

**Market Operations Task Team  
Meeting Notes  
October 24, 2002**

**Discussion Summary:**

The Market Operations Team (MOT) met the morning of October 24<sup>th</sup>. Discussion focused on the development of three white papers to cover topics discussed in the Market Design Work Group Meeting the previous day. Assignments were made to begin work on the first two papers (Clearing Price Methods and Consequences versus Sanctions).

**S. Walton Note on Post Meeting Activities:**

*In phone calls following the MOT meeting, concern was expressed that the Monday evening deadline (October 28<sup>th</sup>) for the "Pro & Con" section of the Clearing Price Methods was too early. The timeline agreed upon during the meeting did not provide adequate time for thoughtful consideration of issues, especially given the deadlines associated with the work of other task teams. However, those I spoke with agreed that work should proceed on the development of the common example to be used for comparing the methods.*

*As a result of these discussions, the preparation of the "Pro & Con" sections will be delayed, until after the next meeting. Further, when I sat down to list the issues to be addressed for the "Pro & Con" section, I found that neither my notes nor memory were sufficient to recall the full extent of our discussion. While the outline provided below follows the general theme of the discussion, I have added ideas that occurred to me while writing of a possible approach to the paper. We can discuss the outline further at our next team meeting on October 31<sup>st</sup>. I also added two tables to the notes: Table 1 is transcribed from a flipchart and Table 2 is a depiction of a concept described verbally during the meeting.*

*An outline for the Consequences v. Sanctions paper is also provided. The outline has been expanded beyond discussion in the MOT meeting to include ideas discussed in the full MDWG meeting on October 23, 2002.*

## Notes on White Paper Discussions

1. Discussion of Paper on Method for Setting Energy Clearing Prices: The following is a rough outline of the issues to be covered by this white paper.
  - a. Introduction – This is to be problem statement, i.e., a description of the two methods for calculating energy clearing prices.  
*(Assignment: Ren Orans and Rich Bayless)*
  - b. Common Example – Description of an example that can be used to compare the methods. The example will use the small system models started during Stage 2 discussions. *(Assignment: Mike Ryan, Ray Brush, Ron Schellberg)*
  - c. Comparison of Clearing Price Methods:
    - i. Method #1 – “Full Model”
      1. Description of method:
        - a. Objective function -- minimize energy cost among willing buyers and sellers
        - b. Process steps for price setting
      2. Application recommended
        - a. For day-ahead market?
        - b. For real-time market?*(Assignment: Ren Orans, Marty Downey, Tom Delaney)*
    - ii. Method #2 – “Minimal Model”
      1. Description of method:
        - a. Objective function -- purchase the minimal redispatch to enable implementation of all requested schedules
        - b. Process steps for price setting
      2. Application recommended
        - a. For day-ahead market?
        - b. For real-time market?*(Assignment: Paul Kroger, Rich Bayless, Ron Schellberg)*
  - d. Response to FERC Questions:
    - i. RTO West Order, September 18, 2002, ¶168:
      1. Demonstrate proposal does not create seams with other RTOs.
      2. Explore circumstances that would permit filing of unbalanced schedules.

3. Identify incentives and disincentives to the use or lose nature of Financial Options [*Note: Is this directly applicable to the choice of a clearing price method?*]
  4. Investigate whether the establishment of a Day-Ahead energy market could provide additional efficiencies to market participants and some assessment of the costs of administering this system.
- ii. Possible Framework for Response:
    1. Table 1 depicts the possible applications of the two methods to the balanced schedule and unbalanced schedule approaches.
    2. Table 2 suggests different energy market activity states could may be considered.
  - iii. Pros and Cons of Methods vis-à-vis FERC Questions
    1. Create/mitigate seams?
    2. Circumstances for unbalanced schedules?
    3. Additional efficiencies from Day-Ahead energy market? Costs of doing so?
2. Paper on Consequences versus Sanctions: (*Assignment: Preston Michie, Ren Orans, Linc Wolverton, Tom Delaney*)
- a. Background: Day-ahead schedules provided to RTO West should be as accurate as possible. When a mismatch occurs between the day-ahead schedule and real-time performance, should the party with mismatches be required to pay:
    - i. The cost consequences of its action? (The party with a mismatch compensates the system for the effects of its action, but the behavior is not judged to be otherwise detrimental to the system and its users.)
    - ii. The cost consequences plus some kind of sanction – monetary or otherwise? (In addition to compensation for the effects of its actions, the party faces a coercive sanction, intended to alter that party's behavior, because the behavior is detrimental to the interests of the system and its users.)
  - b. Issues to be addressed:
    - i. What are the cost consequences of:
      1. Energy imbalance?
      2. Under forecasting of load?
      3. Inadequate self-provision capacity related A/S?
      4. Failure to provide energy or capacity to RTO West after selection of bid to supply such services?
    - ii. When should sanctions be applied?

1. When triggered by system conditions?
  2. When a mismatch exceeds a threshold or set of thresholds?
  3. Is the triggering of sanction dependent upon event frequency, i.e., occasional problems v. continuing problems?
  4. Should the application of sanctions be automatic or based on some degree of judgment?
- iii. What type of sanctions is appropriate for an event?
1. For energy imbalance, does the level of sanction increase with the scale of mismatch?
  2. Does sanction increase with frequency of occurrence?
  3. For failure to provide services, may a resource be disqualified?
    - a. Under what conditions?
    - b. How is resource reinstated?
3. Paper on Operation of Capacity Markets: The group discussed the several issues associated with the capacity markets. Among the key issues are: the sequencing the capacity markets with the energy market, the effects of locational requirements congestion and energy prices, the method for recognizing transmission requirements for reserves in the security constrained dispatch, etc. The process used in PJM for instance settles day-ahead energy before selection of regulation but they have no reserve market. Regulation is assumed to have locational impact within PJM proper, although PJM-West regulation is separately obtained. To better understand the capacity market issues, a comparison of processes currently in use is needed to define “best practice” – PJM, NY-ISO, CAISO, ERCOT, ISO-NE. Development of this paper with assignments for drafting has been deferred for later meetings.  
*(Assignment: Mike Wissink will collect information on current practices.)*

**Table 1**  
**Application of Methods**

	Balanced Schedules	Unbalanced Schedules
<u>Method #1</u> Security Constrained Dispatch	Day-Ahead Real-Time	Day-Ahead Real-Time
<u>Method #2</u> Minimal Redispatch	Day-Ahead (Real-Time?)	Not Applicable

**Table 2  
 Energy Market Activity States**

	<b>State #1: Congestion Clearing For Balanced Schedules</b>	<b>State #2: Trade Among Balanced Schedules</b>	<b>State #3: Resource Long Unbalanced Schedules</b>	<b>State #4: Resource Short Unbalanced Schedules</b>
<b><i>Nature of Schedules Submitted to RTO West</i></b>	Resources must be submitted to cover full load	Resources must be submitted to cover full load	Resources must be submitted to fully cover load	Resources <i>need not</i> be submitted to fully cover load
<b><i>Inc/Dec Bids</i></b>	From resources covering loads in schedules	From resources covering loads in schedules	From (1) resources covering load in schedules and (2) other resources offering energy	From (1) resources covering load in schedules and (2) other resources offering energy
<b><i>Resource Adequacy</i></b>	Matched by schedule requirements	Matched by schedule requirements	Resources greater than load scheduled	If resources less than load scheduled then: <ul style="list-style-type: none"> <li>• Load curtailments?</li> <li>• Must offer obligations?</li> </ul>
<b><i>Type Redispatch</i></b>	Minimal redispatch occurs to clear congestion	Security constrained dispatch minimizes the cost to serve the next increment of load at each node	Security constrained dispatch minimizes the cost to serve the next increment of load at each node	Security constrained dispatch minimizes the cost to serve the next increment of load at each node
<b><i>Redispatch Changes to Schedules With Inc/Dec Bids (willing buyers &amp; sellers)</i></b>	Only sufficient to clear congestion with trades among those who submitted inc/dec bids	As necessary to produce beneficial trades among those submitting inc/dec bids	As necessary to produce beneficial trades among those submitting inc/dec bids	Subject to resource adequacy procedures, as necessary to produce beneficial trades among those submitting inc/dec bids
<b><i>Redispatch Changes to Schedules Without Inc/Dec Bids</i></b>	None	None	None	None (?)