OPC

Office of People's Counsel

State of Maryland

Powering Reliability Through Market Design

Considerations and Recommendations

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Executive Summary

- PJM's current resource adequacy challenge is being driven by uncertain large load growth.
  - Unlike traditional load growth, individual large load additions are discrete and may be delayed, reduced, relocated, or canceled after materially affecting capacity procurement and transmission planning.
- PJM should strengthen the credibility of projected demand while building on existing reforms to support reliable, cost-effective outcomes.
- Financial and reliability risks associated with incremental large load growth should follow the customers creating those risks.
- Maryland OPC supports reforms that preserve the benefits of regional resource adequacy while assigning incremental costs and risks to the parties that cause and can best manage them.

Define the Problem, Not the Market Construct

- PJM correctly identifies that rapidly growing demand from large loads, resource retirements, delays in the development of new supply, and investment uncertainty are creating stress on reliability and affordability.
  - These factors are not equivalent in their contribution to the current problem.
- The new challenge is the scale, uncertainty, and velocity of large load growth, which can materially increase resource adequacy needs before the underlying demand is sufficiently committed.
- PJM's resource adequacy challenge is not simply how to attract more supply, but how much new capacity is actually needed and who bears the stranded cost risks if forecast demand does not materialize.

Define the Problem, Not the Market Construct (cont.)

- Different resource adequacy constructs (e.g., ORDC, shortage pricing, capacity demonstration, capacity market) can produce different outcomes depending on their underlying design choices and assumptions.
  - All constructs can over- or under-procure relative to expected need
  - All constructs are prone to changes that create uncertainty in the market
- No market construct eliminates uncertainty; the key question is how that uncertainty and associated financial risk are allocated.
- Reforms should address the underlying forecasting, commitment, and risk-allocation problems while preserving the benefits of regional resource adequacy.

Resource Adequacy Construct Evaluation Framework

1. **Reliability Requirement: What need is PJM procuring?**
2. Reliability Valuation: How much should load pay?
3. Resource Performance: What must resources deliver?
4. Competition: Can all capable resources compete?
5. **Cost Allocation: Who pays and who benefits?**

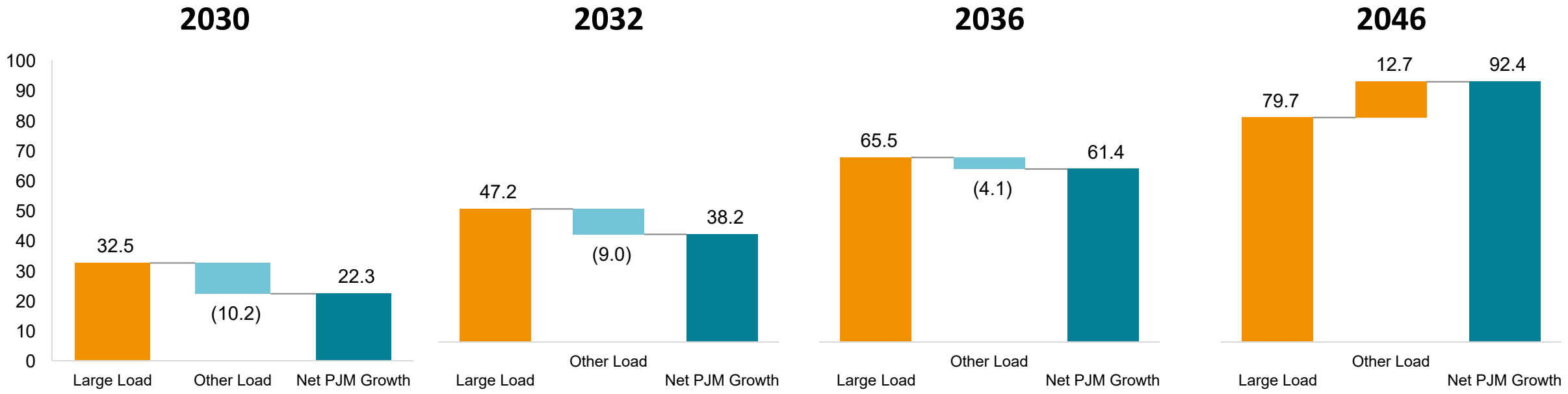
Reliability Requirement: What Need is PJM Procuring?

- All resource adequacy constructs have some level of expectation of future need.
- Forecast assumptions directly affect the quantity of capacity PJM determines is required.
- Over-forecasting loads can result in excess procurement (with accompanying costs) and, when resulting in new entry, can have long-lasting impacts on market outcomes.
- The credibility of the load forecast is a fundamental market design input.

The Projected Resource Adequacy Shortfall Is Primarily Large-Load Driven

- Large loads account for the overwhelming share of projected PJM peak-load growth.

Incremental Growth in Coincident Summer Peak Demand (GW, RTO-wide) Compared to 2025 Metered Peak



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Note: Large Load figures derived from PJM's *2026 Load Report*, Table B9, *Adjustments Above Embedded to Summer Peak Load*. Other load figures are derived from Table B1, *Summer Peak Load*. Each comparison is relative to unrestricted metered summer peak from 2025 (see Table B1). Non-coincident peaks converted into coincident figures using RTO-wide diversity factor (see Table B1).

Large Loads Create a Different Kind of Forecast Uncertainty Risk

- Traditional sources of load forecast error: Weather, economic growth, etc.
  - Diverse, probabilistic by nature
- Large load additions create a separate class of uncertainty
  - Discrete, very large increments; strategic actors; enter service quickly
- Prospective large loads can affect resource adequacy procurement before making a comparable commitment to take service or bear the consequences if demand does not materialize.
- Demand uncertainty makes load verification, incentives, and accountability central design questions.
- **Design Feature: Large load must make verifiable commitments within an incentive-compatible construct.**

Cost Allocation: Who Pays and Who Benefits?

- Cost allocation does more than determine who pays after a reliability need has been identified.
- Cost allocation shapes the incentives that determine demand-side behavior.
- Costs should generally follow the parties that cause them to be incurred and receive the associated benefits.
- When cost responsibility is disconnected from cost causation, customers can make decisions that impose financial consequences on others.
- Proper cost allocation therefore improves both equity and the quality of the information entering PJM's planning and market processes.

Cost Allocation Can Improve the Demand Signal

- Cost causation is a resource adequacy tool
  - If uncommitted large loads can create resource adequacy requirements without bearing downside risk, capacity procurement will exceed need
  - Assigning costs and risks to cost causers produces better information and more efficient demand-side decisions
- **Design Feature: Large load should bring / fund new capacity, reduce demand, or accept priority curtailment.**

The Credibility Gap is also a Market and Regulatory Phenomenon, Not Just a Political One

- A market cannot deliver efficient outcomes if the demand side of the equation is not credible.
- Regulators cannot accept outcomes that do not ensure cost causers are held responsible.
- Political, regulatory, and market credibility risk point to the same design need: durable, verifiable commitments before obligations are created.

The Current Asymmetry Creates a Credibility Gap

PHASE 1 · ROOT CAUSE

1. **Large Load Enters Forecast:** Projected demand may affect planning before a corresponding binding commitment is made.

2. **Reliability Requirement Increases:** Capacity procurement and transmission planning respond to the forecasted demand.

PHASE 2 · ESCALATION

3. **Supply Commitments Become Binding:** Resources make investment decisions and assume capacity obligations based on forecast need.

4. **Load Need Not Commit Equally:** Projected large loads may still lack comparable long-term obligations.

5. **Load Can Still Change:** Projects may delay, shrink, relocate, or cancel.

PHASE 3 · CONSEQUENCE

6. **Costs and Risks Persist:** Existing customers and suppliers may remain exposed if forecast demand does not materialize.

7. **Credibility Gap Emerges:** Binding supply commitments are supported by less-certain demand commitments.

Maryland OPC: Use Elements of All Three Paths, Not Any One Path in Full

- Maryland OPC does not recommend adopting Path A, B, or C in its entirety.
- PJM should focus on pursuing a targeted combination of the three paths, in coordination with reforms already underway, while preserving the regional resource adequacy framework.
- **Path A:** Longer-term commitments may have a role where the underlying demand is credible and financially accountable; forward supply commitments should follow credible forward demand commitments.
- **Path B:** New large loads seeking firm service should support the capacity needed to provide that service or accept priority curtailment if adequate capacity is unavailable.
- **Path C:** Continue E&AS reforms that better value flexibility, reserves, commitments, and performance while preserving the regional capacity construct.

Common Principle: Financial and reliability commitments on the supply side should be matched by corresponding responsibility on the demand side.

“Commit-to-be-Counted”

Objective:

Improve the credibility of the load underlying PJM’s reliability requirement.

- **Make the load forecast incentive-compatible**: The entity that wants firm service must reveal true need through commitment, not just through a forecast request.
- Commitment requirements should become firmer as a project moves from a planning assumption toward inclusion in resource adequacy procurement.
- Qualifying commitments could include participation in RBP, a qualifying BYONC arrangement, financial security, or other binding actions demonstrating responsibility for the reliability need created by the load.
- The goal is to better align the certainty of projected demand with the supply commitments made to serve it.

Large Load Reliability Service

Objective:

Align the level of reliability provided with the commitments supporting that service.

- **Firm-backed service**: Pays for or brings capacity, with locational deliverability and transmission responsibility.
- **Non-firm / flexible service**: Can connect sooner, but is excluded from firm RA/RTEP assumptions and is curtailed first.
- **Transitional service**: Temporary status with collateral and milestones until capacity backing or firm rights are obtained.

Near-Term Priorities

- Improve large load qualification and load forecasting.
- Clarify cost responsibilities and the relationship between firm service and capacity support.
- Coordinate IRAS, BYONC, RBP, bilateral arrangements, and related ongoing market reforms.
- Evaluate these initiatives before pursuing broader changes to RPM or PJM's market structure.