

MARKET MONITORING ISSUES

MIWG
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1. PJM West Market Power Analysis

- MMU analyzed facilities comprising likely interface between AP and PJM
- Goal: to determine if generating units should be exempt from cost capping when required to control for constraints on the interface consistent with the exemption for the east, central and west interfaces in PJM as specified in the OA



2. PJM West Market Power Analysis

- Pruntytown-Mt. Storm 500 KV for the loss of Hatfield-Black Oak 500 KV
- Control available from units owned by two companies (89%)
 - Distribution factors $> 5\%$
 - HHI = 4,084
 - Distribution factors $> 10\%$
 - HHI = 4,308
- Bedington-Black Oak 500 KV for the loss of Pruntytown-Mt. Storm
- Control available from units owned by three companies (84%)
 - Distribution factors $> 5\%$
 - HHI = 2,726
 - Distribution factors $> 10\%$
 - HHI = 4,308



3. PJM West Market Power Analysis

- Doubs 500 KV T1 for the loss of Doubs-Brighton 500 KV
- Control available from units owned by one company (100%)
 - Distribution factors $> 5\%$
 - HHI = 10,000



4. PJM West Market Power Analysis

- Conclusions
 - No AP-PJM interface transmission facilities for which there is adequate competition to permit waiver of the cost-capping rule
 - Situation is more complex than that examined by Joskow-Frame
 - Consider designing rule that would permit waiver of cost-capping under certain conditions
 - Ownership structure of units which can be used to control for constraints
 - HHI measures
 - Other measures



5. Mitigation of New Unit Offers: Issues

- Issues associated with cost capping new units in PJM
- Incentives to build
- Local market power
- Ability to capture monopoly rents
- Fairness - change of rules
- Ability to capture scarcity rents
- Available alternatives to new unit
 - Potential entry
 - Transmission
 - Load shedding
 - DSM



6. Issues (cont)

- Value of alternatives
- Distinction between new and existing units
- Available alternatives to cost capping rule
 - Market approaches (measure of competitive price)
 - Non-market approaches (RMR contracts)



7. Day Ahead Cost Capped Units

- Units which are cost-capped in the day ahead market may be unavailable in real time due to forced outage
- Risk for generation owner
- Incentives to operate
- Obligation of capacity resources to offer in day ahead market
- Withholding capacity to cover risk of non performance via high offers in day ahead market already addresses issue
- Incentives are relevant because the definition of a forced outage may be ambiguous



8. Day Ahead Cost Capped Units

- Proposal 3: Hold unit harmless only if owner's net profit is reduced as a result of comparing replacement costs for tripped unit (Unit1) with additional net revenues from unit(s) not taken in day ahead market but which run in real time or could run profitably in real time (Units 2 to n). Unit held harmless to the point of equal net profits.
 - Unit 1: $(\text{Purchase Price}) * \text{MW}$
 - Units 2 to n: $\Sigma(\text{Price}-\text{Cost}) * \text{MW}$
- Issue:
 - Apply to all owners' units?
 - Apply only to owners' units which can control same constraint as cost capped unit?

9. Incentive Issues

- No special rule: High LMP \Rightarrow
 - High replacement costs
 - High incentive to return
 - High incentive to generate replacement MWh
- With special rule (no replacement costs): High LMP \Rightarrow
 - No replacement costs
 - Low incentive to return
 - High incentive to generate replacement MWh
- With special rule (net profit test): High LMP \Rightarrow
 - Replacement costs offset by profit on replacement MWh
 - $(LMP - cost) * MW$ for additional units $<$ $LMP * MW$ for cost capped unit
 - Same incentive to produce additional MWh?

10. Issues Summary

- Incentive Issues
 - Current rule provides clear incentives to generate
 - Removing those incentives has costs
- How significant is this issue? (Frequency of occurrence?)
- Are relevant units only those that can control constraint in real time or all unit owner units?
- Units may be cost capped in day ahead market and not cost capped in real time (no need for units that control constraint in real time)
- Unit owner may not own additional units that can control constraint but does own units which generate additional MWh