not yet receive a final agreement and were not eligible for the Expedited Process per Tariff Part VII, Subpart B, Section 304. The AE1-AG1 projects entered the PJM interconnection process between April 2018 and September 2020. The AE1-AG1 projects that make up Transition Cycle #1 have been studied for summer peak and light load flow analysis. The Phase I System Impact Study summarizes the results of that study and provides cost allocation for any required network upgrades to accommodate the new interconnection.

See the Interconnection Study timeline below (posted on the PJM.com Planning page). You will see the Transition Cycle #1 schedule relative to the Expedited Process and Transition Cycle #2.



Q2 **What does the System Impact Study (SIS) tell me?**

A2 The Phase I, Phase II and Phase III System Impact Studies are a regional analysis of the effect of adding to the Transmission System the new facilities and services proposed by valid New Service Requests and an evaluation of their impact on deliverability to the aggregate of PJM Network Load.
The Phase I SIS study results show both (i) the scope, cost and estimated time to complete the required physical interconnection work and (ii) the scope, cost and estimated time to complete any network upgrade work to accommodate the interconnection and to address any reliability violations on the grid.

Procedures and other terms relative to the three study phases are outlined in Tariff Part VII Subpart D, Sections 307, 308, 310 and 312 and Tariff Part VIII Subpart C, Sections 404, 405, 407 and 409.
See PJM Manual 14H, Section 4.2.1 for more details on what the SIS provides.

Q3 **Where can I find the definitions of terms used for the Cycle and Serial study approaches?**

A3 You can refer to following sections of the PJM Tariff for definitions:
Tariff Part I, Section 1
Tariff P VII, Subpart A, Section 300

Q4 **What if I have a question about my SIS report results?**

A4 Please review this FAQ document prior to contacting your PJM project manager with any project-specific questions. If you still have any general questions regarding Transition Cycle #1 Phase I or Transition Cycle #1 Decision Point I after reviewing the FAQ, please contact InterconnectionSupport@pjm.com.

Transition Cycle #1 Analysis Questions:

Q5 **What is the study approach for Transition Cycle #1 projects?**

A5 Transition Cycle #1 projects will be studied under the cluster study process approved as part of PJM's interconnection process reform. Transition Cycle #1 projects will be evaluated under the same generator deliverability methodology used in their prior impact study analysis. However, Transition Cycle #1 projects will be cost allocated under the cluster-based cost allocation rules in Manual 14H, Attachment B.

Q6 **What base case is being used to study Transition Cycle #1 projects?**

A6 The Transition Cycle #1 queue base case is built off of the 2027 RTEP base case.

Q7 **If I am in Transition Cycle #1 and my Phase I study has no violations, can I go into the Expedited Process?**

A7 No, projects that did not meet Expedited Process criteria based on the initial transition retool will not be able to move from Transition Cycle #1 to the Expedited Process at any point.

Q8 **If I am in Transition Cycle #1 and my Phase I study has no violations, can I accelerate to a final agreement?**

A8 For Transition Cycle #1 Phase I, no projects were eligible to accelerate. For more details on acceleration eligibility at Decision Point I, see PJM Manual 14H, Section 4.4.3.

Q9 **My project's SIS report only provides the final Cycle loading for each overloaded flowgate. Why is the pre-Cycle loading not provided?**

A9 In the new cycle study process, pre-Cycle loading is no longer a concept or part of the study results (e.g., there is no serial first to cause/driver). The final Cycle facility loading (MVA to mitigate) is the responsibility of the Cycle under study if it isn't already covered by a pre-existing upgrade (Cycle upgrades and RTEP baseline/supplemental upgrades).

- The final facility loading results for each Cycle are contained within that Cycle and the base case year assumptions for that Cycle's model.

Q10 **My project has Affected System Impacts, indicated by "Study Pending" in the report. When will this be studied?**

A10 The Affected System Analysis performed by PJM's neighboring ISOs will start in Phase II and may continue through both Phase II and Phase III. An Affected System Agreement will be required between the Project Developer and the Affected System ISO (if applicable). The study will not begin until an Affected System Agreement has been fully executed. Any overloads on PJM/external ISO tie lines that were part of Phase I report are overloads on these tie lines found in PJM's Phase I analysis. These overloads on PJM/external ISO tie lines will be further evaluated/confirmed by the external ISO analysis as part of the Affected System Studies.

Q11 **My SIS lists identified LGEE/TVA/NYISO/DUKE/CPLE/CPLW reinforcements for tie line overloads but these reinforcements do not have cost allocation incorporated into the Phase I results. Will I receive cost allocation for these upgrades?**

A11 Although your project will not have cost allocation required for overloaded flowgates listed in Phase I, cost allocation will be determined for these external ISOs reinforcements in Phase II and/or Phase III as part of the Affected System Study. These listed reinforcements are to inform the Project Developer that these may be necessary if the overloads identified by PJM analysis are found to be valid overloads by the external ISO

analysis studied in Phase II and Phase III. MISO tie line reinforcements are subject to cost allocation in Phase I per the PJM/MISO Joint Operating Agreement (JOA).

Q12 **There is a withdrawn project contributing to an overloaded facility that my project also contributes to. Why wasn't this withdrawn project removed for the Phase I analysis?**

A12 The Transition Cycle #1 Phase I study officially commenced on January 22, 2024. The Phase I model was locked on this date for the Phase I analysis and study results to be delivered prior to the start of Decision Point I. Any changes to projects in prior queues/cycles after the model lock date will be captured in model updates for the Phase II studies along with the outcome of any changes to Transition Cycle #1 projects during Decision Point I.

Q13 **Did Transmission Owners update their analysis of lower-voltage facilities for the Transition Cycle #1 Phase I?**

A13 Yes, Transmission Owner analysis was performed as part of the Transition Cycle #1 Phase I study process.

Q14 **My project doesn't have any cost allocation for system reliability network upgrades or any contingent upgrades identified in the SIS report. Why are system reliability upgrades still listed in my report?**

A14 Although your project may not have cost allocation or any contingent upgrades required for overloaded flowgates listed in your SIS report, your project may fall into the potential aggregate contributor pool. Projects in this pool may receive cost allocation in later phases of the Cycle study based on changes with queue/Cycle projects, and therefore these upgrades will be listed until the upgrades are securitized (or drop away as a required upgrade based on changes in the study results).

Q15 **We are seeing some contingent network upgrades in our project's SIS report even though we meet cost allocation thresholds. Is it possible that our project may receive cost allocation in future phase studies?**

A15 Yes, but this scenario should really be isolated to unsecuritized upgrades under $5 million for queue projects prior to Transition Cycle #1 projects. There are some instances where upgrades may be $5 million and over, but they are cost allocated to Affected System Study projects. There are still situations after PJM's transition start date in 2023 where Affected System cycles queued ahead of Transition Cycle #1 may be the cost allocated projects for a network upgrade. The outcome of these upgrades will only change based on changes in those prior queues or Affected System cycles queued ahead of Transition Cycle #1 (e.g. withdrawals).

Q16 **How is the charging portion of battery storage projects model/studied in Transition Cycle #1?**

A16 In the summer peak analysis, only the discharging (injection) portion is studied. In the light load analysis, both discharging (injection) and charging (withdrawal) are studied.

Q17 **Some of the network upgrades in my SIS report have significant cost estimate increases compared to the cost estimate for the same or similar upgrades in prior retools under the legacy serial interconnection process. Why are the cost increases so significant in some cases?**

A17 There are a variety of reasons or factors as to why cost estimates may have increased. In many cases, the cost estimates for large upgrades are being updated to reflect current-day engineering, material and construction costs as provided by the Transmission Owners. In some cases, these network upgrade costs (greater than $5 million) are being refreshed for the first time in two to three years to ensure current cost estimates are being used for the TCI studies and readiness deposit calculations.

Q18 **Do the Transition Cycle #1 study results also consider recent system network changes such as rating increases, substation reconfigurations, etc.?**

A18 Yes, as part of the PJM analysis and review with the Transmission Owners, any current day rating increases and contingency changes as the result of in-service system reconfigurations are considered before assigning any system reinforcements for a Transition Cycle #1 reliability criteria violation.

Q19 **Some flowgates in my report have the Indicator "Flowgate may be invalid." What does this mean?**

A19 Transmission Owners review the PJM Phase I Load Flow Analysis data and provide comments/contingency corrections back to PJM. For instances where the Transmission Owner recognized a scenario where the contingency or system modeling may be wrong, a comment to correct was added to be incorporated prior to running the Phase II Analysis. Instances where this "Flowgate may be invalid" is noted in the SIS report means that PJM will make the corrections to the models/contingency set, and this overload may not appear in Phase II analysis once the correction is applied.

Q20 **When should I expect to see the next set of study results for my project?**

A20 Project Developers with Transition Cycle #1 projects (that meet the Decision Point I requirements to move on in the Cycle) should expect to see Phase II SIS results around the end of December 2024/early January 2025. PJM will make an announcement prior to the release of the Transition Cycle #1 Phase II study results and the beginning of Decision Point II.

Retooled load flow analysis along with stability and short circuit analysis will be performed in Phase II SIS

phase, and results will be shared in the Phase II SIS report. PJM also anticipates receiving Affected System analysis results in Phase II SIS period, which will also be shared in the Phase II SIS report. Facilities Study results for physical interconnection scope of work will also be provided with the Phase II SIS report.

Cost Allocation Questions

Q21 How was my project's cost allocation determined?

A21 For Phase I, PJM performed the Generation Deliverability Test to determine thermal impacts for summer peak and light load conditions. Additionally, PJM member Transmission Owners perform an analysis of their lower voltage systems, and PJM's neighboring ISOs (Affected Systems) have reviewed which PJM projects require an Affected System Study. If your project was dispatched against an overloaded facility in Transition Cycle #1, then your project is eligible for cost allocation. PJM has applied the new Cycle cost allocation rules defined in Manual 14H, Attachment B. Your project's impact to the facility will classified in one of three ways: cost responsibility, contingent or potential aggregate contributor.

Q22 When determining cost allocation for a given network upgrade(s), is PJM using the megawatt impact for each project from the worst reportable flowgate against that facility for the given project?

A22 A project's cost allocation for a network upgrade is based on the project's megawatt impact for the worst overloaded flowgate (monitored facility/contingency pair) reported against the facility for the given project. If the network upgrade addresses multiple facility overloads, the megawatt impact is additive and includes the megawatt impact from the worst overloaded flowgate reported for each facility. This methodology is required because not all projects in a given cycle may hit the same overloaded flowgate for a given facility. This can occur due to topology differences when a given contingency is taken and the dynamic generator dispatch for a given flowgate. Ultimately the project loads into an overload on the facility (monitored element), which requires a system reinforcement.

Q23 If my project shares an interconnection switchyard (Common Use Upgrade) with another New Service Request project, how will my interconnection costs be calculated?

A23 If multiple Project Developers request to connect to the same interconnection substation, the Transmission Owner will determine the cost to accommodate all the requests at the substation. The cost for the interconnection will be allocated in proportion to the number of required terminations into the substation.

Readiness Deposit Questions

Q24 Which costs are subject to Readiness Deposit?

A24 The cost subject to readiness are dependent on whether your project is FERC or non-FERC jurisdictional. For FERC jurisdictional projects, (i) the physical interconnection work including Stand-Alone Network Upgrades and Network Upgrades, (ii) all BES system reliability upgrades, and (iii) Transmission Owner-identified upgrades on Sub-Regional facilities are subject to readiness. For non-FERC jurisdictional projects, only (i) BES system reliability upgrades and (ii) Transmission Owner-identified upgrades on Subregional facilities are subject to readiness.

Q25 Do I have to post any additional deposits in Transition Cycle #1?

A25 Yes, Readiness Deposits #2 and #3 will be required at Decision Points I and II, respectively. Please review both (i) the Readiness Deposit requirements in PJM Manual 14H, Section 6.2 and (ii) Decision Point I requirements in PJM Manual 14H, Section 4.4.

Q26 If I withdraw at Decision Point I, which of my deposits are at risk?

A26 For Transition Cycle #1, Readiness Deposit 1 is not at risk prior to the close of Decision Point I. Additionally, only 10% of the Study Deposit is at risk regardless of actual study costs, and PJM will draw from the refundable portion of the study deposit to cover actual study cost. Therefore, for Transition Cycle #1 Decision Point 1, the only at-risk monies will be the greater of the actual study cost or 10% of your Study Deposit. Please refer to PJM Manual 14H, Sections 6.2 and 6.3.

Decision Point I Questions

Q27 When will Transition Cycle #1 Decision Point I start and end?

A27 Decision Point I will begin on May 21, 2024, and end on June 19, 2024. PJM will make an announcement if there are any changes to these dates.

Q28 Can I make changes to my project at Decision Point I (reduction, POI change, equipment change, etc.)?

A28 Yes, Transition Cycle #1 projects are permitted to make certain modifications prior to the end of Decision Point I. These changes include modifications to MFO/CIR, limited POI changes, fuel changes for multi-fuel projects only (reductions or removals only), equipment changes and certain site changes. Please refer to Manual 14H, Section 9.8 for modification of New Service Requests at Cycle Decision Points. Also refer to the FAQ page on Site Control Requirements.

Q29 **Are there any additional site control requirements for my project?**

A29 Additional site control requirements apply at Decision Point I and III. Please review Decision Point requirements in the PJM Tariff Part VII, Subpart D, Section 309 and PJM Manual 14H, Section 7. Also refer to the FAQ page on Site Control Requirements.

Q30 **I have made permitted modifications to my project as part of the Decision Point I. When will the models be updated and available to reflect this change?**

A30 Modifications permitted at Decision Point I are incorporated into the model for Phase II SIS analysis. The model will be available and posted to the PJM website in the following weeks after Phase II SIS has begun. PJM first needs to complete the deficiency review of the modifications at Decision Point I before posting the model update. The updated Phase II SIS model will be available with a CEII request..

- If there are overloads on facilities in prior queue/Cycle studies where upgrades were required and cost allocated/securitized, then those upgrades will become contingent facilities for the Cycle under study if the upgrade is a required reinforcement.
- If the overload for the Cycle under study exceeds the capability of any pre-existing contingent upgrade(s) for a given facility, then the Cycle under study will be responsible for any additional reinforcements.

Q31 **Do we still need to post the calculated readiness amount due during Decision Point I as summarized in the Phase I report even though we know of other projects that are expecting to withdraw or modify and possibly remove the need for certain upgrades?**

A31 Yes, each project must submit the calculated readiness deposit due based on the Phase I analysis regardless of changes in prior queues/Cycles after the Phase I model lock date and any expected changes with Transition Cycle #1 projects during Decision Point I. The readiness deposit calculations account for prior readiness deposits received, and the project will only be responsible for the readiness deposit due at the Decision Point to meet the total readiness deposit required as outline in Manual 14H, Section 6.2.