



Memorandum

To: Market Issues / ADR Committee

From: N. Beth Emery, Vice President & General Counsel
Anajli Sheffrin, Director, Department of Market Analysis
Lorenzo Kristov, Manager, Market Design

CC: ISO Board of Governors; ISO Officers

Date: October 19, 1999

Re: *Public Release of ISO Bid Data*

EXECUTIVE SUMMARY

This Memorandum requires Board action.

In its March 25, 1999 Report to FERC, the Market Surveillance Committee (MSC) recommended the public release of three distinct sets of ISO market data:

Data Set A: Aggregate Supply Data- The aggregate supply (bid prices and quantities) offered for each ancillary service, for imbalance energy and for congestion management, for each hour of each trading day, to be published daily on the day after the trading day.

Data Set B: Individual Bid Data- The actual bids submitted by each entity in each of the ISO's markets, for each hour of the trading day, to be published daily but only with a six-month lag¹, except as noted in C below.

Data Set C: Data Used in Published Analyses- Data sets, which may contain data of types A and B above as well as other types of data, that were analyzed in developing published ISO or MSC reports, to be released with as little as a one-month lag to allow other parties to perform independent investigation of the issues addressed in the published reports.

The Committee adopted a recommendation to the ISO Board of Governors at its July 9, 1999 meeting that the Board seek necessary Tariff changes to release this data. ISO Management supports public availability of bid data, in particular to:

1. enhance market efficiency by allowing buyers to make more informed purchasing decisions and driving sellers to bid more competitively;
2. reduce existing information asymmetries, which favor large players who have the resources to collect and manage large quantities of market data and use it to refine their bidding strategies; and

¹ The MSC recommended a three-month lag; however, as discussed below FERC has ordered the PJM and New York ISOs to release this data with a six-month lag, and we have framed the present proposal to be consistent with FERC's direction. The FERC orders covered data type B only; FERC has not addressed the release of data types A and C.

3. promote self regulation by market participants by making gaming behavior, market power abuse, and non-compliance with ISO requirements visible to the entire market.

Based on these benefits and a preliminary assessment of implementation, confidentiality, ISO liability, market power, cost and other issues, the Department of Market Analysis (DMA) and Management do not recommend the MSC proposal to publish aggregate supply data at this time because such data could provide much greater commercial benefit to large market participants than to small participants, and could exacerbate the potential for exercise of market power or implicit collusion.

Management recommends the following motion:

MOVED, that the Committee recommends that the Board:

- ***Adopt a policy to publish***
 - ***individual bid data with a six-month lag (following the Trading Day to which the data corresponds), and without revealing the names of the bidders and;***
 - ***data sets analyzed in conjunction with a published ISO or MSC report, with as little as a one-month lag; and***
- ***Direct the President and Chief Executive Officer, or his designee, to prepare and submit to the Board for approval in November the necessary Tariff language to be filed with FERC in the Q4 to implement this policy.***

BACKGROUND

On July 9, 1999, the Market Surveillance Committee (MSC) approved at its meeting a recommendation regarding release to the public of substantial ISO market data that is not publicly available at present, including bid data both for individual bidders and at an aggregate level for each ISO market. The recommendation featured three different data sets – referred to as A, B and C above – to be released with different time lags following the relevant energy trading day. The MSC first recommended releasing this data in its March 25, 1999 report to FERC, and subsequently received public input on the proposal from market participants at a MSC meeting on June 7, 1999. At the public meeting, prepared presentations were given by Dynegy (in opposition) and Enron (in support). Further discussions with Stakeholders on the MSC recommendation occurred at the September and October Market Issues Forums.

If the Board adopts Management's recommendation, we would proceed with developing detailed specifications for publishing Data Set B and the necessary tariff language for the December tariff filing. Automated publication of Data Set B would then begin approximately at the start of Summer 2000. Data sets of type C could begin to be published upon FERC approval, contingent only on the adequacy of staff to perform the required preparation of the data sets and respond to inquiries from users of the data. In considering this recommendation, members of the Board should understand that this project will in no way detract from Market Redesign or any of the other initiatives the ISO is undertaking in the coming year, because it will not be competing for the same staff resources.

Public availability of aggregate and firm-specific supply data enhances the efficiency of competitive markets by allowing buyers to make more informed purchasing decisions and, in turn, stimulating more competitive pricing by sellers. In most competitive markets such information is *publicly available but highly decentralized*, making it somewhat costly for buyers to obtain comparative pricing data, but at the same time providing a profit incentive for other firms to collect, compile and resell the information. In contrast, supply data for the ISO's markets is *fully centralized but unavailable*, which

prevents participants from obtaining this data at any price and thus reduces the efficiency of the demand and supply decisions of buyers and sellers.

Lack of public availability of bid data today has a more severe impact on the small market participants, both buyers and sellers, than on the large participants. The large suppliers tend to have the resources to collect and analyze vast quantities of market information that is publicly available, and use it to assess their own positions in each market vis-a-vis their competitors. The large buyers, simply by virtue of the significant profit opportunity they represent to sellers, will tend to be targeted by competing offers from several suppliers.

Visibility of bidding behavior to all market participants is an important step toward greater self-regulation by electricity market participants. Self-regulation is characteristic of many mature markets and exchanges such as commodities and many types of futures. At present the bidding behavior of individual bidders is visible only to the ISO, which is therefore the only entity who can respond to attempts to exercise market power or to game the market rules. As this market matures, the participants themselves should be able to assume more responsibility for monitoring each other's behavior and responding to destabilizing behavior by others, which will reduce the need for ISO enforcement.

Finally, existing data release practices prevent market participants, regulators, and researchers from making independent assessments of market performance and policy options. In light of the innovative nature of the ISO and the continuing changes in the market during the transition period, this represents a significant lost benefit.

ISSUES AND OPTIONS

Each of the three data types mentioned above serves different uses, raises different policy issues and has different implementation requirements. These are discussed briefly in the next three sub-sections.

Issue No. 1 – Should the ISO Release Data Set A: Aggregate Supply Data

Uses- Aggregate supply data will be useful to market participants, regulatory agencies, and independent researchers in assessing the prevalence and effects of market power, the depth of the ISO markets, and the economic efficiency effects of the ISO's trading rules. By having this data available the day after each trading day, users would be able to track market performance under various system and weather conditions in something close to real time.

Policy Issues-

1. *Potential to facilitate market power or implicit collusion.* While there may be several bidders in an ISO market in a given trading hour, there are only a few who consistently represent a large share of the bid supply. A large bidder would be able to subtract its own bid capacity from the aggregate and determine exactly how much residual supply was offered by other bidders, thus identifying the instances where it could be pivotal and use its market power to artificially inflate the price. Two large bidders who together provided most of the bid capacity in a given market could quite accurately track each other's bidding strategies and implicitly collude to drive up the price. Thus the publication of aggregate supply schedules could enhance the advantage of large suppliers at the expense of small suppliers and all buyers.
2. *Potential to determine bidder identity.* Because the ISO markets often feature a small number of large suppliers, it may be possible for users of the aggregate data to identify bidders based on bidding patterns. Thus, even though this data release would purport to protect bidders' confidentiality interests, it may not be possible from a practical standpoint to guarantee such protection.
3. *ISO Liability.* Parties who use this data for commercial purposes – particularly to develop their own bidding strategies – may attempt to hold the ISO liable for any losses they might incur that could be blamed on

inaccuracies in the published data. Because this data release is intended to be published as soon as possible after the trading day, it may contain inaccuracies that would be subject to revision. Some possible mitigation measures are discussed below.

Implementation- DMA currently estimates these aggregate supply curves for internal use. The formulation proposed here, however, would be an improvement upon the current estimates and would be useful to Market Operations as well. DMA and Market Operations will therefore be collaborating to develop the capability to produce aggregate supply curves and will both use the data for internal purposes. To make this data public, then, would require only development of the system to post the data to the ISO web site on a daily basis, and to allocate staff within DMA and Client Services to respond to questions from external users.

Issue No. 2 – Should the ISO Release Data Set B: Individual Bid Data

Uses- For purposes of retrospective analysis of ISO market performance and participant bidding behavior, this data release offers the richest source of information. At the same time, the six-month lag means that it may not be applicable to the most current performance since bidding behavior continues to evolve as market rules are modified and the market matures.

Policy Issues-

1. *Confidentiality or trade secrecy.* Whether or not the bidders are explicitly identified, some will argue that their bidding strategies are trade secrets that should be protected by keeping individual bid data confidential. As noted below in the discussion of parties' positions, suppliers are split on this issue. FERC, however, has ruled in both the *PJM* and *New York ISO* orders that the ISOs may release individual bid data with a lag of six months, and in so ruling explicitly dismissed the confidentiality and trade secrecy arguments raised by the opponents of the policy. FERC agreed the ISOs could use a pseudonym or code number for the bidder, as long as that code remained constant over time so that an individual bidder's behavior could be tracked.
2. *ISO liability.* The liability issues are essentially the same as for aggregate supply data, based on errors in the released data that may lead to faulty bidding strategies and supplier losses.

Implementation- Release of individual bid data should be performed in conjunction with the ISO's data warehousing effort, to ensure consistent data quality and provide the capability for users to query the system to obtain bid data for specific time periods. Development costs are estimated to range between \$250,000 and \$500,000, depending on the outcome of detailed analysis, plus \$50,000 to \$100,000 annually for ongoing system support. In addition, we estimate the need for one FTE each for DMA and Client Services to provide assistance to users of the data. None of the funds or personnel are currently included in the draft FY 2000 budget.

Issue No. 3 – Should the ISO Release Data Set C: Data Used in Published ISO or MSC Analyses

Uses- Because the MSC and some ISO departments publish findings on ISO market performance based on analyses of data to which they have privileged access, it may be very difficult or impossible for other market participants and independent researchers to verify these findings, expand upon them, conduct related analyses, etc. Because such published findings may be the basis of policy recommendations, it would be beneficial to have other parties examine the same data sets and attempt to confirm, expand upon or refute the initial findings, or even to propose alternative policy recommendations that might address the same underlying problems.

Policy Issues: The issues of confidentiality and ISO liability again arise, but may be more or less of a concern than in the previous cases depending on how useful any given data set is in developing a bidding strategy or revealing the strategy of another market player. These data sets would be released on a case-by-case basis rather than an ongoing basis, and their content would be circumscribed by the specific analysis needs that drove their creation. Thus the concerns

about any given data set would vary from case to case. Of course, if Management were to recommend and the Board were to direct the release of such data sets, the ISO would need to be sure these issues were resolved.

Implementation- Because this data would be released on a case-by-case basis, there would be no system development needs. The data sets would have already been created, but some additional effort would be required to prepare them for publication (*e.g.*, formatting of data files, removal of identifying information, and provision of explanatory notes) and post them on the ISO web site, probably in conjunction with the ISO or MSC reports that originally utilized each data set. Such publication would likely generate questions from users of the data, which could have significant but irregular and unpredictable impacts on DMA staff. If such publication is undertaken, one staff FTE should be allocated to DMA for the effort.

ISO Liability Concerns and Potential Mitigation

The first issue is possible ISO liability for release of inaccurate data or data that becomes inaccurate over time. Possible mitigation measures include:

- Provide an express liability waiver in a Tariff provision; we would need to consider if FERC would allow such a waiver even if the ISO were negligent or grossly negligent;
- Provide liability waiver language and/or a warning on each page of data available to market participants;
- Require market participants to acknowledge a liability waiver electronically before receiving access to the data (similar to a “click-wrap” software license);
- Negotiate contract amendments with all market participants to provide for a liability waiver (not recommended due to the likely complexity of such negotiations).

The second issue is possible claims by market participants that data constitutes trade secrets or other intellectual property, and that the ISO did not adequately protect its confidentiality. Possible mitigation measures include:

- Make an express Tariff provision that participants grant the ISO the right to release the information and waive any intellectual property claims; this would require clean-up work on Section 20/confidentiality;
- Negotiate contract amendments with market participants to waive any trade secret protections (again, this is not recommended due to likely complexity).

Data Release in the PJM and New York ISOs

Earlier this year FERC articulated its policy regarding release of individual bid data by the New York and PJM ISOs. Several parties filed for rehearing in both *New York* and in *PJM*, and in both cases the FERC rejected all arguments against the policy of public access. The key points of FERC’s orders on data release for the New York and PJM ISOs are:

- all bid data should be made available to the public after six months;
- the purpose of such disclosure is to allow interested parties to monitor market activities, including the possibility that market participants have engaged in anti-competitive actions;
- the data may be kept confidential for 6 months to help prevent collusive behavior ;
- the revelation of the names of the bidders is not required; however, the bid data must be posted in a way that permits analysts to track each individual bidder’s bids over time; and
- the commercial sensitivity of such data decreases over time, such that after 6 months there is no need to preserve confidentiality.

PROS AND CONS OF THE OPTIONS

Based on the issues discussed earlier that provide the motives for releasing bid data to the public, we have identified the following evaluation criteria for the options considered:

- Facilitates efficient market decisions by buyers and sellers.
- Reduces potential for market power abuse.
- Facilitates market analysis and assessment.
- Provides appropriate confidentiality protection for bidders.
- Protects ISO from liability.
- Is consistent with FERC directives to other ISOs.

In the following tables we evaluate the release of each of the three data sets independently. For each data set the basic options are to publish or not to publish. For Data Sets A and B we have identified additional options that may be considered as alternatives. For Data Set A, we have added the option of publishing the data with a delay of three months (Option A2), rather than the first day after the trading day (Option A1). Option A2 is intended to reduce the potential for this data to facilitate exercise of market power or implicit collusion by large players. For Data Set B, we have added the option of releasing the individual data using pseudonyms for the bidders (Option B2) rather than revealing their identities (Option B1). Option B2 is intended to address the confidentiality issue and to be more consistent with FERC’s decisions on New York and PJM.

Data Set A. Aggregate Supply Data

	Option A1 Publish Next Day	Option A2 Publish Lagged	Option A3 Do Not Publish
Efficient Market Decisions	High	Medium	Low
Reduced Market Power	Low	Medium	Low
Aid Market Assessment	Medium	Medium	Low
Protect Confidentiality	Medium	Medium	High
Minimize ISO Liability	Depends on Mitigation	Depends on Mitigation	High
Consistency With FERC	N/A	N/A	N/A

Data Set B. Individual Bid Data

	Option B1 Identify Bidders	Option B2 Use Pseudonyms	Option B3 Do Not Publish
Efficient Market Decisions	High	Med-high	Low
Reduced Market Power	High	High	Low
Aid Market Assessment	High	Med-high	Low
Protect Confidentiality	Low	Medium	High
Minimize ISO Liability	Depends on Mitigation	Depends on Mitigation	High
Consistency With FERC	Med-high	High	Low

Data Set C. Data Used in Published ISO and MSC Analyses

	Option C1 Publish	Option C2 Do Not Publish
Efficient Market Decisions	High	Low
Reduced Market Power	High	Low
Aid Market Assessment	High	Low
Protect Confidentiality	Medium	High
Minimize ISO Liability	Depends on Mitigation	High
Consistency With FERC	N/A	N/A

POSITIONS OF THE PARTIES

Market Participants

Market participant input was obtained in a number of public meetings. A public session of the MSC, held on June 7, 1999, featured presentations by Enron and Dynegy, which are summarized below. Subsequently BPA expressed its views in a letter to Anjali Sheffrin, Director of Market Analysis, also summarized below. The topic was also presented at Market Issues Forum meetings on September 8 and October 13.

Dynegy position- (presented at June 7, 1999 MSC meeting). Bids and related data are trade secrets and should not be released to the public. Intellectual and financial capital were invested to develop a bidding philosophy that would be revealed to competitors by release of bid data. Commercial sensitivity of bid data may not diminish over time. Any release of bid data will undermine the expectation of confidentiality and the desire to participate in the market. Entities using the

data may reach draconian conclusions from partial understanding of the released information, leading to increased likelihood of frivolous lawsuits. Aggregation of data may still allow parties to determine behavior of individual bidders.

Enron position - (presented at June 7, 1999 MSC meeting). Enron advocates immediate release of all market data, including grid system data, models used in market clearing functions, and participant bids and offers. Enron would support a tariff amendment for this purpose. Enron believes that the immaturity of the market, the existence of market power, the extensive reliance on RMR, and the volatility of market prices indicate that the market would benefit from greater transparency and greater understanding of market operations, which the release of this data would facilitate. Data release would assist the market monitoring, reduce information asymmetry between large and small players, and enhance liquidity. Enron proposes an extensive list of data the ISO should release, which goes beyond what is contemplated in the present proposal.

BPA position - (Sept. 24, 1999 letter to Anjali Sheffrin). BPA supports the release of aggregate supply data on the day after the trading day (Data Set A), but opposes the release of individual bid data for several reasons. First, it would undermine SCs' efforts to keep their bidding behavior confidential, and may even compromise participants' agreements with their end-use customers not to reveal proprietary information. Second, such information will be advantageous to the largest and most sophisticated players to the detriment of the smaller players. Third, BPA believes that parties would use the data solely for their own commercial advantage and would not contribute to market monitoring or assessment. Finally, BPA objects to allocating ISO resources to this data release at the expense of other more pressing needs.

Additional comments from Parties- In discussion of Management's recommendation at the October 13 Market Issues Forum, the following comments were offered:

- When the ISO publishes the daily record of individual bids (Data Set B), it should also release the record of its dispatch orders for that day, so that market participants can monitor the ISO's performance, in particular, to see when and why it departs from the strict merit order of the BEEP stack.
- Some parties believe that the ISO's expenditure to implement this data release would be better used to implement some of the Market Redesign elements that may be postponed due to budget limitations.
- One party suggested that bids to the ISO's FTR auctions also be released.

Market Surveillance Committee

In its written opinion issued on July 26, 1999, the MSC recommended that the ISO publish Data Set A as described above, Data Set B with a three-month lag and the identities of the bidders explicitly revealed, and Data Set C as described above. The MSC opinion is attached to this memo as **Attachment A**.

MARKET ANALYSIS POSITION

The DMA concurs in ISO Management's recommendations as presented in this memorandum.

MANAGEMENT RECOMMENDATION

ISO Management recommends that Data Set A not be published. We believe that the potential benefits to the market would be outweighed by the potential for this data to benefit large suppliers disproportionately, and thereby to increase the likelihood of market power abuse or implicit collusion. We recommend that Data Set B be published with a six-month lag and with pseudonyms used instead of the true identities of the bidders. Publication of this data will benefit the market by allowing more efficient purchasing and supply decisions, facilitating greater scrutiny by market participants of

each other's behavior, and improving compliance with market rules. We recommend publication of Data Set C with the reports relying on the data, with as little as a 30-day lag from the date the data were created.