

Critical Issue Fast Path – Large Load Additions

Options Matrix Considerations

Bill Fields

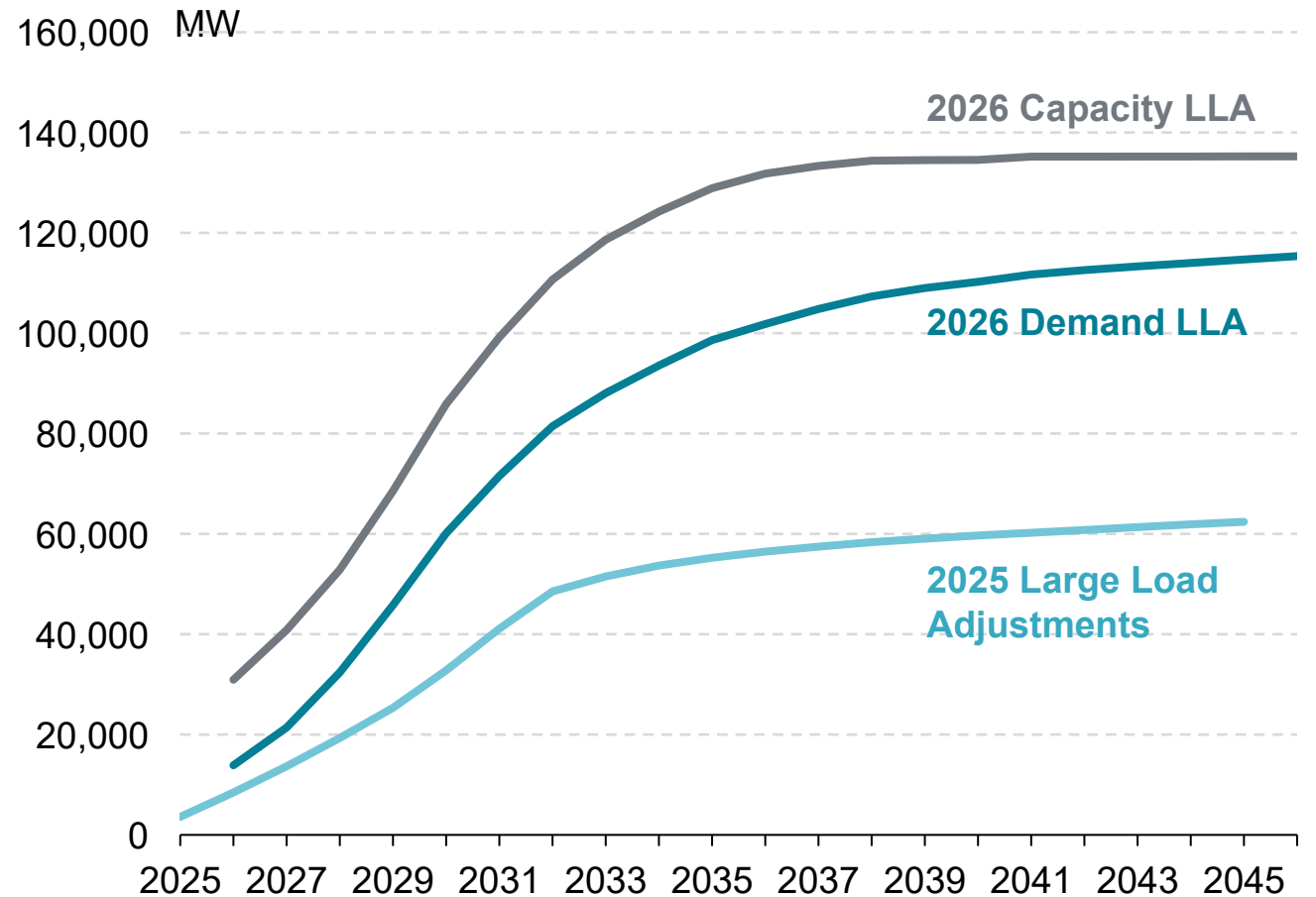
Phil Sussler

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Nature of the Problem

- Data centers interconnection requests are creating grid bottleneck both in terms of transmission and capacity.
- Uncertainties:
 - Power requirements vary by type of data center needs (i.e., heterogeneous sensitivity to power costs, latency, reliability, etc.)
 - Macroeconomic risk
 - “Claim-staking”
 - Policy change
 - Technology improvement
- Forecasts: Market clearing at RPM price cap, short of reliability requirement, with limited ability for supply response

PJM 2025 Load Report, Table B-9 (Large Load Adjustments) vs. 2026 Aggregate Preliminary Large Load Adjustment Requests for "Demand" and "Capacity"
(Compiled by PJM) - Sep. 12, 2025, updated Oct. 9, 2025



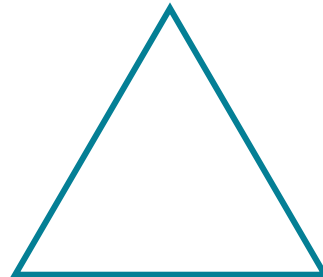
Objectives

- **Least regrets:** Given uncertainty, PJM's approach to addressing LLA should concentrate only on verifiable or highly likely LLA.
- **Skin in the game:** New entrants must share in the burdens they are creating and make demonstrable commitments.
- **Do no harm:** No degradation of service quality, reliability, or affordability as a result of new large load accommodation.

Options

Least regrets:
Probabilistic Forecast Bands

Skin in the Game:
BYO Capacity / Load-Offset DR
Large Load Verification Factor



Do no harm:
BYO Capacity / Load-Offset DR
Equitable Load Shed Allocation

Other proposals consistent with the above objectives (e.g., accelerated interconnection processes, state involvement in load forecasts, PRD improvements) are also under consideration.

Load Forecasts

- Issue: How to account for large loads entering PJM's footprint and coordinate forecasts across PJM, EDCs, and states.
- Status Quo: PJM coordinates large load forecasting with EDCs; all load is included in forecast (enhancements ongoing)
- Options:
 - Probabilistic Forecast Bands: Develop multiple forecasts that distinctly account for uncertainty regarding large load additions. Tie the uncertainty tolerance level to the intended response period of the PJM market construct (e.g., 3 years for RPM, 7 years for RTEP).
 - Large Load Verification Factor: Discount load forecasts if submitting TO doesn't have a retail large load tariff or equivalent process to review and approve the interconnection of large loads. Review and approval processes must address specific completeness and documentation requirements (e.g., evidence of adequate financial commitment).
- Timing: Current load cycle

BYO Capacity or Load-Offset Demand Response

- Issue: Allowing or requiring large load customers to self-supply capacity
- Status Quo: No explicit BYO provision
- Option:
 - New large loads (NLL) must meet one of the following two requirements as a precondition of interconnection:
 - Bring Your Own Capacity (BYOC)
 - Commit to offering its entire peak load through a CSP/LSE/EDC as a Load-Offset Demand Response (LODR) resource in BRAs
 - NLL's load is included in the PJM reliability requirement; NLL's BYOC or LODR supply is included in the RPM supply stack
 - Price offers associated with BYOC and LODR need to be restricted (e.g., self-scheduled, below a certain threshold) to ensure that they clear the RPM auction

BYO Capacity or Load-Offset Demand Response

- Option (cont.):
 - Mandatory BYOC that is:
 - Additional: New build / new resource requirement (i.e., cannot have cleared in previous RPM auction)
 - Sufficient: Meets NLL's peak capacity on a UCAP basis + reserve margin
 - Local: Within the smallest applicable LDA
 - Alternative: co-locate at the constraint as identified through state review process (i.e., load/generation deliverability tests as a gating factor)
 - Timely: Synchronized in time (new load and generation come online together)
 - Flexibility regarding type of new build / new resource, but must be RPM eligible and meet requirement in aggregate

BYO Capacity or Load-Offset Demand Response

- Option (cont.):
 - Load-Offset Demand Response (LODR):
 - Created as a transitory demand response product available only to NLLs
 - LODR procedures:
 - LODR gets activated when PJM calls on DR and other resources in the applicable LDA as part of its pre-emergency and/or emergency actions
 - NLL can meet its LODR obligation by activating BTM generation and/or by reducing load
 - NLL's LODR obligation is to reach and stay at zero metered load (gross load minus BTM generation) during the duration of the event (i.e., PAI)
 - LODR non-compliance penalties can be structured to be similar to non-compliance penalties under the capacity performance construct

Equitable Load Shed Allocation

- Issue: Allocation of emergency curtailment responsibility among PJM participants
- Status Quo: Manual 13
- Option:
 - Update the manual load dump allocation process to reflect the capacity contributions of newly connected large loads, assigning higher load-shed obligations to areas with larger proportions of new large load that is not accompanied by new, local capacity.
 - Applicable when deficiency spans multiple zones or subzones.

Simplified Process:

- Pre-shedding steps / emergency escalation
- PJM determines deficiency & calculates MW to shed per zone
 - **Allocation accounts for share of NLL that do not meet BYOC requirement**
- Utilities (TOs) receive allocation & activate plans (shed on instruction)

Appendix: ERCOT

- **SB 6 establishing uniform interconnection rules for LLA:**
 - Primarily applies to large loads ≥ 75 MW, though forecasting and cost allocation provisions also cover smaller large loads
 - PUCT sets uniform interconnection rules and requires financial contributions for transmission upgrades.
 - Large loads must disclose multiple interconnections and report on backup generation ($\geq 50\%$ of demand).
 - Utilities must have protocols allowing curtailment of large loads during firm load shed events (applicable to interconnections after December 31, 2025).
 - ERCOT can order curtailment or generator use in emergencies after all market-based tools are exhausted.
 - System impact review required before an existing generator co-locates with large load.

Appendix: ERCOT

- **ERCOT's Long-Term Demand & Energy Forecast:**
 - Combines six components (Economic Base Load, EVs, distributed PV, Large Flexible Loads, Large Load Contracts, and Officer Letters) that are integrated using a “waterfall” method to form the Net Forecast.
 - ERCOT differentiates two types of Transmission Service Provider (TSP) reported large load requests:
 - Contracts: Documented, financially committed loads (e.g., signed service agreement)
 - Officer Letters: Viable but uncontracted loads (e.g., backed by officer-signed attestation)
 - Two Forecast Versions:
 - TSP-Provided Forecast: Raw aggregation of TSP submissions.
 - ERCOT-Adjusted Forecast: Real-world corrected forecast reflecting observed performance of prior large load additions.
 - 2024 adjustment factors:
 - +180-day energization delay
 - 49.8% load factor (assumed operational utilization of installed data center capacity)
 - 55.4% realization rate (scale factor for Officer Letter requests)