

The following comments are from the OMS Resources Work Group for the February 17, 2011 SAWG per the SAWG's leadership request on three topics. These comments are by the staff members only to further engage in the stakeholder discussions. The OMS Board has not taken a position on these individual comments.

Planning Resource Auction Issues

Slope of the Demand Curve: As the Independent Monitor points out¹ "a vital aspect of any capacity market is how demand is represented." The current auction construct proposes a vertical demand curve located at the planning resource requirement. The Independent Market Monitor's (IMM) objections to a vertical demand curve are based on the theoretical assumption that reliability is a well-defined product in that buyers of capacity can accurately assess the marginal benefit of an additional unit of reliability. This does not accurately describe the reality of the electrical grid. There is little empirical data to define the willingness to pay for additional reliability thus the need for the demand curve to be administratively determined. Thus as one of the stakeholders expressed so well, a downward sloping demand curve represents "willingness to administer" not willingness to pay. The OMS Resources Work Group (RWG) does not support a downward sloping demand curve (RPM) for the resource auction. The slope of any demand curve currently used for capacity auctions is administratively determined and not based on empirical data describing the behavior of market participants. The price determined by an administratively determined downward sloping demand curve is no more accurate than the price achieved through a descending clock auction with a vertical demand curve that is closely monitored by the IMM.

With a vertical curve, the requirement equals the amount necessary to meet reliability. However, with a downward sloping demand curve, the procured level of capacity could be less or more than the amount necessary for a specified level of reliability. The majority of states in the RWG are more concerned about procuring a specified level of capacity for a specified level of reliability than avoiding the consequences of price volatility associated with a vertical demand curve. This is because the prices, for the most part, are irrelevant, after the fact, and have little bearing on the states planning processes that typically look farther forward than the Midwest ISO construct. The overwhelming majority of OMS states regulate all segments of vertically integrated utilities, and therefore, load serving entities (LSEs) in coordination with their regulatory authority have greater control over the consequence of changes in price than they do over the consequences of changes in quantity.

The state regulatory authority can reallocate all funds regardless of auction price for the *planned* quantity, but payments to resources beyond that quantity, assuming that those resources are not under states' regulatory control, represent financial outflows that cannot be reallocated by state authority. An auction with a vertical demand curve clears the exact quantity of resources that a state commission understands it must plan for based on the Midwest ISO's planning reserve margin. An auction with a sloped demand curve has the potential to undermine the states' rights to determine resource adequacy because it could obligate LSEs to purchase capacity beyond the planning reserve margin and make capacity payments to resources not under the states' regulatory control. An auction with a vertical demand clears the exact quantity that a state commission must plan for based on the Midwest ISO's planning reserve margin.

¹ Motion to Intervene and Comments of the Midwest ISO Independent Monitor, January 7, 2011, Docket No. ER08-394-028, pg.4.

The IMM requests justification for a vertical demand curve.² The RWG justification is to ensure that the equilibrium amount of capacity determined in the auction equal the planning reserve margin that meets the reliability standard. This is the target that the states plan for, whereas a variable requirement from a sloped demand curve creates an unpredictable requirement that could increase costs to ratepayers. We in turn request the IMM to present evidence from existing capacity auctions that administratively determined downward sloping demand curves ensure the desired reliability standard for resource adequacy for those LSEs that own their resources. Please see the Appendix at the end of these comments for a summary of the important aspects of administratively determined demand curves.

Mandated Minimum Auction Price: The RWG does not support any type of a rule which establishes a price floor. The Midwest ISO capacity construct is being developed to ensure that the relevant electric retail regulatory authorities in its footprint have effectively planned to meet reliability. The construct's main goal should not be to create a wholesale "market" that needs rules to ensure that the "market" price is high enough to incent the construction of new generating facilities. The Midwest ISO's footprint in 2012 and beyond will be around 90% traditionally regulated states, and the one restructured state, Illinois, already has a state agency that conducts forward auctions for its power needs. The state commissions continue to have the authority to order and approve new utility generation projects. States exercise this authority in a variety of ways, with a variety of incentives, including tax incentives and various methods of recovering the costs of projects as they are constructed. In addition, some projects may obtain federal grants and investment tax incentives to reduce the cost of a generation project. It will be very difficult for the capacity construct or the independent market monitor to determine what is an "uneconomic investment" in generation, and to construct rules to prevent such things.

Mandatory Participation: If a vertical demand curve is adopted for the capacity auction then there must be 100 percent participation in the auction to meet the fixed requirement, to enforce equal treatment of loads and resources and promote a competitive auction. Using a vertical demand curve still provides for self-scheduling in a manner that those LSEs that own resources to remain financially neutral or close to neutral if importing capacity from another zone. The participation of LSEs with their own resources helps to set a lower market price in the auction for those that must purchase and sell capacity in the auction.

If instead, a downward sloping demand curve is adopted, LSEs cannot remain financially neutral because they face a changing resource quantity requirement that may be more or less than the PRM target. In a period with excess supply, such a design is likely to result a resource quantity requirement that is greater than the PRM target, resulting in an added expense. With a downward sloping demand curve, the LSEs that already have resources to meet the PRM will likely want to be allowed to opt out of the auction to avoid such added expense. Under an opt-out arrangement from a variable resource requirement auction, the LSE would instead meet a fixed requirement that is subject to the same resource qualification requirements of auction participants. If mandatory participation by all in the auction is a desired goal, then a vertical demand curve is most appropriate design.

100% Procurement Requirement: The RWG does not support 100 percent procurement of the Planning Reserve Margin Requirement (PRMR) in the auction three years forward. If the Midwest ISO intends to go this way, the RWG suggests holding back a fraction of the three year forward forecasted

² Ibid., pg.8.

capacity requirement for procurement in true-up auctions so that load serving entities (LSEs) may reduce capacity obligations during the forward period. This fraction held back from the full forward period procurement should be greater than load forecast uncertainty, and should be incrementally procured in the true-up auction one year prior to the delivery year. Not a single OMS state favors a 100 percent procurement requirement beyond one year. If procurement beyond one year is required, suggested procurement percentages range from 80 to 97 percent for those who suggest some type of obligation. Precise forecasts of coincident LSE peak are somewhat complex due to changing, uncontrolled variables (weather patterns, footprint geography, load demographics, etc.) at the time of the footprint's peak. Self-selected diversity rates have a built in incentive to lower the coincident demand to reduce 100 percent obligations in the future years. Increasing the forecast time horizon also increases the uncertainty bandwidth which increase forecast error rate in both directions. Having residual true-up auctions would allow for changes in load changes, supply side resource availability, and the most current demand response programs in place.

A 100 percent obligation on a non-revisable forecast made three years forward is not flexible enough to accommodate load and supply forecast uncertainty that results from changing market and regulatory conditions. Overestimates of capacity requirements could be in conflict with state requirements and could impose substantial and unnecessary costs on load. A requirement to secure all resources at one point in time also dictates the types of resources required because resources with shorter lead times that do not exist today are essentially barred from participation. This impinges on states' resource adequacy rights. Holding back a fraction of the forecasted procurement requirement would allow the Midwest ISO load to avoid unnecessary costs associated with overestimates of load three years forward and would allow resources with shorter lead times, such as demand response, to participate. Under-procurement resulting from underestimates can be rectified through procurement in the true-up auction. This is not practical, however, for over-procurements resulting from over-estimates. Over-procurements are harder to rectify in a true-up auction because of the scarcity of buyers. This is why the holdback is valuable.

Incremental Auctions: Under the Midwest ISO proposal, the true-up process and incremental auction will be held just prior to the planning year "to adjust for changes in unit forced outage rates and other operational parameters." The RWG does not support a one-sided incremental auction in which adjustments are only allowed on the supply side. True-up auctions should allow both the demand and supply side of the market to adjust their three year forward procurement based on updated information. We would like to see more information on exactly how the true-up auction will be administered.

The true-up auctions should also account for unexpected changes in the transmission topography as the planning year approaches. There could be an unexpected line outage or more likely a planned line that will not be in service on the date that was originally projected and was included in the earlier base auction.

Payment differentials across zones: In the case of bilateral agreements and self-scheduling it is possible for the auction clearing price paid by load located in one zone to exceed the auction clearing price paid to the resource located in a different zone. The RWG would like to know what will happen to these excess funds.

Capacity Rights for Resource Adequacy

Capacity rights were discussed during the January 20th SAWG meeting.³ The Midwest ISO resource adequacy proposal establishes local resource zones. Each of these zones will be analyzed on an on-going basis for import and export constraints. At present it is unlikely that there are any binding constraints.⁴ Up until now aggregate deliverability has been assumed with existing long term capacity positions. However, in the future with increasing capacity requirements, deliverability into and out of some of the local resource zones could become constrained. When these constraints become binding the decision on how to allocate these deliverability constraints will become an issue. The Midwest ISO presented three options on the future treatment of existing capacity positions. The first, **Option 1**, is to ignore existing capacity positions. This option would put everyone on a level playing field going forward by allocating the constraint across all loads in constrained zones. Some LSEs that have existing capacity positions might see this as unfair since their load has paid for and is paying for existing transmission. The second, **Option 2** is to grandfather existing capacity positions for a transition period. This option recognizes past investment in transmission, however, the term of the transition period could be a very contentious issue. During the transition period, this option will put new capacity positions at a disadvantage as compared to existing positions when constraints become binding. The third, **Option 3** would grandfather existing capacity positions permanently and only new capacity will be subject to the deliverability constraints. This option will give those with existing capacity permanent insulation against deliverability constraints and subject new capacity to the full deliverability constraint on a permanent basis. How to treat existing capacity positions is likely to be a very contentious issue and the OMS has not taken a unified position on this issue at this point in time.

The Midwest ISO favors a variation of **Option 2** which will recognize firm transmission service for existing long term capacity positions for the term of the contract only. The following reasons are given for recognizing existing resource and transmission rights for the term of their contract are:

- LSEs have been resource adequate since before market start
- LSEs have built plant and engaged in PPAs under the existing Module E rules, including deliverability elements
- Resource Adequacy is a forward looking element of reliability: as such, incentives have been created for LSEs to plan ahead with existing plant or PPAs, and corresponding transmission service to be resource adequate (e.g., IRP). To discount these forward plans would be inequitable and create unnecessary risks

How to treat existing capacity positions is likely to be a very contentious issue and the OMS has not taken a unified position on this issue at this point in time.

Then the wording of the presentation becomes very difficult to interpret. The presentation says: "The combination of contractual/ownership rights to a resource AND firm transmission service WILL qualify." Does the Midwest ISO mean that in order to qualify as a capacity resource to be offered into the auction, the resource must have firm transmission? Or is the auction being used to allocate the zonal deliverability constraints as well as capacity?

³ See agenda item 3c, the presentation entitled "Review of Existing Capacity Positions that Cross Proposed Local Resource Zone Boundaries."

⁴ Planning Year 2011 LOLE Study Report, December 2010, pp. 27-29, 32

As proposed, the new LOLE model will check for local resource zone import and/or export deliverability and this process will provide a signal as to where these constraints are binding however, capacity qualification and deliverability across zones cannot be solved in the next planning year or even the next three years if there are significant delivery problems. The long term planning model for peak period reliability checks the probability of delivery of all resources to all the loads. Historically there were not pure, physical transmission rights paths in the calculation of reserve pools in the LOLE models. The proposed new LOLE modeling does check the transmission capability for reserve sharing down to the resource zone level. Since not all future, long range, generation and transmission elements will necessarily be modeled to a commercial node a longer range LOLE assessment will identify potential areas that might have increased risk of a delivery shortage or capacity entrapment. The capacity planning process will therefore have to include assessment of incremental transmission, larger transmission, supply side resources, demand side resources, or a combination of all four. Allowing TOs, LSEs and suppliers to offer the most cost-effective long term solutions should be the outcome.

Seasonal Resources – Midwest ISO RA Enhancement Proposal⁵

The Midwest ISO proposal has an annual planning period. The proposal is to qualify a resource for an entire year based on the Midwest ISO's peak risk period which is June, July and August. This aligns the resource requirements in the current LOLE analysis. This greatly reduces the administrative burden of multiple processes to re-confirm capacity credits down to 30 days for compliance auctions. The annual qualification on summer capability avoids complexity of a month-to-month compliance strategy. Individual LSEs and associated planning zone risk assessment for a monthly compliance period has not been explored in sufficient detail on a long range planning basis. Many of these issues are explored in a probabilistic method in the LOLE methodology. Near term risk assessments including such issues as load levels, generation on maintenance, scheduled transmission line maintenance outages, and substation equipment maintenance are reviewed in advance by weeks and months. This is done at the footprint level of coordination so as to not incur additional risks and violate NERC reliability standards inadvertently by individual generators or transmission owners.

If the annual rather than a multi-seasonal resource construct is adopted as proposed, then current PPAs need to be reviewed to allow for two major existing contract types:

- Allow for the continuation of annual "rollover" rights without engaging a rigid multi-year forward fixed obligation.
- Allow for seasonal diversity exchanges with utilities out of the Midwest ISO such as Manitoba in the winter.

The detailed reliability assessments of the future may need to go beyond the current next winter and next summer assessments. Since the annual load shape has a "valley" shape in the spring, fall, and to some degree in the winter, maintenance is scheduled for generation and transmission facilities during these off-peak periods. This needs to be monitored by the Midwest ISO for any shift in risk to say, one planning zone, or the whole footprint. Transmission and generation outages are now coordinated through operations at the Midwest ISO, but the risk assessment style may have to be refined. Many demand-side resource programs do have a varying capability off the summer season. But this is not a valid reason to change their position in the self-supply or auction. They should be offered as capable into the market.

⁵ The ICC Staff representative on the OMS Resources Work Group does not join in on this section.

Appendix A
OMS RWG revised version of Midwest ISO January 20 presentation
Demand Curve

Vertical Demand Curve

- *Acquires precisely the ‘required’ amount of reliability based on LOLE studies.*
- *Allows LSEs that own resources to self-supply and remain financially neutral.*
- *Fixed target makes it possible to require 100% participation.*
- *Prevents cost exceeding that required by LOLE studies.*
- Avoids administrative, ad-hoc determinants.
- Avoids long, costly, and disharmonious clashes
- *Provides for 100% participation in auction, market pricing where zones exist.*
- *Helps dampen investment risk and uncertainty for generation-owning LSEs.*
- *Helps meet desired result for generation-owning LSEs*
- *Enables use of bilateral contracts*

Sloped Demand Curve

- Reasonably recognizes different levels of reliability have different value to consumers
- *Makes 100% mandatory participation incompatible with state jurisdiction.*
- *Is a variable requirement.*
- *Includes over-procurement bias to average at or above LOLE study requirement.*
- *Requires an opt-out provision for those LSEs that own resources.*
- Helps to avoid bipolar pricing.
- Helps mitigate market power concerns.
- Helps dampen investment risk for generation sellers.
- Need for administrative inputs: designing a demand curve
- Can be “tuned” to desired result
- *Encourages use of auction. Credit requirements can be different.*

Italics represent additional points not included in the Midwest ISO presentation at the January 20, 2011 Midwest ISO SAWG meeting, Agenda Item 3di, page 9.

<https://www.midwestiso.org/Library/Repository/Meeting%20Material/Stakeholder/SAWG/2011/20110120/20110120%20SAWG%20Item%2003di%20ORA%20Enhancements%20Auction%20Issues.pdf>