

Replacement Capacity

PJM CSTF

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RPM Goals & Principles

- Assure resource adequacy to maintain a reliable transmission system.
- RPM should align capacity pricing with system reliability requirements on a sufficiently forward basis to permit an actionable physical response to the reliability needs of the system through the use of competition.
- Investment signals must accurately reflect market fundamentals to assure transmission system reliability.

Key Design Principles

- RPM is designed to permit new resources to compete with existing resources on a three-year forward basis.
- If the cost of developing and committing a new resource on a forward basis is less than the cost required by a marginal existing resource, then the new resource will supplant the existing resource in the committed supply stack.

If resource developers are motivated to purchase replacement capacity for financial gain, then RPM goals are thwarted

Predicate Questions

In *Analysis of Replacement Capacity for RPM Commitments: June 1, 2007 to June 1, 2012 (Dec. 11, 2012)* the IMM suggested two predicate questions to addressing any rule changes:

1. Is the sale of capacity in an RPM auction or to meet and RPM obligation a commitment to provide a physical resource?

- Yes, according to provisions of the PJM Reliability Assurance Agreement and OATT
- The PJM agreements require that resource commitments be “physical.” RPM was neither intended nor designed to permit speculation.

2. If yes, then when is the commitment enforceable?

- *Enforceability at the time of commitment is consistent with a physical market*
 - Market Participant commits to and is expected to deliver committed capacity in Delivery Year
 - Suggests that no profit from purchasing replacement capacity is acceptable since there was an enforceable commitment at the time the resource cleared.
- *Enforceability at the time of delivery is consistent with a financial market*
 - Market participant may buy/sell up to delivery.
 - So long as no outstanding commitment, then no penalty

Rules and incentives must align in a non-discriminatory fashion to assure desired reliability outcomes without undue barrier to new entry

Certainty of Project Risks Changes Over Time

- Capacity Offers for Prospective Resources are risky
- Project Risk will likely change between the initial offer/clearing and the Delivery Year
- Resource developers enjoy a low-cost option to make a forward commitment, yet cancel the commitment if the cover cost or deficiency penalty is less than the remaining development cost

Example

External Resource offers/clears in BRA without completed transmission path

Transmission upgrades necessary to assure deliveryability, but cost is unknown at time of auction

Resource owner has a free option to assess cost of the project (i.e., the cost of upgrades)

Developer is motivated to buy out of project if incremental auction clears at less than development cost or if development cost is less than the capacity deficiency penalty.

Other marginal resources displaced and remaining ~150GW of committed capacity is devalued.

The resource owner should be responsible for appropriately valuing and offering the resource consistent with the risk that the resource cannot be developed for the delivery year and then develop the resource for delivery, consistent with commitment of the resource.

Modifications to Stem Financially-Motivated Replacement

Exelon has suggest three ways in which the incentives to speculate or to engage in financially opportunistic behavior can be eliminated or mitigated.

1. Remove the Profit
2. Modify the Market –Based Profit Incentives
3. Track Development and remove speculative projects

Modifications to Stem Financially-Motivated Replacement

Bar profit from the purchase of replacement capacity

- If a resource owner makes an enforceable capacity commitment in the BRA, then the owner is committed to delivering the committed resource in the delivery year at the auction clearing price.
- If there is no opportunity to profit from the purchase of replacement capacity, then the motivation to commit speculative projects in a prior auction is removed
- Legitimate purchases of replacement capacity for resources unable to meet the initial commitment are no worse off

Modifications to Stem Financially-Motivated Replacement

Modify the Market-Based Profit Incentives

- Increase the capacity deficiency penalty to discourage default
 - Exelon suggests that the penalty be raised to a level symmetric to the historic IA discount to the BRA clearing price. (E.g. if the IAs historically clear at 65% less than the BRA, then set the deficiency penalty at 1.65X BRA clearing price).
- Increase the Incremental Auction offer cap to the higher of the resource specific ACR or the capacity deficiency rate
 - Speculative resources will face a symmetric risk of covering at the capacity deficiency rate in the IA as well as in default, consistent with the initial physical commitment.
- Establish continuing, non-refundable credit requirement prior to each IA for resources that are not developed into a viable capacity resource at each IA.
 - Strong incentive to develop resource sooner.
 - If credit is not posted, then it signals to PJM that the resource will be unavailable in the delivery year
 - Credit requirement should be consistent with development risk.
 - For example, if an import requires a very expensive transmission upgrade then the collateral should be commensurately greater than a similar import with a nominal cost upgrade.

Modifications to Stem Financially-Motivated Replacement

Track Development and Remove Speculative Projects

PJM and stakeholders should develop metrics to assess the development of prospective resources from commitment through delivery.

Exelon recommends adapting the ISO-New England Planned Resource Milestones

Example

Develop Planned Generator Critical Path

- Major Permits
- Project Financing
- Major Equipment Orders
- Site Construction
- Major Equipment Delivery
- Major Equipment Testing
- Commercial Operation