



# MMU Analysis of Combined Regulation Market

MIC

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- PJM temporarily modified the regulation market on August 1, 2005
- PJM combined the PJM Regulation Market and the Western Region Regulation Market
- Final decision on combining markets is contingent on a report from the MMU and a decision by PJM members

- Combined market is better operationally than separate markets
- Combined market is more competitive than separate markets
- Combined market still exhibits structural market power in a substantial number of hours
- MMU concludes that it is preferable to retain the combined market, if appropriate mitigation can be implemented

- Prior mitigation included:
  - All cost based offers (prior to Dominion integration)
  - Cost-based offers for dominant owners (following Dominion integration)
- Proposed mitigation – flexible real time approach:
  - Real time application of three pivotal supplier test
  - Apply test using exactly the same logic applied in the energy market
  - Offer capping only in hours that fail test
  - Offer capping only for owners that fail test in hour; and that are needed to provide regulation in hour

- HHI results for 2006
  - Calendar year
- Three pivotal suppliers for 2006
  - Calendar year
  - Three market definitions.
  - Correct market definition is 1.50 times clearing price.
  - Provided result for 2.00 times clearing price at the request of members.
- Mark up results for 2006
  - About 24 percent of marginal units had offers greater than cost



## Combined Regulation Market HHIs

Market Type	Minimum	Average	Maximum
All Units	816	1256	3763



# Combined Regulation Market Pivotal Supplier Results

Market Definition	Hours with Three Pivotal Suppliers (Percent)
Price $\leq$ RMCP x 1.05	79%
Price $\leq$ RMCP x 1.5	26%
Price $\leq$ RMCP x 2.0	5%