

PJM Transmission Owners' Proposal Regarding TO-Funding of Network Upgrades

*Presented to PJM Stakeholders in Accordance with April 16, 2021
Notice of PJM Transmission Owners Consultation with the Members
Committee Regarding Proposed Revisions to the PJM Tariff*

April 27, 2021

Overview: What We Plan to Address

■ Setting the Stage

Background on PJM and MISO Interconnection Processes

Why Now?

Risks Are Real

Proposed Changes to the PJM Tariff

Next Steps

Setting the Stage

- Increasing numbers of generators are seeking to interconnect to the PJM transmission system, thereby requiring construction of significant network upgrades to accommodate these requests.
- The PJM TOs actively support efforts to decarbonize the electric power sector and to develop the necessary infrastructure to support interconnection of clean energy resources to the electric grid.
- The current PJM interconnection pricing model requires generators to pay up front for network upgrades and for the transmission owner to own and operate those facilities with no opportunity to earn a return.
- The PJM TOs intend to make a Section 205 filing proposing changes to the PJM Tariff to give them the ability to elect to fund network upgrades and earn a return of, and a return on, the capital of those upgrades.
- The PJM TOs recognize that broader interconnection policy changes are being considered and believe this proposal can complement those efforts.

PJM Interconnection Queue Process

TOs collaborate with PJM and interconnection customers to support interconnection of new resources and to support modifications to existing resources, while maintaining the safety and reliability of the grid.



Coordinate with PJM and interconnection customers to address system upgrades necessary to accommodate interconnection of new resources or changes to existing resources.



Develop network upgrades to address reliability violations and to identify facilities needed for interconnection.



Execute analytical studies and agreements to ensure the timely construction of necessary network upgrades.

How Network Upgrades are Funded in PJM

- Network upgrades are system modifications to accommodate the interconnection of a new or existing generator while ensuring the reliability of the transmission system.
- Network upgrades are identified by PJM in the Facility Study Report.
- Interconnection customers currently fund the construction costs of network upgrades prior to interconnection service.
 - Network upgrade payments are contributions that go into the PJM TO's transmission rate base at \$0 (*i.e.*, the TO earns no return on the network upgrade).
 - The TO is reimbursed for O&M expenses related to network upgrades through transmission rates paid by transmission customers, *not* by interconnection customers (the TO again earns no return on the network upgrades).
 - As a result the TO recovers capital and O&M costs but earns no profit on those assets and therefore provides no compensation to investors for the risks the TO is assuming from owning and operating those network upgrades.

Treatment of Network Upgrade Costs Under Current Process

Cost	Treatment
Cost of Construction	Interconnection Customer pays (upfront)
Operation and Maintenance Expense	Transmission Customers pay (annually)
Real Estate Taxes	Transmission Customers pay (annually)
Asset Amount in Transmission Rate Base	\$0
Utility Return = (Rate Base of Asset) *(ROR)	(\$0 *.08)= \$0

Funding Network Upgrades in MISO

MISO

- The TOs have the option to fund network upgrades and earn a return of and on the capital on the network upgrades
- Through this option, the TOs recover their capital costs plus a return over time by assessing a network upgrade charge on the interconnection customer.
- The TOs own and operate the network upgrades.

DC Circuit's Rulings in 2018 *Ameren* Decision

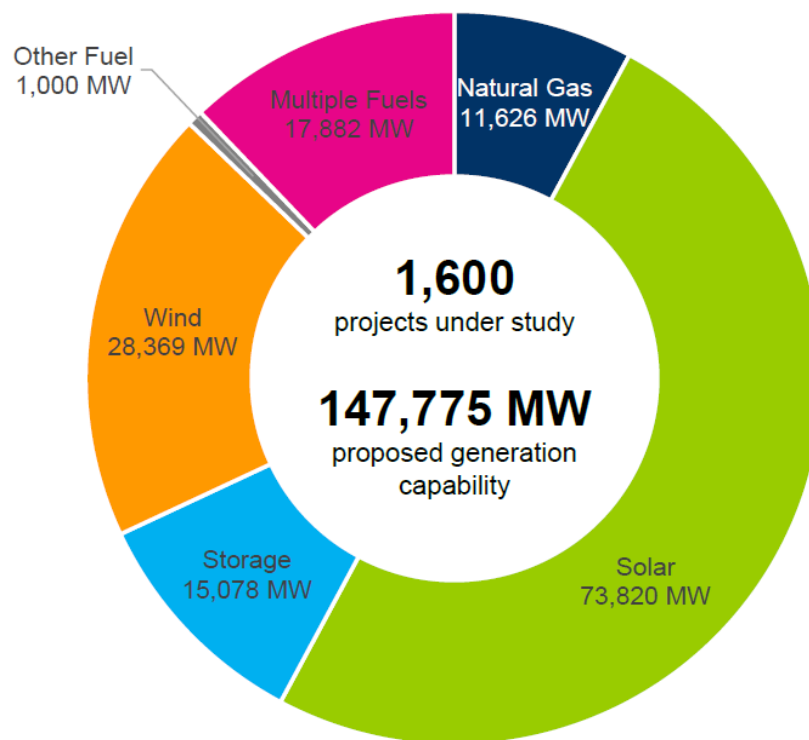
- Prior FERC orders would have required MISO TOs to “act, at least in part, as a non-profit business. . . . Put another way, by modifying the transmission owners’ entire enterprise, FERC’s orders attack their very business model and thereby create a risk that new capital investment will be deterred.”
- MISO TO shareholders should not be “forced to accept incremental exposure to loss with no corresponding benefit.”
- If FERC is going to prevent MISO TOs from electing to fund network upgrades and earn on them, “FERC must explain how investors could be expected to underwrite the prospect of potentially large non-profit appendages with no compensatory incremental return.”

Why Now?

- PJM has experienced a sharp increase in the number of generation interconnection requests and MWs connecting to the transmission grid.
- More generator interconnections mean more network upgrades must be built to accommodate them.

PJM October 2020 presentation to stakeholders shows:

- Approximately 1,600 active interconnection projects in PJM queue
- Approximately 150,000 MW with majority being new solar, wind and storage projects
- Currently, there are approximately \$6.5 billion of active network upgrades in the PJM regional plan.



Risk to Transmission Owners are Real

- Transmission owners face increased risks for owning and operating the *additional* network upgrades necessary to accommodate the new generator interconnection requests, and those risks have a growing impact on their core business model.
- Examples of PJM TO Risks associated with owning/operating the additional equipment:
 - **Reliability and cybersecurity risks:** Additional network upgrades present increased system exposure to outages, blackouts, cybersecurity or other reliability and NERC compliance issues.
 - **Safety risks:** Increasing the number of new facilities will result in more construction and ongoing operation and maintenance activities, thereby increasing exposure to safety incidents.
 - **Environmental risks:** Owning and operating network upgrades exposes the PJM TOs to liabilities such as contamination of property, air emissions, and extreme weather events.
 - **Financing risks:** The growing number of system facilities operated without profit impacts the PJM TOs' overall business model. In the 2018 *Ameren* decision, the court held: “a utility’s return must allow it to compete for funding in financial markets. Investors however invest in enterprises, not just portions thereof.”
 - **Litigation risks:** Operating more network upgrades will result in increased exposure to potential accidents or other events, thereby exposing the PJM TOs to uncompensated liability.
- ROE intended to compensate for risks of owning and operating facilities (regulatory compact)

Proposed Changes to the PJM Tariff

- Based on tariff revisions accepted by FERC in MISO, the PJM TOs are proposing similar changes to provide for TO-funding of network upgrades and earning a return of, and a return on, the capital of those upgrades.
- Proposed new tariff language includes:
 - ✓ Provisions allowing TOs to exercise option to fund network upgrades
 - ✓ New *pro forma* agreement to establish a standard mechanism and terms for the PJM TOs to recover the costs for the network upgrades from the interconnection customers
 - ✓ Formulaic charge to recover upgrade costs
 - ✓ Financial security requirements for the interconnection customer on upgrade costs, which will decrease over time
 - ✓ Financial security will not overlap with security provided under the interconnection service agreement

Treatment of Network Upgrade Costs Under Current and Proposed Processes

Cost	Current Process Treatment	Proposed Process Treatment if TO elects to fund
Cost of Construction	Interconnection Customer pays (upfront)	Transmission Owner pays (upfront)
Operation and Maintenance Expense	Transmission Customers pay (annually)	Transmission Customers pay (annually)
Real Estate Taxes	Transmission Customers pay (annually)	Transmission Customers pay (annually)
Capital Cost of Upgrade and Related Costs	Paid by Interconnection Customer as cost of construction	Interconnection Customer pays (annually)
Return on Network Upgrade Costs	\$0	Interconnection Customer pays (annually)

- Capital costs proposed to be recovered over 20 year period as set forth in Network Upgrade Funding Agreement
- Security under funding agreement to cover the capital cost of the upgrades and reduced annually by payment amount

Transparent Process for Implementing the TO Option to Fund

- Each PJM TO will post on the PJM website a non-binding statement of how it plans to treat network upgrades on its system.
- Each PJM TO shall indicate its intent to self-fund each specific Network Upgrade prior to the completion of the Facilities Study.
- A funding agreement shall be tendered to the Interconnection Customer at the same time the Interconnection Construction Service Agreement is provided.
- Interconnection Customer will have option to request PJM to file the agreement with FERC unexecuted.
- Transmission Owners will post a list of the network upgrades they elect to fund and state whether the entity is an affiliate.

Next Steps

- Notice and consultation with stakeholders (begun)
- Coordinate with PJM to finalize Tariff changes and the *pro forma* agreement
- Consider and incorporate stakeholder feedback, where appropriate
- TOA-AC to vote regarding the proposed Tariff changes
- FERC filing is expected before end of 2nd quarter