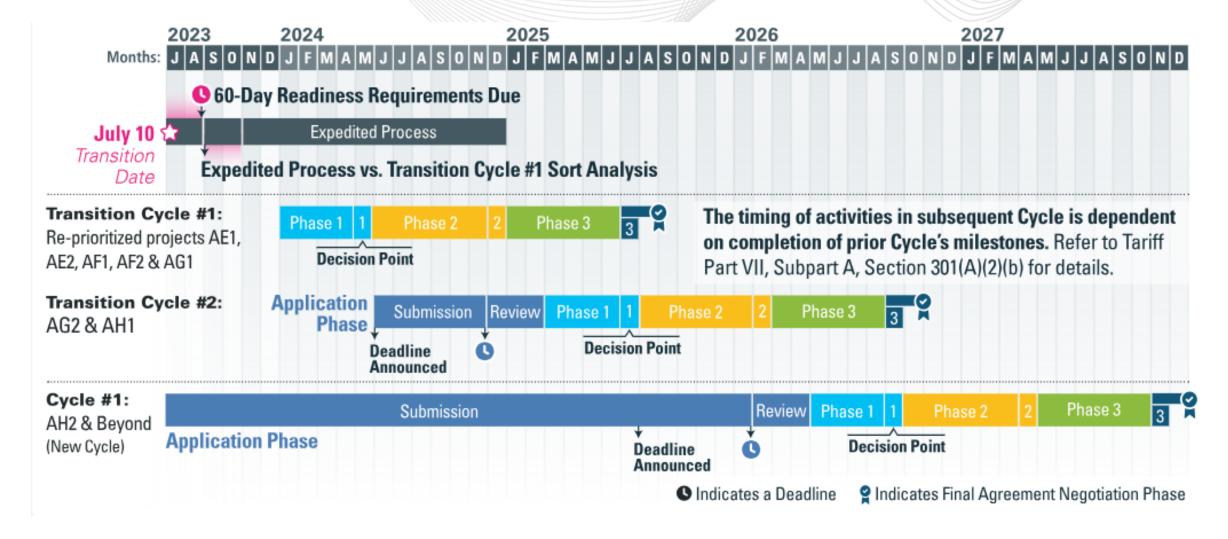


Interconnection Analysis Transition Sort Retool & Model Availability

John Reid Interconnection Planning Analysis Interconnection Process Subcommittee September 27th, 2023



Current Schedule





Analysis Timeline

Readiness Period

- Remaining active AE1-AG1 projects will post readiness requirements.
- No retools during this time.

Refreshed Expedited Process Retool

- TC1 projects will be lifted from Expedited Process study cases (AE1-AG1)
- Expedited Process projects will be retooled w/o TC1 projects

Developers Notified of Expedited Process Eligibility



Jul.-Aug. 2023

Sept.–Oct. 2023



Nov.-Dec. 2023

Jan.-Apr. 2024

Transition Start -July 10th

Expedited Processing Eligibility (Transition Sort Retool)

- AE1-AG1 projects that have met readiness requirements will receive "Expedited Processing Eligibility Analysis" to sort projects into Expedited Process or TC1.
- Each queue will be analyzed on their own SIS study case

Transition Cycle #1 Analysis

 Phase I analysis begins for final cohort of TC1 projects coming out of Transition Sort Retool

July-December: Transition Cycle #1 Model Building (LF, SC, Stability)



Transition Sorting: Expedited Process vs. TC1

Transition Sort Retool (Sep-Oct 2023)

- Serial Study Process & Cost Allocation Criteria
- The transition sort retool is only used to determine the disposition of the Expedited Process vs. TC1 study track for projects in the AE1-AG1 queues that have met readiness eligibility requirements
- Only Load Flow analysis is completed for the transition sort retools (SP/LL)
- A project is not eligible for the expedited process if it has cost allocation or is first-tocause for a network upgrade that has a total estimated cost > \$5 mil
- Transition Sort Retool Reports will all be simultaneously posted on pjm.com
 - Report serves to identify classification of projects as either Expedited Process or TC1



Refreshed Expedited Process Retool (Nov-Dec 2023)

- Serial Study Process & Cost Allocation Criteria
- Once the Expedited Process & TC1 tracks are determined, the TC1 projects are lifted from the AE1-AG1 cases to run the Expedited Process analysis
- Load Flow, Short Circuit, and Stability will be completed for Expedited Process eligible projects during retool
- If Stability is already complete, it is not expected to be re-run (unless violation previously identified)
- Based on final analysis results (LF/SC/Stability) and Facility studies, any projects that do receive cost allocation for network upgrades > \$ 5mil will shift to TC1 (Includes TO analysis results)
- Expedited Process projects will receive SIS report after all analysis is completed, followed by Facilities Study Report (if required) and final GIA/WMPA.

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Transition Cycle #1 (2024-2025)

- Contains AE1-AG1 projects that were not eligible for the Expedited Process
- No project priority → studied as a cluster under new study process
- Studied on 2027 RTEP base case
- Load Flow analysis will be completed for SP/LL using <u>legacy</u> GenDeliv test
- Short Circuit and Stability analyses will be completed using cluster study methodology

Transition Cycle #2 (2024-2026)

- Contains final cohort of valid AG2-AH1 projects → AG2-AH1 projects need to re-apply under the new rules to be eligible for TC2
- No project priority → studied as a cluster under new study process
- Anticipated to be studied on 2028 RTEP base case
- Load Flow analysis will be completed for SP/WP/LL using <u>new</u> GenDeliv test
- Short Circuit and Stability analyses will be completed using cluster study methodology

• Cycle #1 (2025-2027)

- Contains valid AH2 projects and beyond → AH2 and beyond projects need to apply under the new rules to be eligible for Cycle 1
- RTEP base case year is TBD
- Same study approach as TC2



Model Details & Availability

- Expedited Process Model Post #1 Early October Time Frame
 - Model will be built on SIS Impact Models and consist of active AE1-AG1 projects before sorting
- Expedited Process Model Post #2 Late November Time Frame
 - Model will be built on SIS Impact Models and only consist of AE1-AG1 Expedited Process projects only, all TC#1 projects are withdrawn from these models
- Transition Cycle #1 Model Post Beginning of December Time Frame
 - Model will be built on 2027 RTEP Model and consist of active AE1-AG1 projects

Availability:

- <u>AE1/AE2 cases and files will be available upon request CEII Access Required</u>
- AF1/AF2/AG1 cases and files will be posted to PJM website CEII Access Required
- TC1 case and files will be posted to the PJM Website CEII Access Required



Study Approach Reference Guide

Category	Study	Type of Analysis		RTEP Base Case Year		Study Approach	Generator Deliverability Method	Cost Allocation
Expedited Process	Transition Sort Retool ¹ Purpose: Determine Expedited Process vs. TC1	Load Flow ²		AE1/AE2	2022	Serial	Legacy GD	Serial
				AF1/AF2	2023			
				AG1	2024			
	Refreshed Expedited Process Retool ³ Reason: Lift TC1 projects from model	Load Flow ² Short Circuit		AE1/AE2	2022	Serial	Legacy GD	Serial
				AF1/AF2	2023			
		Stability ⁴		AG1	2024			
Transition	Transition Cycle 1	Load Flow	Phases 1-3	New AE1-AG1 2	2027	Cluster	Legacy GD	Cluster
Cycles		Short Circuit	Phases 2-3					
		Stability	Phases 2-3					
	Transition Cycle 2 ⁵	Load Flow	Phases 1-3	New AG2-AH1	2028 (anticipated)	Cluster	New GD ⁶	Cluster
		Short Circuit	Phases 2-3					
		Stability	Phases 2-3					
New Cycle	Cycle 1	Load Flow	Phases 1-3	AH2 +	TBD	Cluster	New GD ⁶	Cluster
		Short Circuit	Phases 2-3					
		Stability	Phases 2-3					



Study Approach Reference Guide (Cont'd)

- ¹ The transition sort retool is only used to determine the disposition of the Expedited Process vs. TC1 study track for projects in the AE1-AG1 queues
- ²Load Flow studies will be run on both <u>summer peak</u> and <u>light load</u> model conditions
- ³ PJM M14H, Appendix I.3.4, **Expedited Process Rules** will apply for the Refreshed Expedited Process Analysis
 - Short Circuit / Stability Analysis: If a short circuit, stability analysis, or sag study is completed during the expedited process, and it is
 determined that a reinforcement project is required that has an estimated Network Upgrade cost greater than \$5,000,000, the project will be
 removed from the Expedited Process and shifted to Transition Cycle #1
 - **Facilities Study Estimates:** If it is determined during the Facilities Study that the cost of a Network Upgrade is now estimated to be greater than \$5,000,000, the project will be removed from the Expedited Process and shifted to Transition Cycle #1
 - Until the Project Developer receives a draft GIA, they are subject to being shifted to TC1 for any of the reasons above
 - GIA: Projects in the Expedited Process will have their Facilities Studies completed, and will be tendered an interconnection-related service
 agreement pursuant to Tariff, Part IX
- ⁴ PJM will apply updated model conditions to stability studies not yet performed at this stage. Stability will not be re-run if a project already received results
- ⁵ Load Flow studies are projected to be run on Summer Peak, Winter Peak, and Light Load models starting with Transition Cycle 2 and beyond
- ⁶ The new Generator Deliverability procedure was endorsed at the January 2023 MRC and is outlined in M14B



Resolving Dynamic Data Deficiencies

- AE1-AG1 projects will need to resolve any data deficiencies identified in Queue Point no later than 10/31/23
- This target date for clearing data deficiencies is necessary to meet the Expedited Process and Transition Cycle study schedules
- PJM will reach out to Project Developers directly to coordinate resolution of deficiencies
- PJM has published dynamic modeling guidelines (https://www.pjm.com/-
 /media/planning/services-requests/pjm-dynamic-model-development-guidelines.ashx) as of 9/20/23. More detail will be presented at the October IPS
 - The PJM dynamic modeling guidelines will be implemented for any model changes/updates for projects in Transition Cycle 1 and beyond
 - All Necessary Study Requests and As Built submissions will be required to follow the PJM dynamic modeling guidelines
 - All new submissions (AG2 and later) will be required to follow the PJM dynamic modeling guidelines



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