



# Implementation of the Current Mitigation Measures and Reference Levels

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David Patton  
Potomac Economics

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## Opportunity Costs

- Opportunity costs are well-understood to be an important component of a supplier's marginal costs in all markets, not just electricity markets.
- Accordingly, Reference Levels are established under the MISO Tariff to reflect not just the incremental cost of remaining in service (i.e., a unit's "Going Forward Cost" or GFC), but also the opportunity cost of participating in other accessible markets.
  - ✓ Hence, we establish an Initial Reference Level that reflects the opportunity cost of exporting capacity to the most valuable market.
  - ✓ Suppliers can request higher unit-specific Reference Levels if they believe that they have GFCs that exceed the Initial Reference Level.
- The calculation of the initial reference level is governed by Section 64.1.4.e.



## Tariff Basis for Opportunity Cost in PRA Reference Levels (Section 64.1.4)

- e. Initial Reference Levels for Zonal Resource Credit Offers will be based on the estimated opportunity cost of exporting capacity to a neighboring region.
- i. The IMM shall estimate the Reference Level for Planning Resources based upon best available Capacity pricing data from neighboring regions, available bilateral Capacity contract information and the results of voluntary capacity auctions.
  - ii. Thirty (30) days prior to the deadline for submitting offers into each RAR voluntary capacity auction, the IMM will publicly post the applicable Reference Level for Planning Resources. This shall include a complete enumeration of the information used and the derivation of the opportunity costs included in the Reference Level.



## Initial Reference Level Past Practice

- The reference levels have been based on the estimated opportunity cost of exporting capacity to PJM since the beginning of MISO capacity auctions in 2009.
  - ✓ This is discussed with participants each year. We have generally received very few comments or concerns.
- We have utilized this approach because PJM has been the highest value opportunity that would be lost when a resource is sold in the MISO PRA.
- We sought bilateral capacity contract data suitable for setting these reference levels because this is likely to provide a more accurate indication of the value of capacity at the time of the PRA Auction.
  - ✓ We were ultimately unable to find a reliable source.
  - ✓ We will continue to identify potential options for future auctions.



## Concerns Raised After the Most Recent PRA

- The demand for replacement capacity in PJM is not large enough for all uncommitted capacity in MISO to sell –  
***Response: Not Relevant***
  - ✓ Opportunity costs represent the opportunity at the margin to export capacity.
  - ✓ There is no economic theory that would support a requirement that this opportunity be available to all uncommitted suppliers.
  - ✓ If only a portion of the supply could be exported, it would be arbitrary and discriminatory to grant a higher reference level for some of the resources than others.



## Concerns Raised After the Most Recent PRA

- Firm transmission may not be available to support capacity exports – ***Response: Not Correct.***
  - ✓ Substantial ATC is frequently available;
  - ✓ Participants can utilize pre-certified point-to-point transmission drive-out service – large quantities are available for 2016.
  - ✓ Existing firm reservations can be used to support capacity exports. Many participants hold firm reservations are not already being used to support capacity sales.