

OMS answers to Resource Adequacy Hot Topic questions for December 2009 AC meeting

Questions:

1. Overall, are there any major reasons to believe that the resource adequacy construct is not likely to achieve resource adequacy reliably and efficiently?
 - a) In the next five years?
 - b). More than five years?

No. OMS understands the intent of the question is to ask if the resource adequacy construct is likely to provide adequate incentives to market participants to reliably and efficiently achieve resource adequacy. No RTO construct by itself can achieve resource adequacy. In addition to the construct, other factors include: market participant behavior, state jurisdiction, NERC reliability standards regulations, financial markets, and manufacturing industry business cycles.

The efforts by the Midwest ISO to address resource adequacy should be viewed in the context of state jurisdiction. That is, since most states within the Midwest ISO have the statutory authority and responsibility to ensure reliable service, resource adequacy is not likely to be as much of a concern as it is in other RTOs. Having enforceable planning reserve requirements provides added support for states to take actions necessary to assure resource adequacy. Jurisdictional utilities would not want to be in a position of making a request to their state commission to recover the cost of penalties for insufficient resources.

With some improvements, the workings of the existing resource adequacy construct, in conjunction with energy and ancillary services markets, and other factors mentioned above, **are** likely to provide adequate incentives to achieve resource adequacy reliably and efficiently because the markets would be designed to pay the right resources in the right location at the right time. See OMS response to Question 8.d.

With the present resource adequacy construct embracing LOLE standards and the planning reserve method and the recent Module E approval as implemented by the Midwest ISO, states have plenty of capacity and reserves for the next five and ten years. System adequacy is fine. The combination of the bilateral market, the voluntary capacity market, states with more aggressive construction programs, and the recent demand destruction due to the current economic downturn has put the Midwest ISO footprint on a sound basis.

ICC Opinion: The Midwest ISO Module E does nothing, in and of itself, to ensure resource adequacy. Resource adequacy is currently being ensured by other means. The Midwest ISO Module E just creates administrative burdens, imposes complexities and inefficiencies and increases costs that consumers end up paying. Resource adequacy in the long run can be ensured by fine-tuning the Midwest ISO's energy and operating reserves markets so that prices more accurately reflect actual and expected conditions and by enabling price responsive demand participation for retail customers.

2. Module E was crafted explicitly to respect states' rights regarding resource adequacy, while ensuring reliable grid operation. Has the implementation of Module E supported this objective?

Yes, but with qualification. States have been able to pursue individualized resource adequacy approaches towards meeting MISO's requirements. One example is state RPS requirements. Another is state oversight of a utility's operation of its facilities and cost recovery for building new or closing or mothballing generating plants. The OMS states take their resource adequacy rights seriously, and certainly intend to continue to strive to ensure reliable electric service within their states. As noted in our response to Question 8.b. however, there are still some barriers to pursuing different levels of reliability without affecting neighboring LSEs or states. This can create friction in policies between restructured (retail access, generation spin-off, etc.) and traditional structured states. For example, absent a targeted, non-firm and firm (in a worse case situation) load shedding event, one state is leery of the programs operating in a neighboring state because of the potential effects in their own state.

ICC Opinion: No. The Midwest ISO would better support states' rights by abandoning the Module E approach and allowing state commission and state legislative designs to continue to provide for resource adequacy either through traditional regulatory methods or through market means combined with retail customer empowerment, e.g., retail access and price responsive demand.

3. Has the resource adequacy construct helped to promote (or not hindered) efficient, liquid bilateral markets for capacity in long-term contracts and planning resource credits? For example, by increasing transparency in price and demand? Is the monthly construct optimal?

The construct has not hindered bilateral markets. States still review the purchase of power by LSEs under their jurisdiction, and can base their review on whether the resulting power will be reasonably priced compared to alternatives, just as they have done in the past. While information for other bilateral contracts is still lacking, other price information has grown. The monthly construct is not optimal, but is perhaps a workable compromise between an annual construct that meets the intent of an annual planning reserve requirement and a weekly construct that reflects frequent LSE load switching that can occur in retail choice states. See OMS answer to Question 9 about transparency.

OMS supports the Midwest ISO goal of encouraging long-term bilateral contracts. The Midwest ISO's construct is a better means of achieving that goal as opposed to an RTO-run capacity "market," where encouragement for long-term bilateral contracts is questionable.

ICC Opinion: The Midwest ISO Module E has created an unnecessary administrative bureaucracy. It mandates a particular type and level of hedging regardless of the retail market designs that would be preferred by state legislators and state regulators.

4. Are all resource types treated comparably/equitably (i.e., generation, small generation, DR, imported resources, non-dispatchable resources such as wind, BTMG, use-limited resources, etc.) with respect to qualification requirements, performance requirements, penalties, etc.?

Yes in the sense that all can or soon will be able to participate in the market and planning functions. No in the sense that qualification levels are and should be different to properly reflect the different operating characteristics of each type of resource; such as dispatchability, rate of change, outage rates, etc. Demand response and price responsive demand programs are still evolving. As such programs are being brought into the market, some are evolving, some are new, and the Midwest ISO is still working through implementing details via the stakeholder process. This process should be allowed to reach its fruition. As for wind resources, the Midwest ISO has rolled out a statistical approach that looks promising. In previous OMS comments to the Board, OMS suggested the use of statistical methods. The Midwest ISO's adoption and exploration of this technique is appropriate and should be commended. The continued refinement of wind analysis via the stakeholder process is effective and appreciated.

ICC Opinion: Ensuring resource comparability in a capacity construct is a quagmire that will produce unending arguments and disagreements. The better approach is to facilitate broad participation in the energy and operating reserves market by all resources capable of providing those services.

5. Does the Resource Adequacy construct adequately address the special circumstances in retail choice states? If not, what steps should Midwest ISO pursue to remedy this?

Mostly it does. The use of a monthly construct (instead of an annual construct) to recognize potential load switching in retail choice states is one example. There is still work to be done regarding retail choice providers, demand response including price responsive demand, Aggregated Retail Customers, and the individual needs of each state. The OMS urges the Midwest ISO to continue work on these issues via the stakeholder process.

ICC Opinion: No. The Midwest ISO Module E approach directly conflicts with state policy that would seek to ensure resource adequacy through retail customer choice and retail customer price responsive demand built on a foundation of an efficient regional energy and operating reserves wholesale spot market that provides accurate price signals.

6. In a previous Advisory Committee Hot Topic, the sectors weighed in on Load Forecasting. After six (6) months of the new Resource Adequacy construct, has your sector view changed at all? How?

It is imperative that the Midwest ISO, state commissions, and load serving entities work together to develop a comprehensive and robust forecasting process. We think OMS is right to prefer a "bottoms-up" approach but this should not be viewed as mutually exclusive to having appropriate elements of a "top-down" approach as part of the load forecasting process. For the following reasons, it is critical that the Midwest ISO be a full partner in the load forecasting effort:

1. The Midwest ISO has primary responsibility for reliability.¹ Ultimately, the Midwest ISO needs to have confidence in the validity of the forecasting process. Without confidence in the forecasts, the Midwest ISO would have to increase its planning reserve requirements which would result in higher costs to customers. States and LSEs are mindful of the significant financial, reliability, and operational benefits associated with reduced planning reserve requirements.
2. The Midwest ISO has a unique perspective that would benefit the forecasting process (e.g., load and resource diversity). Without coordination of those involved in load forecasting, there is a greater potential for under or over-counting. For example, in states where there is a potential for load switching, LSEs may have greater difficulty anticipating future load requirements.
3. We don't believe there is any dispute among OMS members that demand response and energy efficiency should be included with the load forecasts. The question is "how." To answer the "how," there should be no dispute that the Midwest ISO needs to be intimately involved in the process. Even at a high level, without necessarily giving consideration to the effect of specific DR and energy efficiency programs, energy prices emanating from the Midwest ISO should have a feedback effect on the forecasted energy sales and demand for individual customers. The Midwest ISO is in a better position to provide regional price information than individual LSEs.
4. The Midwest ISO is in a better position to referee. Some states are concerned that, with enforceable reserve requirements that could result in penalties, there is an incentive for LSEs to under-forecast load requirements and overstate the effects of demand-response and energy efficiency in their forecasts. To the extent this occurs, those LSEs that have expended considerable time and effort to produce high-quality load forecasts as well as represent unbiased results would be subsidizing those LSEs that didn't make the effort, were unable to produce a high quality long-term forecast, or intentionally skewed the results to reduce the financial ramifications of the Planning Reserve Requirements. It is extraordinarily difficult to conduct a forensic analysis on load forecasts to determine if there was intentional under forecasting or over-estimation of demand response and energy efficiency so the "evil doers" could get by with foisting costs on others.
5. The Midwest ISO could provide a perspective that is needed to improve the forecasting processes. For example, something as fundamental as the planning horizon varies among states and LSEs with some being shorter than the RTO planning horizon and may not, then, give adequate consideration to more expensive generation and transmission facilities.

ICC Opinion: If Module E is eliminated, this particular forecasting controversy would evaporate.

¹ The North American Reliability Corporation defines Reliability as having two components –“Security” and “Adequacy.” Security relates to Operating Reserves and other short-term operations while Adequacy relates to Planning Reserves. The two converge in real-time because there needs to be sufficient investment in resources over time to ensure that Real-Time energy market requirements are satisfied.

7. How does your sector view the efficiency and effectiveness of the Voluntary Capacity Auction in supporting Resource Adequacy?

The VCA is a useful adjunct. Prices have been relatively low, reflecting the surplus of capacity in the Midwest ISO at the present time. Therefore, VCA effectiveness at accommodating short term solutions for different entities is difficult to judge. The VCA represents a small portion of capacity market buyers, those who are capacity-short and potentially exposed to the deficiency charge, so it is also not clear how and if it relates to prices of bilateral contracts in general. In some situations, for example, the deficiency charge could have more effect on capacity market prices than the VCA. Currently, there is little if any transparency in bilateral contract terms and prices. If price transparency is important, it would be more effective for the Midwest ISO to post results of bilateral arrangements after a certain period of time. This would require entities reporting to the Midwest ISO to provide price and quantity information of their bilateral arrangements to the Midwest ISO who would post this information with an appropriate lag, perhaps 6 months. Party and counter party information could remain confidential, but pricing, quantity, and duration terms would be made public.

The OMS is concerned that the Midwest ISO VCA process lacks meaningful market power monitoring and market power mitigation. Also, state regulators and independent analysts should be allowed access to the data needed to conduct independent analyses. Even when there are adequacy resources system wide, local constraints can lead to market power for sellers in the VCA.

8. Scarcity pricing is one of the drivers in the Midwest ISO Resource Adequacy design intended to maintain long term reliability. Are the rules related to scarcity pricing in regards to this objective?

a) Are the current scarcity price values/formulas adequate in meeting this objective?

They are adequate in terms of objective, but still need the further improvements that the Midwest ISO is working on, such as software fixes to prevent false scarcity events and improvements in pricing. Also needed are the changes to emergency operating procedures as discussed on OMS response to the next question. The OMS urges the Midwest ISO to continue working on improvements.

ICC Opinion: The arbitrary capacity mandates of the Midwest ISO's Module E undercut the purpose of scarcity pricing in the energy and operating reserves markets. The energy and operating reserve scarcity pricing approach has never really been allowed to work because Module E was implemented.

b) Are any changes needed to the emergency operating procedures currently in place by which Midwest ISO implements scarcity pricing (EOP - 002)?

As the non-dispatchable wind penetration continues to increase, the technical task teams that are studying the current operations and future systems are likely to suggest some new product that has a 4 hour or so time frame. That product would possibly have a stand-by payment and then a forward pricing mechanism with some rate of response (MW up and/or MW down) capability. This will need additional research. The anticipated Eastern Wind Integration Transmission Study should provide additional insight.

Under the Midwest ISO's long-term resource adequacy goals, market forces should allow LSEs to choose different levels of reliability and experience the consequences without detrimental effects in their neighbors. There are two barriers yet to overcome to make this work: Targeted load shedding and prices during emergencies.

The Midwest ISO does not provide for targeted load shedding. When combined with the Module E assumption that almost all resources (APRCs) are deliverable throughout the Midwest ISO's footprint, reliability ends up being shared even where it was meant to be different. During the Midwest ISO and stakeholder work on a Real Time Sufficiency Tool a few years ago, the OMS supported the idea of targeted load shedding during emergencies to provide for better consequences of different levels of reliability. As OMS understands it, the Midwest ISO ceased work on the tool because of difficulties tracking resources to identify exactly which LSE is short during an emergency. When combined with the shortcomings of the Midwest ISO's scarcity pricing, the result is still lacking.

The Midwest ISO's current emergency operating procedures undercut the market price signals that would efficiently ensure reliability and make the need for deployment of the emergency operating procedures more likely. For example, if an LSE deploys demand response mechanisms under retail tariffs the resulting decrease in load causes wholesale prices to decrease, sending a price signal that goes in the wrong direction for an emergency if no resources are left for firm load. Outside an emergency, an LSE can deploy demand response to decrease load to keep prices down, but this is different because there is no scarcity and therefore the LSE is not likely to be exposed to real time prices. During emergencies, however, those LSEs that are short and therefore exposed to real time wholesale prices should see prices that relate to the emergency.

c) Do the current Tariff and operating provisions facilitate transparency of the scarcity pricing process?

The process appears transparent when the resulting prices make sense. The process is not transparent where prices are the result of software logic glitches. The process is also not transparent when prices drop due to demand response deployment during emergency events that should trigger higher prices. Allowing demand response to set prices in the later stages of an emergency event will also improve transparency. The OMS appreciates the Midwest ISO's efforts to identify and fix these shortcomings.

d) Has/Does the combination of capacity requirements plus energy/scarcity pricing provide adequate incentives to ensure long-term resource adequacy?

The question addresses the central resource adequacy issue, which is whether relatively short-term prices can provide the proper incentives to ensure long-term resource adequacy. The OMS says yes. Some have said that the longer term prices are needed, such as 3 or 4 year forward prices used by RTOs to the east in their resource adequacy constructs. In the context of long-term resource adequacy, however, they are also short-term prices. The Midwest ISO capacity requirements and energy/scarcity pricing, are the right combination when considered in the bigger picture of state resource adequacy, financial markets, electric industry manufacturing business cycles, market participant behavior, and risk exposure. RTOs cannot and should not be expected to provide resource providers with the sole means of long term financial security. In other words, RTO-run resource adequacy constructs are a means to another end, not an end in itself.

The resource requirements and the energy/scarcity pricing mechanisms should each provide incentives to ensure long-term resource adequacy. The resource requirements provide a monetary incentive to secure adequate resources to meet load forecasts via a deficiency charge. The energy-scarcity pricing provides information on the value of a resource for its location, type, and when available, which is useful for establishing what is likely to be needed in the future. The goal is to ensure that the right type of resource is available in the right place and the right time.

ICC Opinion: A well-designed energy and operating reserves market that features scarcity pricing combined with state policy maker decisions regarding hedging levels and retail customer empowerment would efficiently ensure resource adequacy. There is no need for a separate capacity construct.

9. If you could change one thing to improve the Resource Adequacy mechanism, what would it be?

All of the changes identified in responses to these questions are important towards making the mechanism right. The one overall most important thing would be to fine-tune the energy and ancillary services market so that it sends the most accurate price signals.

ICC Opinion: Eliminate Module E. Fine-tune the energy and ancillary services market so that it sends more accurate price signals. Enable retail customer price responsive demand.