Market Power Implications of RTS

Presented to:

Market Structures Working Group

David B. Patton, Ph.D.
Potomac Economics

October 14, 2003

POTOMAC ECONOMICS

Background

- One of the most important changes in RTS is the implementation of reserve demand curves.
- Fundamental principle: the market design and outcomes should be consistent with ISO operations as dictated by the reliability rules.
  - ✓ Inconsistencies create substantial inefficiencies and distort the market signals.
  - ✓ The market should procure what the operators need
  - ✓ Manual actions (out of merit dispatch, supplemental commitments, etc.) indicate market inconsistencies.

POTOMAC ECONOMICS

Background

- The reserve demand curves and pricing are keys in eliminating inconsistencies between the market and system operations.
  - ✓ In shortages, energy prices must include the value of reserves foregone since additional energy will allow the ISO to restore some reserves.
  - ✓ The reserve demand curves will help ensure consistency between the commitments and prices in the day-ahead market and real-time markets.
  - ✓ ISO operations will need to be monitored to ensure inconsistencies are eliminated – manual actions to procure reserves should be unneeded.
- The current scarcity pricing provisions are crude and are not utilized in the commitment process.
- The approach of setting reserve prices equal to the marginal system cost of procuring each class of reserves (includes lost opportunity costs) should result in a more efficient signal for reserve suppliers.

POTOMAC ECONOMICS

Market Power Conclusions

RTS should not increase the potential for market power abuses:

- RTS does changes the structure of the market.
- Incentives under the reserve demand curve are not substantially changed from the current scarcity pricing provisions.
- 10-minute reserve shortages are less likely under RTS.
  - ✓ 10-minute latent reserves will be available in real time.
  - ✓ Quarter-hour RTC process allows superior commitment and other actions to maintain reserves.
- Mitigation measures address actions that could create reserve shortages.
- Effective monitoring will continue to be critical.

POTOMAC ECONOMICS

Potential for Artificial Reserve Shortages

Two types of conduct could be employed to create reserve shortages:

- Withholding of energy capability; and
- Withholding of reserve capability only.

Withholding Energy

- Can reduce available reserves by causing additional reserve-capable units to be dispatched for energy.
- Such withholding is the primary focus of monitoring and mitigation.
- Effective monitoring and mitigation remains a top priority under RTS.

POTOMAC ECONOMICS

Potential for Artificial Reserve Shortages

Withholding Reserve Capability

- Accomplished by changing a unit's status or physical parameters without changing the energy capability of the unit.
- This is unlikely to create a reserve shortage:
  - ✓ When a unit becomes inflexible, the ISO can dispatch the unit for energy and create reserves on another unit.
  - ✓ In this case, the system will be no closer to a reserve shortage.
- A minimum level flexibility is necessary – above this level, individual changes should not increase the probability of a shortage.
- Mitigation addresses each of the actions that reduce reserve capability – provision added in sanction section to close potential loophole.

POTOMAC ECONOMICS

Costs of Out-of-Market Actions

- The ISO may take an out-of-market action to increase its reserves when the demand curve causes it to be deficient.
  - ✓ Demand curves should be set so that this is unlikely
  - ✓ When this does happen, the out-of-market actions should be actions to:

    a) procure additional energy (generally from outside NY); or

    b) reduce consumption of energy.
- These actions should not be a source of market power since:
  - ✓ These offers will be limited by the $1000/MWh bid cap; and
  - ✓ Mitigation would apply comparably to these offers of supplemental energy as to typical energy offers.

POTOMAC ECONOMICS