Reliability Backstop Procurement

Alternative Proposals to Four Aspects of PJM's Proposal

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Sponsored by REV Renewables,
LS Power, Middle River Power,
and Geronimo Power

Unchanged from May 27

Credit and Collateral Requirements

- **PJM Proposal:** NPV (Oct.2026 of penalty/deficiency charge over tenor), collateral holds for duration of the contract, declining only due to annual reduction in tenor.
- **Alternative:**
  - Collateral requirement of one-year nominal penalty/deficiency charge * 3-year multiplier.
  - After resource has reached full committed RBP MW online:
    - RBP collateral steps down by 1/2 once the resource has reached full committed MW COD.
    - In subsequent years, RBP collateral reduces annually pro-rata for the remaining duration of the long-term contract.
  - Note the RPM must-offer remains for the term of the contract so the RPM credit and collateral requirements apply for the contract term, and requirement remains to be online within 3-years of COD or contract terminated.

Unchanged from May 27

Credit and Collateral Requirements

Reasoning for Alternative:

- RBP contracts will be canceled if a resource is delayed meeting COD for three years after the first applicable committed delivery year, so first three years is the highest risk time.
- Resources must post collateral and be subject to credit requirements for the RPM, so those annual postings will also cover the annual risk of RPM performance after resource is online.
- PJM's proposed collateral requirements are very high for capacity-only contracts, do not reflect PJM's new proposed penalty regime and the level is more in line with capacity + E&AS contracts.
  - As a point of reference, California utilities 15-year contracts for capacity-only have pre-development security in the $60-90/kW range, equating to $6-9M for a 100 MW project, making this alternative proposal in line with the higher end of the market.

Unchanged from May 27

Credit and Collateral Requirements

Example Calculation:

- 100 MW - Same as PJM slide 45 from April 16-17 presentation:
  - 100 MW resource, bid clearing price $400/MWD, 20% credit rate
  - $2,920,000 one-year nominal penalty/deficiency charge ($400/MWD*100MW*365*0.2)
    - Multiply by 3 years to get total collateral
  - Total collateral = $8,760,000
    - Compared to $21,355,943 using 7.31 multiplier

Unchanged from May 27

ELCC Risk

- **PJM Proposal:** Resource bears the ELCC risk, in that it can bid different UCAP levels at different offers per year but is not compensated for changes to accreditation because of ELCC. Resources remain subject to penalty risk in first year if UCAP shifts due to updated ELCC values.
- **Alternative:**
  - PJM to publish official long-term year by year ELCC accreditation forecast prior to Central Procurement. Resource UCAP bids will use the ELCC forecast as benchmark to establish UCAP values in RBP.
  - Including in first year of COD, if there is a UCAP decrease due to ELCC change compared to PJM's published long-term forecast, but ICAP is the same as committed, then the resource is paid based on its original UCAP contract amount. If ICAP is lower than committed, resource is allowed to procure replacement MW.
- **Reasoning for Alternative:**
  - PJM's proposal still requires excess risk premium in RBP bid to price risk of ELCC shift for year 1 penalty and subsequent uncompensated changes.
  - Removing the shortfall charge mirrors the change made in 2025 for ELCC related MW shortages in RPM to not be subject to a deficiency penalty and are only subject to the replacement MW.
  - ELCC changes are outside of the resource control.
  - ELCC change risk increases challenges for financing; reducing some level of risk would improve project viability.
  - Note that available MW below the committed RBP UCAP that is due to reductions in resource ICAP face Non-Delivery Charges.

ELCC Risk

RBP

- Supplier
  - Receives fixed $/MW based on bid UCAP based on the ELCC forecast
    - Contract for differences of RPM cleared price based on this fixed price
  - Obligated to maintain ICAP and MFO associated with the UCAP at the forecast ELCC.
    - ICAP/MFO shortfall = Pays deficiency, replacement MW for shortfall, and non-performance penalty for unreplaced shortfall MW
- PJM – creates 15-year ELCC forecast
- Load
  - Pays fixed $/MW based on bid
  - Receives RBP cleared UCAP MW
    - Connect & Manage exemption for those MW and able to come online per LSE/EDC rules

RPM

- Supplier
  - $0 bid of ICAP and MFO associated with cleared RBP UCAP
    - Resource faces no shortfall in the RPM if ICAP and MFO same as RBP commitment. RBP ICAP translates to UCAP using the RPM ELCC values.
    - Resource is allowed to procure UCAP shortfall if UCAP cleared is less than RBP commitment due to ICAP/MFO reduction, but is not subject to shortfall penalty.
  - Resource allowed to keep the revenues associated with the UCAP MW cleared above the RBP UCAP (and ICAP/MFO same)
- PJM
  - Uses the resource ICAP as the market input, and solves RPM parameters as normal, including calculating fleet ELCCs and UCAP
- Load
  - Receives capacity market supply benefit of new resource additions
  - $0 bid of resource is tied to the presumption that RBP[6] (Connect & Manage) load will be included in RPM

ELCC Risk Example – Supplier Settlement

Example 1: ELCC Reduced in RPM but ICAP Remains the Same		
RBP Clearing		
Cleared MW (UCAP)	80	
Price ($/MW-day)	$200	
ELCC Forecast	80%	
Expected RBP Credits	$16,000	
RPM Clearing		
Cleared MW (UCAP)	79	ICAP remains the same, but ELCC reduced
Price ($/MW-day)	$125	
ELCC Actual	79%	
Settlements		
RPM Auction Credits	$9,875	seller keeps auction credits
RPM Deficiency	0	resource bids in full ICAP with RPM ELCC, RPM does not see a deficiency
RBP Shortfall MW	0	resource bids in full ICAP with RPM ELCC, RPM does
RBP Difference Credit	$6,125	RBP clearing - RPM Auction credits
Total Credits	$16,000	

ELCC Risk Example – Supplier Settlement

Example 2: ELCC Increased in RPM and ICAP Remains the Same		
RBP Clearing		
Cleared MW (UCAP)	80	
Price ($/MW-day)	$200	
ELCC Forecast	80%	
Expected RBP Credits	$16,000	
RPM Clearing		
Cleared MW (UCAP)	81	ICAP remains the same, but ELCC increased
Price ($/MW-day)	$125	
ELCC Actual	81%	
Settlements		
RPM Auction Credits	$10,125	seller keeps auction credits
RPM Deficiency	0	
RPM UCAP MW Addition	1	
RPM UCAP Addition Credit Removed	($125)	seller retains credit and this is removed from settlement
RBP Difference Credit	$6,000	RBP clearing - RPM Auction credits - RPM UCAP addition
Total Credits	$16,000	

ELCC Risk Example – Supplier Settlement

Example 3: ELCC Remains the Same but ICAP Reduced		
RBP Clearing		
Cleared MW (UCAP)	80	
Price ($/MW-day)	$200	
ELCC Forecast	80%	
Expected RBP Credits	$16,000	
RPM Clearing		
Cleared MW (UCAP)	72	ICAP reduced to 90 MW, ELCC remains the same
Price ($/MW-day)	$125	
ELCC Actual	80%	
Settlements		
RPM Auction Credits	$9,000	seller keeps auction credits
RPM Deficiency	0	resource bids in available ICAP with RPM ELCC, RPM does not see a deficiency
RBP Shortfall MW	8	resource bids in lower ICAP that resulted in a reduced
RBP Deficiency 20%	($320)	8 MW * 20% * $200 RBP Clearing
RBP Replacement	($1,000)	settled separately in RPM, shown to PJM in RBP
RBP Difference Credit	$6,680	RBP clearing - RPM Auction credits - RBP Deficiency
Total Credits	$14,680	RPM Credits + RBP Difference Credit - RBP

Unchanged from May 27

New Resource Eligibility

- **PJM Proposal:** PJM is proposing to exclude delayed retirements, re-licensing, fuel switching, CIR-only uprates, surplus resources
- **Alternative:** Allow new UCAP to be eligible only if due to demonstrated technology upgrades or additions at the site, not due to annual ELCC fluctuations; therefore CIR-only uprates and surplus resources are eligible (other exclusions remain).
- **Reasoning for Alternative:** CIR-only uprates and surplus resources are adding demonstrated UCAP to the system by adding new technologies or upgrades that would not be available from normal ELCC fluctuations, therefore the incremental addition should be treated as new resources.

Maximum Willingness to Pay RBP Price Cap

- **PJM Proposal:** Eliminate bids from consideration that exceed 2 Standard Deviations of the MW-weighted average of all RBP offers.
- **Alternative:**
  - Group bids **by COD**, then evaluate the MW-weighted average and 2 Standard Deviation spread *of each group*. Eliminate bids that exceed 2 Standard Deviations of the MW-weighted average *for its group.*
- **Reasoning for Alternative:**
  - COD will likely be a significant determinant of project cost and bid-price.
  - PJM's proposal has the potential to eliminate near-term but more expensive RBP offers from consideration.
    - This is particularly concerning if the large majority of MW offers are CCGT resources with later CODs, where capacity-dependent peaking or battery proposals would be eliminated.