

# PJM Reliability and Resource Adequacy Landscape



- In 2023, PJM issued its 4R Report that announced 40,000 MW of generation at risk of retirement by 2030.
- PJM has messaged that "current pace of new entry would be **insufficient to keep up with expected** retirements and demand growth by 2030."
- PJM has announced that it is expecting an additional 10,000 megawatts of demand by 2030 that wasn't forecast last year.
- Over **38,000 MW of generation** moved through the traditional interconnection queue and signed las, but less than 3,000 actually showed up.
- Recent new services interconnection cluster study projects in the Fast-Track resulted in significant withdrawals of so-called first ready, first-served projects.
- Enhancing the CIR Transfer process for existing generators to speedily transfer CIRs from deactivating resources to a replacement resource through a fast-track standalone review process is the solution to this reliability and resource adequacy crisis.
- July PJM 2025/2026 BRA Results indicated that only 110 MW of capacity procured from new generation.
- States like **New Jersey have initiated air emissions rules** aimed at reducing carbon emissions from select generating resources, namely **natural gas**, **limiting** the **ability** of such facilities **being built in NJ**.

We need new approaches to address new problems in a new era of new technology deployments

# FERC Supports Fast Track Interconnection Processes for Deactivating Resources



"It is the fact that an existing generator possesses interconnection rights in a particular location on the transmission system and in a specific type and quantity that is relevant to whether a separate, fast-track interconnection process may be warranted for replacing that generator."

(Clements) FERC Commissioner Clements' Concurrence in Vistra (Docket No. ER22-2632)

"new interconnection requests are not similarly situated to existing generation facilities"

PacifiCorp Order (Docket No. ER23-407-000)

"establishment of a separate, resourceneutral generator replacement process for owners of existing generation, administered by the Independent Coordinator, does not provide an undue preference to the transmission provider's existing generation" PacifiCorp Order (Docket No. ER23-407-000)

> "such owners have already gone through an interconnection process and faced cost responsibility for any network upgrades that may have been necessary" PacifiCorp Order (Docket No. ER23-407-000)

# PJM CIR Efficiency/Generation Replacement Process Imperatives



# Completed in

Stand Alone Battery Energy Storage Must Be Eligible for Any PJM Generator Replacement Process

Replacement Resources Considered as Alternative to RMR and Costly Inefficient Transmission Upgrades at Generation Site

CIR Transfer Process Initiated By an "Official" Deactivation Notice, "Unofficial" Request, or NOI to Deactivate

Replacement Resource Study Process Utilize Phase 2 Model

Material Adverse Impact Screen Should Test For Reliability Criteria Violations and IC Has Opportunity To Mitigate Or Modify Proposed Replacement Resource

Replacement Resources Adheres to Same Commercial Operation Date
Requirements as New Generation Interconnection Requests in the Cycle Process

# **Rationale for Generation Replacement Imperatives**

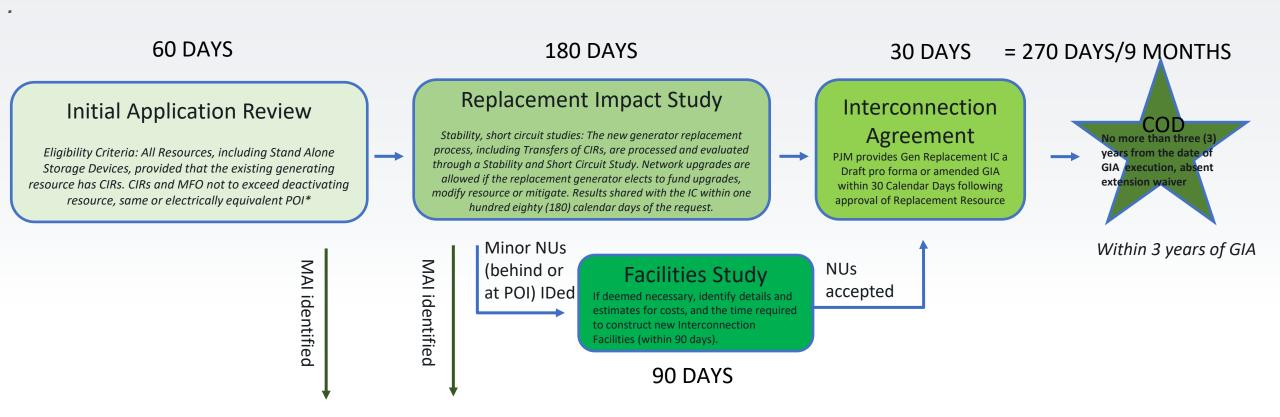


### **IMPERATIVE RATIONALE** Replacement Resources Considered as Alternative to RMR and **Common** practice at other RTOs. Reduce cost to rate-payers. **Costly Inefficient Transmission Upgrades at Generation Site Allows** notification to PJM to allow study process to begin to align > CIR Transfer Process Initiated By an "Official" Deactivation timing of actual "deenergizing" of deactivation resource with Notice, "Unofficial" Request, or NOI to Deactivate "energizing" of replacement resource. Thermal study not required – retiring generators received Replacement Resource Studies Include only Short Circuit and capacity/firm rights after being studied and paying for network **Stability** upgrades, for both peak and off-peak scenarios. No thermal study needed for replacement resources, except in the case of charging scenario for Battery Energy Storage Systems (BESS) > Stand Alone Battery Energy Storage Must Be Eligible where charging study is needed and should be deemed as a companion study to any generator interconnection study; Phase 2 study model used for PJM visibility. Replacement Resource Study Process Utilize Phase 2 Model Interconnection application in early Phase 1 study highly subject to significant withdrawals causing need to restudy and retool constantly. Material Adverse Impact Screen Should Test For "Reliability **Dynamic** and short circuit performances are mostly localized and do Criteria Violations" Caused By the Replacement Generation not have the "competing for headroom" issue. All requests are likely to fail if any change of performance is considered adverse impact. **Replacement Resources Adheres to Same Commercial Operation Provides** Consistency with Current Cycle Process while providing **Date Requirements as New Generation Interconnection Expediency in Construction of Needed Projects** Requests in the Cycle Process

# **Generation Replacement Process Flow Chart Diagram**



Initiated upon submission of generator replacement request to PJM, and the process will occur as a stand-alone process outside of the current new interconnection services agreement process, i.e. new generator replacement process



If MAI identified, the IC is given the opportunity to amend the project to remove the MAI or IC Customer can elect to withdraw and resume its position in the New Interconnection Queue Process

CIRs = capacity interconnection rights MFO = maximum facility output MAI = material adverse impact NU = network upgrade

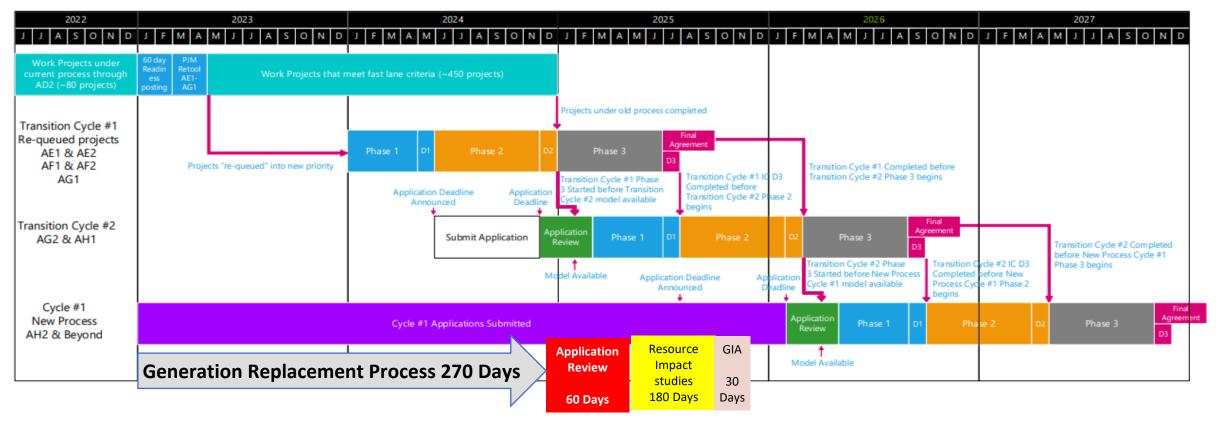
\*Note: different asset ownership permitted (with transfer of CIRs), deactivation notice optional but not required to initiate process

# 2026 is Too Late to Begin Review of Resources to Replace Retiring Generation $E \sqcup E \lor A$



Current PJM Interconnection Process With Gen Replacement Overlayed

# FIGURE 9: TRANSITION PERIOD SEQUENCING AND PROCESS



**2023 Deactivation** 

**2024 Deactivation** 

2025 Deactivation

**2026** Deactivation

Timelines from PJM June 14, 2022 Transmittal Letter in ER22-2110

## **Questions or Comments**



