Opportunity Cost Calculator Proposal

Panda/Dominion PJM MIC

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Package Highlights

- Make modest improvements in PJM calculator aimed to make the results more reasonable, accurate and consistent with IMM's calculator.
  - Incorporate start emission
  - Incorporate dispatch range between eco min and eco max
  - Remove negative margins from multi year average (Example provided on next slide)
  - Use spot emissions price when forward emissions pricing unavailable
- Ensure documentation of IMM calculator
  - Expand current M-15 description
  - Document Bid behavior modeling
  - Document dual fuel units sharing the same quota of emissions
  - Document future changes in M-15 and use upon approval
    - Interim changes allowed with PJM approval with the intent to incorporate in M-15
- Maintain both PJM and IMM calculators
  - Provides market participants an approved and ready to use alternative
  - Provides an alternative to market participants if one of the calculators is unable to model a specific constraint

Negative margin Example

- Unit has 1,000 emission hours in a year
- Margin at the 1,000th hour reflects the OCC adder
- OCC adder methodology simulates 3 years of historic dispatch
  - 2 out of 3 years the unit has a positive margin at the 1,000th hour, resulting in a positive OCC Adder
  - 1 out of 3 years the unit has negative margin beyond top 500 hours. This implies negative margin at the 1,000th hour, resulting in a negative OCC Adder.
    - A rational market participant wouldn't operate the unit at a loss for 1,000 hours
    - PJM calculator currently picks up this negative value in its OCC adder calculation
    - The proposed change sets this negative value to zero
- Negative value in the historic simulation doesn't reflect rational market behavior and artificially suppresses the true OCC adder value