

Organization of MISO States Response to the Midwest ISO October Hot Topic on Pricing

I. Day Ahead and Real Time Energy and Ancillary Services Pricing

Prices that Accurately Reflect the Marginal Cost of Energy and Operating Reserves are Adequate Prices, and not necessarily prices that ensure all suppliers cover their total costs.

The OMS believes the Midwest ISO achieves adequate real-time and day-ahead prices by facilitating markets which deliver a transparent price which accurately reflects the marginal cost of the energy or operating reserves traded. Accurate energy and operating reserves market prices will incent supplier participation that facilitates the Midwest ISO ability to coordinate the optimal dispatch given security constraints. The OMS does not believe that it is the Midwest ISO's obligation to construct prices which necessarily provide revenue to the point where all suppliers collect their total cost. OMS's first principle on resource adequacy revised on August 12, 2010 reflects the statements herein.¹

An important gauge of price accuracy is the amount of payments made outside the market to compensate suppliers for the cost of services rendered that are not reflected in energy or operating reserves market prices. Although eliminating all out of market payments may be ideal, developing market rules which minimize the value of these payments is the practical task for the Midwest ISO.

¹ The OMS revised principle number 1 is The Midwest ISO should continue to work on developing and improving the competitiveness and transparency of energy and ancillary services market design and to coordinate that market design with the resource adequacy program to improve efficiency. Such market design should seek to minimize, where possible, uplifts and other out-of-market payments that distort efficient market prices.

The OMS is generally supportive of the diligence the Midwest ISO is taking in a number of efforts to improve the accuracy of the price setting mechanisms in energy and operating reserves markets.

There are many outstanding market design issues that affect market prices in both the day ahead and real time energy and operating reserves markets. Many of these issues are being addressed in part or in whole through ongoing Midwest ISO stakeholder groups, including the Extended LMP and Wind Integration Initiative. The Midwest ISO appears to be diligently working to improve the accuracy or adequacy of energy and operating reserves market prices. The OMS is generally supportive of these initiatives and any concerns with the details will be provided in the various working groups developing changes. The OMS also recognizes the work of the Demand Response Working Group is complicated by the regulatory debate over the level of compensation demand response participating in the wholesale market should receive. Therefore, the OMS does not have any urgent recommendations for the Midwest ISO Board of Directors at this time concerning the development of energy and ancillary services markets.

The Midwest ISO should work to incorporate the price elasticity of demand into load forecasts to facilitate the accurate forecast of load in cases where retail customers rates are time differentiated.

The OMS recognizes that there is considerable push to invest in technologies that will facilitate a greater participation of demand in the balancing of the bulk power system. The system operators must be informed about the statistical relationship between price and demand of retail customers who consume electricity at time differentiated rates in the Midwest ISO region. The Midwest ISO's day ahead and real time load forecasting should estimate demand

based on expected prices for those loads where customers are charged rates that are time differentiated. This will allow the system operator to more efficiently commit and dispatch supply resources offered into the market.

The OMS recognizes that the current procurement of headroom poses a barrier to achieving market efficiency.

The OMS believes that the commitment of resources to provide headroom is an area the Midwest ISO needs to address in the development of accurate and transparent price signals. The OMS has not yet invested the time or effort to determine how headroom would be most efficiently procured and priced. The OMS does recognize the possibility that headroom could be a product or service in its own right for which a market is developed and co-optimized with energy and other ancillary services.

II. Financial Transmission Rights Pricing

FTRs are a complex market because of the great number of possible sources and sinks involved in the auctions. Thus, “prices” are a difficult concept, as each source to sink combination is a different product.

Aggregate reporting of FTRs and “counterflow” FTRs frustrates the analysis of the market.

Transparency of FTR Auction values² and FTR Day Ahead congestion values³ are the relevant “prices” in the FTR market. MISO currently reports these values on a monthly basis,

² The FTR auction values are the dollars participants either paid to the auction or received in payments from the auction.

³ The Day Ahead FTR values are the dollars participants received in congestion revenues or paid in congestion costs.

but does so in aggregate by treating all payments to market participants as revenues and all payments received from market participants as costs. Unfortunately, this reporting does not convey an accurate picture of market activity as it combines those paying for FTRs in the auction with those receiving payments for providing “counterflow” FTRs – i.e., those taking an FTR with the expectation that congestion will be in the opposite direction of the FTR. Market participants expect a negative price, i.e. revenue not a cost, from the “counterflow” FTR in the auction accompanied with the obligation to make payments to the Midwest ISO for negative Day Ahead congestion. These “counterflow” FTRs expand the market by making FTRs in the opposite direction available to those wanting to hedge congestion costs.

If the data were separately reported for those paying for FTRs and those being paid for FTRs (“counterflow” FTRs) in the auction, and revenues and costs calculated separately for each, then a much clearer picture of what is occurring in the FTR auctions is possible. The IMM has made these types of calculations, and over the two-year period from June of 2008 through May of 2010, the data shows that approximately 75% of FTR MWs cleared the monthly auction at a negative price (i.e., participants received payments from the auction for these “counterflow” FTRs), and 89% of Auction Value paid by those buying FTRs at a positive price (i.e., participant made a payment to the auction). MISO should adjust its reporting of revenues and costs in the following ways.

- It should report results separately for those receiving a payment from the auction for “counterflow” FTRs and those that made a payment to the auction.
- For those receiving payments from the auction for “counterflow” FTRs, those payments, as well as positive Day Ahead congestion value associated with those “counterflow” FTRs, should be treated as revenues. Negative Day Ahead congestion value associated with “counterflow” FTRs, should be treated as costs. Similarly, for those making payments to the auction for FTRs, those payments, as well as negative Day Ahead

congestion value associated with those FTRs, should be treated as costs, and positive Day Ahead congestion value associated with those FTRs should be treated as revenue.

- Day Ahead congestion value should be calculated on what was actually credited or billed to FTR holders to accurately reflect actual costs and revenues.
- For both groups, MISO should separately report the quantity of FTR MWs.

These statistics will provide participants with a more accurate view of MISO's FTR markets, and provide better understanding of the relationship between those markets and the issue of underfunding. Moreover, profits taken by those receiving payment from the auction are in part a result of transactions entered into by market participants who are willing to pay the offer price in order to obtain additional FTRs for hedging potential congestion costs that would otherwise not be available. Those transactions do not affect MISO's ability to fund FTRs.

III. Resource Adequacy Voluntary Auction Pricing

A forward capacity auction is contrary to the OMS principles for Resource Adequacy.

The proposed reconstruction of the Module E capacity construct is an important issue for the OMS. The Midwest ISO presented a general overview of its changes to the Module E Resource Adequacy requirement at the September 2, 2010 Supply Adequacy Working Group meeting. The proposal included a forward auction and obligation. At the October 7th meeting of the SAWG, the Midwest ISO actually presented a draft of the forward capacity auction.⁴ The Midwest ISO is planning to file tariff revisions to implement the five year forward capacity auction and obligation with transitions auctions to obligate loads for the four interim years.

⁴ Capacity Auction Design, Supply Adequacy Working Group, October 7, 2010, http://www.midwestmarket.org/publish/Document/35f529_12b1fc99e5a_-7d8a0a48324a?rev=1

The proposal lacked details about the level of mandatory participation, but without full participation auction prices would be more likely to inaccurately reflect capacity conditions. The changes being proposed conflict with the OMS resource adequacy principle number five.⁵ The OMS is concerned that the Midwest ISO's proposal to change the resource adequacy construct may increase supplier revenues without providing price information about capacity or incenting necessary and sufficient resource adequacy. The current monthly auction can produce accurate information about the current state of capacity, and expectations can be formed from that and other information without the use of a forward capacity auction. Therefore, the OMS would recommend that the Midwest ISO concentrate on developing locational attributes for planning resource credits rather than t a forward capacity auction.

Low voluntary capacity auction prices in MISO's current monthly capacity auctions reflect the current relative surplus of capacity in the Midwest ISO.

The near zero voluntary capacity market prices are consistent with current market conditions, a relative excess of capacity.⁶ In a December 2009 response to a Hot Topic on Resource Adequacy, the OMS expressed their belief that the relatively low monthly Voluntary Capacity Auction prices reflect the surplus of capacity at the present time. These accurate prices provide a transparent signal concerning the need for additional capacity at present.

Spot Capacity Prices provide information about the current state of capacity. Suppliers use this and other information to formulate expectations which drive their investment decisions.

⁵ OMS Principle Number 5 states the OMS, at this time, does not see the need for nor endorse a mandatory, centralized forward based market for all capacity operated by the Midwest ISO.

⁶ A September 22, 2010 Midwest ISO Filing in Docket No. ER10-2869 to revise Module B indicated that the Midwest ISO there is approximately 10,000 MWs of capacity beyond the reserve margin.

The Midwest ISO's current month-ahead voluntary capacity auction can be described as setting "spot" capacity prices. The question is whether or not spot capacity market prices, i.e. those cleared in the voluntary capacity auction, provide adequate information about the future need for capacity. The current Midwest ISO spot price for capacity provides potential suppliers, load-serving entities and state regulators with what appears to be accurate information on which to form their expectations about future capacity availability and needs. In addition, potential suppliers, load-serving entities and state regulators are able to ascertain other relevant information concerning the future market for capacity through available sources such as capacity cost information from publicly available surveys,⁷ capacity cost information from request for proposals, generation supplies being planned from the Midwest ISO generation interconnection queue and capacity needs submitted in state regulatory proceedings, on which to further form their expectations. Also, in traditionally regulated states, the investment decision is under the direct guidance of the state authorities. It is this guidance which has driven the investment decision in the past without the existence of forward price signals or power pool obligations.

Forward prices could reflect market participant expectations and auction parameter estimates made under uncertainty..

It is true that capacity auctions provide a forward auction price that is transparent. However, a forward price through the proposed Midwest ISO auctions would primarily be a consequence of market participant expectations and Midwest ISO auction parameter estimates. Auction prices are determined by the expectations of those market participants who offer supply into the auction and forecast demand. Therefore, prices are determined in part by the known

⁷ E.g. Electricity Market Module of the National Energy Modeling System Assumptions of DOE/EIA Annual Energy Outlook.

costs of existing resources or expectations about planned resources reflected in suppliers' prices and quantities offered into the auction. Expectations about the future costs associated with different generating technologies are subject to considerable uncertainty at this time.

The longer the forward time period, the greater the effect that forecasted auction parameters, e.g. load forecasts and available transfer capabilities, would have on the price cleared. Also, a forward auction for capacity with an opt-out provision could result in a market that is thinly traded and therefore less reflective of real capacity conditions as well as being more susceptible to manipulation. The Midwest ISO's proposal includes a number of transition auctions to be held in an expedited fashion. Increasing the number of auctions in any period is likely to increase inaccurate or irrational outcomes.

The length of the proposed forward period, legislative uncertainty, and the participation level all have predictable impacts on the accuracy of forward prices. The OMS believes that longer forward periods, greater legislative uncertainty, and lower participation all negatively impact the expected accuracy of forward auction prices. Of these three factors, MISO can only control the length of the proposed forward period. As discussed below, the OMS believes that adverse effects of obligating load on a forward basis outweigh the benefits. As such, the OMS would urge MISO to forgo any forward obligation. However, if MISO decides to install a forward capacity obligation, the MISO should minimize the length of any forward period. In addition to improving the accuracy of forward prices, limiting the length of the forward period limits the potential for unforeseen costs associated with the propagation of transition auctions.

The adverse effects of obligating load on a forward basis outweigh the benefits.

A forward capacity obligation could impose unnecessary capacity costs because of the pricing errors which result from uncertainty involved in estimating auction parameters and formulating supply offers and bids. Among other things, errors can arise from inaccurate load forecasts, legislative reforms which alter costs of different generation technologies, and the timing of transmission expansion. The greater the forward period for which the auction is held (e.g., 5 years out compared to 1 year out), the more uncertain are the assumptions which drive the outcome of the auction. At this time, the OMS believes that the Midwest ISO's push to obligate load on a forward basis would be more costly than beneficial.

Obligating load-serving entities on a forward basis limits the benefits that they might obtain from reducing future capacity needs through conservation and load management (efficiency/load shifting). The general uncertainty about the level of these demand-side efforts to reduce and improve efficiency in consumption can lead to false expectations about future capacity targets needed to clear the auction. If the expectations for capacity additions are falsely high because of conservative estimates of the impact on capacity need from demand-side management which does not participate in the auction, then forward auctions may incent capacity additions that are unnecessary, and while these can be adjusted through residual auctions (those following the initial auction), these adjustments are not at a zero cost to load-serving entities.

This same uncertainty regarding demand-side efforts exists in bilateral markets for capacity, and can result in short-term shortages or excess capacity for individual load serving entities. However, short-term bilateral transactions allow the market to adjust between short and long positions on capacity more fluidly. In addition, the current voluntary, monthly auctions at

MISO allow load serving entities that are short on capacity the ability to cover their obligations just before the delivery period for the capacity. This is the primary purpose of the current voluntary capacity auction. The price that results from the voluntary capacity market is only a consequence and secondary benefit of holding the monthly auction. Undertaking forward auctions and obligating load serving entities on a three to five year forward basis will likely result in payments to capacity resources which are not needed to incent entry or maintain needed capacity.

There is a difference between a voluntary forward auction and a forward obligation.

The OMS believes that the Midwest ISO could implement a voluntary forward auction or other market mechanism without imposing a forward obligation. If a market were truly voluntary then there would be no obligation to hold planning reserve credits on the same forward basis as the forward auction is held. Having a forward voluntary auction without an accompanying obligation would provide a transparent price signal in the instance that buyers and sellers had a need and ability to purchase and sell at a price that was reasonable to both. A forward auction could be held for the obligation period two months out, three months out, four months out, etc. for any forward time horizon desirable. Then, the obligation could remain one month forward with bilateral and auction prices reflecting the seasonal variation in capacity values.

The June 8th FERC Order did not require and the January Brattle Report did not recommend that the Midwest ISO implement a forward capacity obligation.

The OMS also notes that the June 8th FERC Order did not require the Midwest ISO to develop a forward obligation for capacity, nor did it assert that the use of a monthly capacity

auction fails to provide adequate signals for the investment community.⁸ The June 8th Order only required the Midwest ISO to develop locational attributes for its planning resource credits, where dictated by transmission transfer limitations. Planning resource credits with locational attributes would provide better information about locational constraints and the relative locational valuations of capacity. Locational compliance does not require that a resource adequacy construct utilize a forward market for capacity. Furthermore, the Brattle Group's January 19, 2010 report explicitly recommended that the Midwest ISO not develop a forward auction construct at the current time, but rather make adjustments to its current construct, including centralized load forecasting and the development of locational attributes for planning resource credits.⁹

OMS recommends the continued use of a monthly obligation met primarily through bilateral contracts.

For these above reasons the OMS continues to support the Midwest ISO use of a bilateral market for capacity with a monthly obligation, supplemented by the voluntary capacity auction. The Midwest ISO should concentrate on the development of locational attributes for planning resource credits to recognize locational deliverability limits within the Midwest ISO footprint for the December 8th compliance filing in FERC docket ER08-394-024. This will allow the market and state authorities to determine the path by which future capacity needs of load serving entities under their jurisdiction are met. The Midwest ISO should be concerned with addressing the direct deficiency recognized by FERC, namely the planning resource credit's lack of a locational

⁸ Midwest Independent Transmission System Operator, Inc., June 8, 2010, Order on Compliance Filing 131 FERC 61,228 at P 24.

⁹ Midwest ISO Resource Adequacy Construct: An Evaluation of Market Design Elements, The Brattle Group, January 19, 2010 at 3. www.brattle.com/documents/uploadlibrary/upload832.pdf.

attribute. The OMS believes that making a relatively drastic change, like the one proposed by the Midwest ISO, could result in obligating the load within the Midwest ISO with capacity costs unnecessary for maintaining the optimal amount of capacity necessary to ensure resource adequacy.

IV. Minority Response of the Illinois Commerce Commission

The Illinois Commerce Commission believes that the most accurate prices for electric power would be achieved through an energy only market. An energy only market would produce a price per MWh which included the costs of the ancillary services needed to support that MWh and the capacity costs associated with providing that MWh. Incorporating all the components of producing a reliable MWh of energy would facilitate the most efficient solution to the problem of instantaneous balancing of the bulk power operations and produce a price that incents the most economic decision making by buyers and sellers.