

## **Ensuring A Reliable Energy Transition**

#### PA Senate Environmental Resources and Energy Committee with Guests from the Ohio Public Utilities Committee

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#### **Reliability Papers and Studies**





Energy Trai	nsition in PJM: En	nerging Character	istics of a			
Decarboniz	ing Grid – Addend	dum				
Introduction						
This document contai	ns supporting information for the F	PJM white paper, En				
Characteristics of a D	ecarbonizing Grid (PDF), based o	n stakeholder questi				
described below were	used in the second phase of ana	lysis, which began in				JAY OIN
Future phases of the	itudy will include updates to core	assumptions and ad				- I-J
Connecto D	71t					
Scenario Dev	elopment					
State and Corne	rate Policy Analysis					
In order to inform scen	hario development, PJM analyzed	goals and policies t				
and potential generati	on retirements. PJM used two tim	e frames to inform th				
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began in 2021. As the	se policies and goals continue to	evolve, PJM will con				
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### What Problem(s) Are We Solving For?

#### RELIABILITY



The PJM fleet has adequate resources and enough essential reliability services, but we need our generators to perform when called upon. **Energy Transition in PJM:** Resource Retirements, Replacements & Risks Feb. 24, 2023

For Public Use

Generation retirements may outpace new entry with a simultaneous likelihood of load increasing, thereby creating resource adequacy concerns. Energy Transition in PJM: Frameworks for Analysis Dec. 15, 2021

For Public Use

We will continue to need some amount of thermal generation to provide certain essential reliability services until a replacement technology is deployable at scale.



#### The Immediate Concern



#### Support

Resource Performance

#### **The Near-Term The Upcoming** Concern Concern **Energy Transition in PJM: Energy Transition in PJM:** Resource Retirements, Replacements & Risks **Frameworks for Analysis** Feb. 24, 2023 Dec. 15, 2021 For Public Use For Public Use **Ensure Maintain & Attract** Resource **Essential Reliability** Adequacy **Services**

**Our Reliability Concerns** 

#### www.pjm.com | Public



#### Initial Actions To Support Reliability

CIFP/RASTF		Reserve	Load F	Following/	Short-Term	
Priorities		Certainty	Dispa	tchability	Forecasting	
Proactive Planning:		Proactiv	Proactive Planning:		active Planning:	
LTRTP		Res	Resilience		Interregional	
LDA		RMR	Policy	Reliability	Continued Queue	
Modeling II		provements	Safety	Measures	Improvements	
Energy		Gas	/Electric	Winter	Storm Elliott	
Assurance		Coo	rdination		Report	

# **A**pjm





## Ensuring a Reliable Energy Transition





#### **CIFP** Capacity Market Proposal

PJM made two filings on October 13, 2023 to make enhancements to its capacity market.

The motivation for these changes primarily comes from opportunities to:

- Enhance the modelling methods used to identify resource adequacy risks and accredit resources.
- Refine market rules from experiences with operating and participating in the capacity market.
- Improve rules in response to recent operational experiences and market outcomes during cold weather events.



- Enhanced Resource Adequacy Risk Modeling
- Marginal Accreditation
- Notice of Intent to Offer for Planned Resources
- Winter Deliverability Changes for Solar
- Increased Testing Requirements
- Stop-Loss Reduction
- Fixed Resource Requirement (FRR) Option Transition and Changes to Deficiency and Insufficiency Charges

# Filing #2: Capacity Performance & Market Seller Offer Cap (MSOC) Filing

#### CAPACITY PERFORMANCE

- Bonus Eligibility<sup>1</sup>
- Balancing Ratio Changes <sup>1, 2</sup>
- Performance Excusal Clarifications
- Performance Obligation Transfer
- Removal of FRR "Physical Option"

#### MARKET SELLER OFFER CAP

- Risk Incorporation In MSOC
- Standardized/Default Risk Calculation
- PJM Feedback During MSOC Process
- Segmented Offer Caps
- Planned Resource Mitigation Provisions

<sup>1</sup> PJM offered to allow the FERC to sever this portion of the filing from the others

<sup>2</sup> Only a portion of these changes are severable along with the Bonus Eligibility



**Reserve Certainty Senior Task Force** 

#### **Comprehensive Topics on Reserve and Energy Market**

- Having the appropriate suite of ancillary service products procured at the necessary level
- Having the confidence in resources with an assignment to provide reserves to perform when called upon

#### **Immediate-Need**

Addresses current Synchronized Reserve performance concerns, observation on reserve price formation implementation, and deployment of reserves

#### **Longer-Term Need**

Addresses future system needs for reserve and flexibility, with evaluation of the Operating Reserve Demand Curve (ORDC), operational metrics, and enhancements or additional market solutions (ramping, multi-interval, etc.)



### **Enhancements to Deactivation Rules**

- Address the anticipated volume of generation resource retirements expected in the coming years
- Address confusion about how the current compensation mechanisms operate and should operate

#### **Deactivation Timeline**

PJM and the IMM believe that stakeholders should consider extending the prior notice period for generation deactivations to increase the opportunity for required transmission upgrades, to allow potential new competitive entry, and to allow the deactivation to proceed as requested.

#### **Compensation Mechanism**

PJM and the IMM also believe the compensation mechanism for resources agreeing to operate beyond their requested deactivation date at PJM's request needs to be redesigned.



# Thank You! and Questions



## Additional Information and References



#### Independence and Governance Process



- Independent Board of Managers
- Stakeholder process provide balanced stakeholder input
- Established process for discussion of market evolution
- ISO funding and startup



#### State Activity in PJM Footprint





Hughes v. Talen

The Hughes v. Talen case identified the following criteria for pre-emption

- Targeting: The state policy has the effect of replacing the wholesale rate for a FERC-jurisdictional product (capacity, energy, ancillary services), and;
- Tethering: The payment or level of payment is contingent on clearing in the capacity market

State Policy = Renewable Portfolio Standard Subsidy = Renewable Energy Credit (REC) Payment

- The REC is *not Targeted* at a FERC jurisdictional product.
- The REC is *not Tethered* to a commitment in the capacity market.

State Policy = State targets lowering capacity prices to consumers. Subsidy = Lump sum payment contingent on a capacity commitment

- The subsidy is *Targeted* at a FERC jurisdictional product. It is capacity in PJM's Tariff.
- The subsidy is *Tethered* to a commitment in the capacity market.

Illustrative Example

Illustrative Example