Proposal for Serving Large Loads

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Summary

- We need a simple, fair, forward-focused solution that can be implemented in the short-term (Governor's/NEDC goal is Sept. 2026) while we work on longer-term reforms.
- AMP's approach: Adapt the existing Fixed Resource Requirement plan rules to require new large load to plan for their own load growth and present PJM with matched capacity.

Ten Principles for a Solution

1. Ensure reliability.
2. Focus on affordability for consumers.
3. Keep it simple, clear, and sustainable.
4. Can implement in the near-term.
5. Recognize different large load business models.
6. Align to the Governors' and National Energy Dominance Council Statement of Principles.
7. Establish a clear definition of "large load" (e.g., ≥50 MW).
8. Keep it forward focused. Don't chase our tails on past BRA shortfalls.
9. Provide clarity to new supply and to new demand.
10. Reuse and adapt what already works in PJM's existing processes.

From Principles into an Actionable Plan

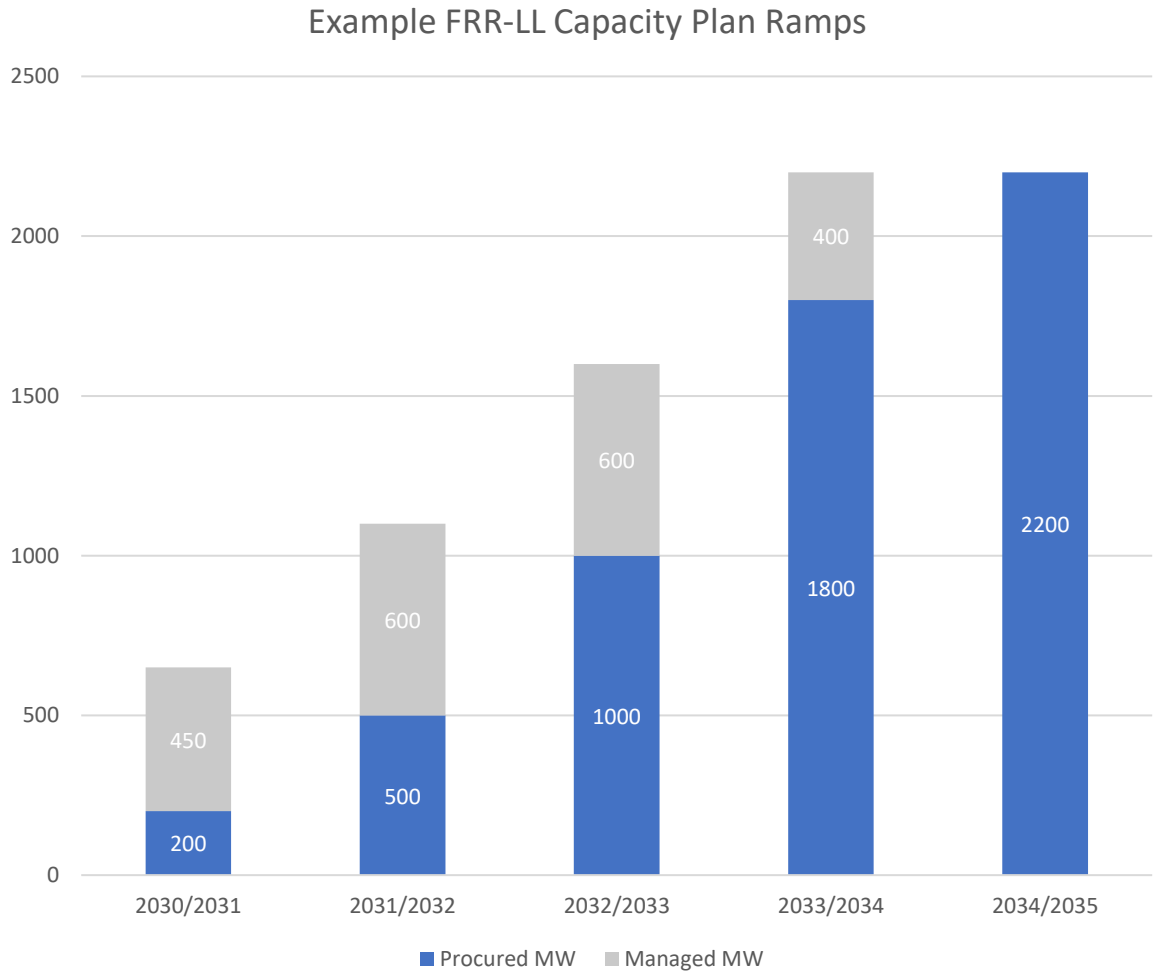
- New Large Loads will submit Fixed Resource Requirement-Large Load (FRR-LL) plan for growth that qualifies as New Large Load MWs.
  - FRR-LL plan conforms to existing FRR requirements (i.e., Manual 18, Section 11) with adjustments.
  - Current loads and new loads not deemed to be New Large Loads participate in the BRA.
- New Large Loads are:
  - Facility is (or has become) ≥50 MW Gross Peak at a single site. Intended to align with PJM definition.
  - Applies to incremental MWs online after a specified date (e.g., [June 1, 2027]).

Fixed Resource Requirement – Large Load (FRR-LL)

- FRR-LL plans would be required for Delivery Years 2030/31-2039/40
- The FRR-LL entity must supply its own New Capacity Resources.
  - Defined tentatively as resources without a must offer, DR is excluded.
  - Any capacity procured under an FRR-LL plan must be deliverable. [The capacity must be in the same LDA as the Large Load].
- The FRR-LL entity would not participate in the BRA until the end of the FRR-LL plan.
- The FRR-LL entity may sell any excess capacity within allowed rules.
  - FRR rules already address selling excess FRR capacity.

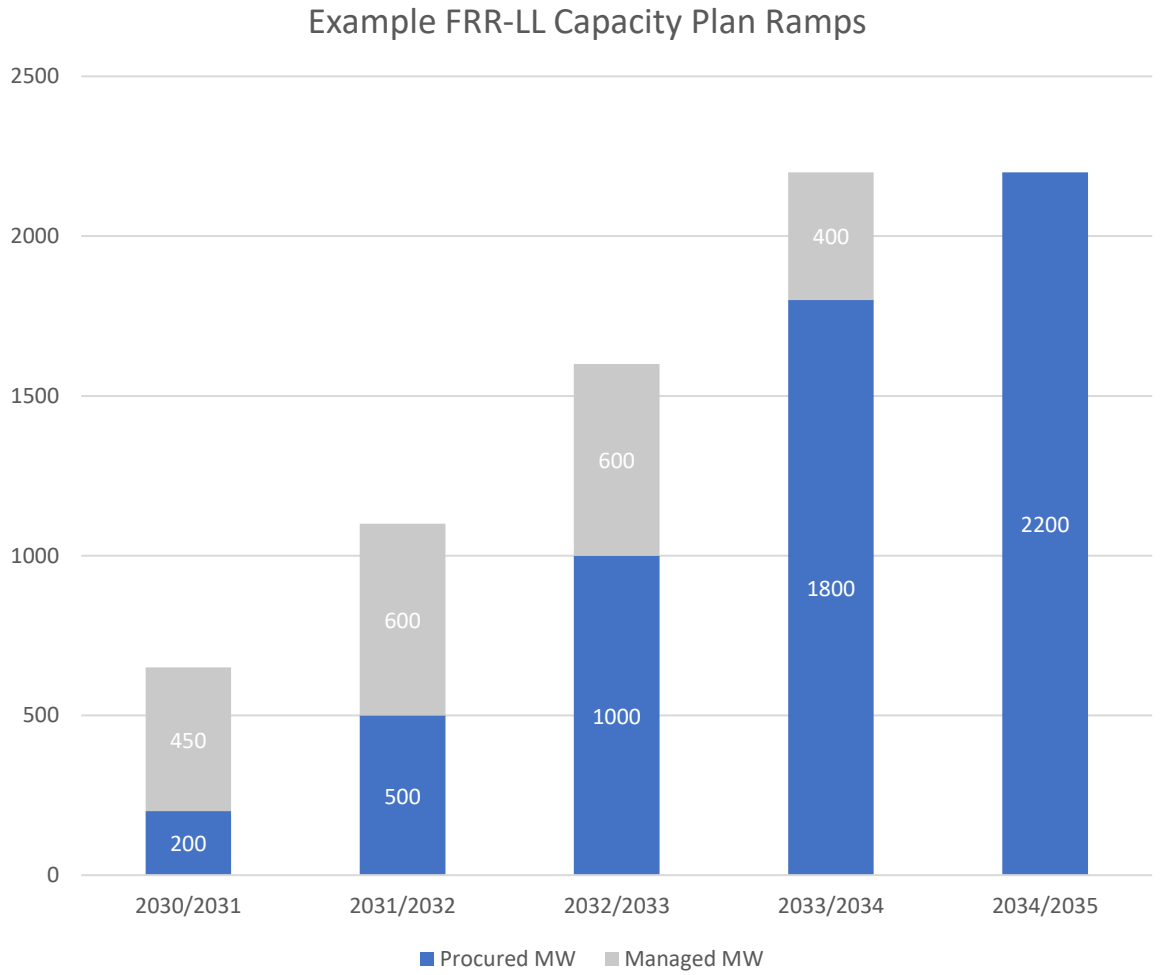
Example FRR-LL Plan

- Initial plans must cover the first 5 years of the 10-year plan and be submitted by End-of-Year 2026.
  - Plans may be modified at any time, but subject to small Plan Inaccuracy Charge discussed later in the presentation.
- FRR-LL plans after year 5 are subject to existing one-year-at-a-time submission rules under Reliability Assurance Agreement and Manual 18.



Example FRR-LL Plan

- Under present rules if an FRR plan is short from the outset, then it is prohibited from electing FRR. RAA 8.1.D(7).
- New FRR-LL would allow the entity to elect Managed Service instead of that prohibition.
- FRR-LL Managed Service election would only be allowed ending Delivery Year 2034/35.



Penalties for Failing to Bring Generation

- Risk is on the FRR-LL entity to determine the amount of capacity to be procured.
- If an FRR-LL entity fails to secure enough capacity:

  1) the difference between procured capacity and measured peak demand operates as a non-firm load (subject to Connect and Manage Stakeholder Process), and

  2) if the shortage occurs in the Delivery Year, it pays penalties significant enough to incent compliance and reliability. Penalties would be credited to load. Penalties would be stopped when capacity is replaced.
- Monetary penalties would not protect an FRR-LL entity from Connect and Manage consequences due to failure to procure adequate capacity.

Penalties for Failing to Bring Generation

- Failure to provide enough capacity may come in multiple forms:
  - Connect and Manage as part of the plan (our proposal allows this for the first 5 years)
  - Bringing more unmatched load than PJM is told in the plan (billed for Deficiency Charge according to FRR rules and subject to connect and manage)
  - Bringing less capacity than PJM is told (billed for Deficiency Charge according to FRR rules and subject to connect and manage)
- The Connect and Manage physical penalty is a change from existing rules.

Consequences for Inaccurate Plans

- Adjustments to plan may be made at any time ahead of the final plan report before a delivery year. This timing would be consistent with existing FRR plan submission rules.
- We propose a small “Plan Inaccuracy Charge” to encourage accurate FRR-LL plan reporting. This is different than the Deficiency Charge discussed in the previous slide.
  - Intended to mirror purpose of FRR Commitment Insufficiency Charge, to encourage accurate planning.
  - If metered load differs from the value the FRR-LL Entity reported for a delivery year in the plan as of 3 years prior to the delivery year, the charge is assessed in the delivery year.
  - Safe harbor for 5% of plan value.
  - Value of charge is tentatively 10% of RPM Clearing Price times the difference in load above the 5% safe harbor.

Plan Inaccuracy Charge Example

- 2036/2037 Delivery Year
  - Metered Peak Load*FPR is 500 MW.
  - Delivered BYONG is 500 MW.
  - As of 2033/2034 plan reporting deadline, projected 2036/2037 Load is 450 MW.
  - Penalty is 27.5 MW times Plan Inaccuracy Charge Rate.
    - 27.5 = 500 – (450*1.05)
  - Deficiency Charge is zero, load is not subject to Connect and Manage.
- Plan Inaccuracy Charge is fully avoidable at any time before the three-year-forward plan submission deadline by submitting adjusted plan to PJM.

Flexibility for Large Loads

- Like the existing FRR structure, PJM would be principally concerned with matching capacity to load demands.
  - The specific capacity resources of the FRR-LL plan could shift between plans or between the BRA and the FRR-LL plan.
  - This allows New Large Loads lower risks regarding the quantity of the capacity they procure in their plans.
  - This allows lowers risks on the locational requirements of the plans.
  - Excess capacity may be sold into RPM, reducing over-procurement disincentive.
- FRR-LL entities may contract as a group and allocate generation and costs to their plans ahead of a Delivery Year according to their own wishes.
- Eliminates problems with high credit rating loads being matched with low credit rating generation, or vice versa.

Governors'/NEDC Statement of Principles

Relevant Principle	Alignment
Provide revenue certainty to new generation	Bilateral contracts with a requirement that New Large Loads provide 10 years' worth of plans encourages long-term contracting and planning by the load with the best information of what might exist. One area of non-alignment: AMP's proposal allocates no costs to net-short LSEs. Meaning of that term is not well-understood, and under this plan, there are not excess costs that need to be more broadly allocated.
Protect Residential Ratepayers; Allocate Costs to Data Centers	The FRR-LL mechanism fully and directly allocates costs for New Large Loads. Costs are excluded from RPM, ensuring that the demand shock is allocated to the cause of that shock.
Governors agree to use their authorities to properly allocate costs	The FRR-LL mechanism eases pressures on states to ensure costs are allocated properly. This would be managed within the bilateral contracts.

Contact Information

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Appendix

Measurement of New Large Loads

- We propose to measure this value for an individual facility as the higher of:
  - A) Peak metered facility load as of June 1, 2026.
  - B) (Coincident Large Load Peak Usage/Sum of individual large load facility peaks) * Peak metered facility load as of June 1, 2027.
- The purpose of the (B) calculation is prevent gaming of load growth by shifting infrastructure between sites. (A) protects loads that are already online from the ratio calculation in (B).

Current FRR Provisions in Business Practice Manual

- Fixed Resource Requirement (FRR) - Manual 18: PJM Capacity Market, Section 11 Fixed Resource Requirement Alternative
- *Excerpt*:
- **11.1.1 Definition and Purpose of Fixed Resource Requirement Alternative**
- The purpose of the Fixed Resource Requirement (FRR) Alternative is to provide a Load Serving Entity (LSE) with the option to submit a FRR Capacity Plan and meet a fixed capacity resource requirement as an alternative to the requirement to participate in the PJM Reliability Pricing Model (RPM), which includes a variable capacity resource requirement.
- The FRR Alternative allows an LSE, subject to certain conditions, to avoid direct participation in the RPM Base Residual Auctions and the Incremental Auctions; however, such LSE is required to submit a FRR Capacity Plan to satisfy the unforced capacity obligation for all loads in an FRR Service Area, including all expected load growth in the FRR Service Area.
- An LSE serving load in an FRR Service Area under the FRR Alternative does not pay an RPM Locational Reliability Charge. The portions of capacity resources included in an LSE's FRR Capacity Plan do not receive any RPM Resource Clearing Prices.

Current FRR Provisions in Business Practice Manual

- **11.1.3 Participation in the FRR Alternative *(excerpt)***
- An LSE may terminate its election of the FRR Alternative effective with the commencement of any Delivery Year following the minimum term of five consecutive Delivery Years. An FRR Entity may terminate its election of the FRR Alternative prior to meeting its minimum five year commitment without penalty for any Delivery Year after the first Delivery Year of the FRR Entity's minimum five year commitment for which PJM will be required to establish a separate Variable Resource Requirement Curve, as described in Section 11.5 below.

Current FRR Provisions in Business Practice Manual

- **11.2.3 Annexation & Switching of Load *(excerpt)***
- The following business rules address the annexation of service territory by a Public Power Entity and load switching between FRR Entity and RPM LSEs. If an LSE that is a Public Power Entity annexes service territory to include new customers on sites where no load had previously existed, the incremental load will be treated as unanticipated load growth, and the LSE must commit additional resources to cover the additional load obligation associated with this annexed load.

NOTE: Including this section to point out existing business rules have specific provisions relevant to specific business models, in this case Public Power Entities.

Current FRR Provisions in Business Practice Manual

- **11.3 Capacity Plan *(excerpt)***
- The most important requirement in electing FRR Alternative is for the FRR Entity to commit Capacity Resources to meet their daily unforced capacity obligations, any applicable Percentage of Internal Resources Required in an LDA, plus any additional threshold if the FRR Entity plans to sell capacity.

Current FRR Provisions in Business Practice Manual

- **11.4 Supply Resources in the FRR Alternative *(excerpt)***
- The supply resources available and the qualification requirements for use in FRR Capacity Plans are very similar to RPM resources.
- **11.4.1 Resource Portfolio *(excerpt)***
- An FRR Entity must specify through the Capacity Exchange system, before the FRR Capacity Plan submittal deadline, the amounts of installed capacity from resources in their Capacity Exchange resource portfolio that are being committed to their FRR Capacity Plan for the Delivery Year.

Current FRR Provisions in Business Practice Manual

- **11.4.2 Existing Generation**
- Existing generation located within the PJM region or outside the PJM region is eligible to be committed to the FRR Capacity Plan if it meets the requirements set forth in Section 4 of this manual.
- **11.4.3 Planned Generation**
- Planned generation located within the PJM region or outside the PJM region is eligible to be committed to the FRR Capacity Plan if it meets the requirements set forth in Section 4 of this manual.
- **11.4.5 Bilateral Unit-Specific Transactions *(excerpt)***
- RPM Business Rules regarding Bilateral Unit-Specific Transactions in Section 4 of this manual apply to the FRR Alternative.
- Available installed capacity purchased through a bilateral unit-specific transaction that is reported via PJM's Capacity Exchange system may be committed to an FRR Capacity Plan.
- **11.4.7 Load Management Products *(excerpt)***
- A Load Management program (e.g., Firm Service Level or Guaranteed Load Drop program) is eligible to be committed as a Demand Resource (DR) to the FRR Capacity Plan, if the program meets the requirements specified in the ***Load Forecasting & Analysis Manual (M-19)*** and Section 4.3 of this manual.

Current FRR Provisions in Business Practice Manual

- **11.5 Locational Constraints in the FRR Alternative *(excerpt)***
- As discussed in Section 2, locational constraints may require modeling constrained Locational Deliverability Areas (LDAs) separately. Locational Constraints are used to define the minimum Percentage of Internal Resources Required for a constrained LDA in the FRR Capacity Plan. For each LDA for which PJM is required to establish a separate Variable Resource Requirement Curve for the Delivery Year, a Percentage of Internal Resources Required for such LDA will be defined.

Current FRR Provisions in Business Practice Manual

- **11.8 Deficiency Charges & Penalties**
- **11.8.1 FRR Capacity Resource Deficiency Charges *(excerpt)***
- An LSE participating in the FRR Capacity Plan Alternative will pay a FRR Capacity Resource Deficiency Charge in the delivery year for any shortage of resources to meet the Final Daily Unforced Capacity Obligation and the Amount of Internal Resources Required in an LDA.
- A shortage/excess of resources to meet the Amount of Internal Resources Required in an LDA is calculated by comparing an LSE's Daily LDA FRR Resource Position to the Amount of Internal Resources Required in an LDA. If the Daily LDA FRR Resource Position is less than the Amount of Internal Resources Required in an LDA, a FRR Capacity Resource Deficiency Charge for this shortage will be assessed.
- A shortage/excess of resources to meet the Final Daily Unforced Capacity Obligation is calculated by comparing an LSE's Daily Total FRR Resource Position to their Final Daily Unforced Capacity Obligation. If the Daily Total FRR Resource Position is less than Final Daily Unforced Capacity Obligation, a deficiency charge for this shortage less the shortage calculated for failure to satisfy the Amount of Internal Resources Required in the LDA will be assessed.

Current FRR Provisions in Governing Document

- **Reliability Assurance Agreement (RAA) Schedule 8.1.B *(excerpt)***
  - 1. A Party is eligible to select the FRR Alternative if it (a) is an IOU, Electric Cooperative, or Public Power Entity; and (b) demonstrates the capability to satisfy the Unforced Capacity obligation for all load in an FRR Service Area, including all expected load growth in such area, for the term of such Party's participation in the FRR Alternative.
  - 2. A Party eligible under B.1 above may select the FRR Alternative only as to all of its load in the PJM Region; provided however, that a Party may select the FRR Alternative for only part of its load in the PJM Region if (a) the Party elects the FRR Alternative for all load (including all expected load growth) in one or more FRR Service Areas; (b) the Party complies with the rules and procedures of the Office of the Interconnection and all relevant Electric Distributors related to the metering and reporting of load data and settlement of accounts for separate FRR Service Areas; and (c) the Party separately allocates its Capacity Resources to and among FRR Service Areas in accordance with rules specified in the PJM Manuals.

Current FRR Provisions in Governing Document

Reliability Assurance Agreement (RAA) Schedule 8.1.B *(excerpt)*

- No less than four months before the conduct of the Base Residual Auction for the first Delivery Year for which such election is to be effective, any Party seeking to elect the FRR Alternative shall notify the Office of the Interconnection in writing of such election. Such election shall be for a minimum term of five consecutive Delivery Years. No later than one month before such Base Residual Auction, such Party shall submit its FRR Capacity Plan demonstrating its commitment of Capacity Resources for the term of such election sufficient to meet such Party's Daily Unforced Capacity Obligation (and all other applicable obligations under this Schedule) for the load identified in such plan.

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