Comments and Questions on Possible New Metrics for Transmission Projects

Independent Observations by OMS Work Group Staff Members

April 8, 2013

The following comments are not meant to be representative of any OMS Commissioner or State Commission

The OMS work group members (OMS staff) welcome MISO bringing forward new ideas and encourage stakeholder driven proposals. The comments below offer further questions and observations about the proposed metrics to help OMS staff gain a better understanding of how the metrics might be considered and ultimately applied in the MTEP planning and regional cost allocation processes.

These comments are in response to MISO and NIPSCO's presentations on regional cost allocation benefit metrics during the March 21, 2013 meeting of the RECB Task Force.

Value of Deferred Generation Capacity

The addition of generation capacity deferral as a benefit metric can be a valid concept when considering transmission projects into Local Resource Zones (LRZ) with binding Capacity Import Limits (CIL). A new transmission project may allow existing footprint reserve pool capacity to flow into the LRZ. When considering the Adjusted Production Cost metric as a benefit for Market Efficiency Projects (MEP), in the analysis it is important not to double count the benefit of new generation resources. In this regard, other RTOs have shown that it is possible to split the benefits into some ratio between the investment and production cost to avoid double counting benefits.

MISO suggested either using results of an EGEAS model or the Cost of New Entry (CONE) value to calculate economic benefits of deferred generation capacity. The choice of using EGEAS or Cost of New Entry (CONE) raises the issue of long-run price signaling, and the question of which is the better approach. EGEAS may be more likely to give the long-run, most economical, fuel choice generator type for the deficient LRZ. In contrast, CONE would be a simpler, more consistent value over time though too high if there is excess capacity. Demand Side Management programs should also be thoughtfully considered in this discussion because they could be another short-term (and even temporary) solution. Any method is meant to estimate the type of generation capacity displaced with the increase in transmission capacity. In reality, the States and the State Commissions may have a say regarding generation choices, basing decisions on public policy and other considerations. Thus, both the EGEAS and CONE results may not be accurate.

Any cost allocation method based on capacity deferral benefits should consider State preferences while avoiding unintended consequences with impacts on neighboring states. For instance, if one state wants a lower reliability level to avoid construction, how would the other states not be required to help on say in a really hot (90% percentile) weather event? This metric may not be compatible with some State Commissions. For example, if an LSE is subject to a state mandated planning reserve margin and has to

meet its obligation with in-state generation capacity, then it will not benefit from an increase in the capacity import limit to its LRZ. In developing this benefit, MISO should bear in mind how the value choice between incremental, new transmission vs. in-LRZ generation could be another State or State Commission public policy decision. Considerations such as jobs, economics, availability, market risks, etc. are all possible concerns that may be addressed by States and State Commissions.

The issue of how to deal with transmission capacity vs. in-LRZ generation capacity in the new Resource Adequacy Construct capacity auction is quite complex. Most transmission lines could not be designed, sited, and constructed in one year. Not only that, the deferred capacity benefit from a transmission line is uncertain and may not accrue until many years after the line is in service. A planning benefit of this proposal is that it gives a place/location and presents one kind of "price" signal to zones for consideration in future planning. In contrast, the choice of generation and fuel vs. transmission ultimately goes back to an individual LSE and possibly a State policy decision. The trade-offs between the two options are not straight forward, and cannot be captured solely within a benefit metric formula.

Finally, there is an equity issue MISO should consider with this proposed benefit metric. Allocating costs to all LSEs in a LRZ assumes that all LSEs benefit from the addition transmission capacity. However, it would seem that there is not consideration as to which LSEs are short or long on generation capacity inside the zone and for how long that situation might persist. A minority of the Load Serving Entities (LSEs) may be the cause of the shortage. That creates the possibility the benefit could be overstated if the short LSEs could, in lieu of building new transmission projects, seek some combination of new transmission lines and ownership or PPA contract of other generation outside the zone. It is a more complex situation when a zone is export limited in which the rest of the MISO pool would benefit from generation capacity deferral. It seems necessary to determine if the MISO footprint short on capacity as a whole, and if so, for how long? Or are only some LSEs short?

M2M Benefit Metric

OMS staff agrees that it is appropriate to discuss M2M payments being used as a benefit metric and/or a price signal that could show a need for additional transmission capacity along the seams. This proposed metric should be explored further as it raises many questions.

OMS staffers understand that M2M payments result when one RTO redispatches to relieve a constraint when that RTO can provide relief more efficiently than the non-owning RTO. To state it another way, M2M payments are a necessary cost of the efficient management of congestion along the seam so that each RTO is benefitting from the overall most efficient management of congestion that is currently feasible. The M2M payment is the incremental cost of redispatch and is calculated using the constraint's shadow price multiplied by the MW's of relief provided. Without the assistance of the other RTO's more efficient re-dispatch the cost of relieving a constraint would generally be higher than the M2M payment made to the other RTO.

OMS staff recommends further discussion and clarification on the assumption from the NIPSCO presentation that "Utilization of the M2M Process creates a true cost for transmission path that lacks

capacity desired by markets." Staff understands that M2M payments reflect the cost of redispatch to relieve transmission constraints but it remains unclear if historic M2M payments are a reasonable proxy for the true cost of building a transmission path for necessary capacity.

One of the possible concerns raised by OMS Staff is the possibility that this metric may cause competing efforts, one being the building of new transmission to provide additional transmission capacity that may relieve existing congestion versus the utilization of generation redispatch to most efficiently relieve congestion within the limits of the current system capabilities.

- If an RTO builds transmission to lower future M2M payments, could that preclude the lower cost option of redispatching to relieve congestion?
- Does including both M2M payments and APC in the benefits metric result in double counting? If the RTOs only use M2M payments in lieu of APC, would that reduce this concern?

The M2M process is designed to provide a financial settlement for congestion relief on the physical system instead of dealing with constraints through flow reductions via TLR.

- With that in mind, if MISO and PJM were instead utilizing TLRs and not M2M redispatch to address seams congestion, would there then be APC savings created from solving that constrained flowgate by allowing for lower cost generation to flow through that flowgate? Would the constraint instead be seen as a NERC problem / reliability issue that could be solved by a BRP?

The proposed use of avoided M2M payments to justify MEPs would utilize historical M2M settlement data. OMS staff believes that there is a need for further discussion on the methodology and application of historic M2M payments in this context. The possibility for variability in M2M payments between flowgates and over time raises some concerns and OMS staff poses the following questions to help start a dialogue on those concerns.

- Is there a large variability in the M2M payments made on individual flowgates over time?
- Is there a significant number of M2M flowgates that are substantial outliers for M2M payments each year? Are there any significant trends in the number of outliers or the magnitude of outliers over time?
- Are there any significant trends in the voltage levels of the top congested M2M flowgates?
- What solution would be needed if the M2M payments on a particular flowgate fluctuated dramatically over time?
- There are a variety of reasons for potentially significant changes in M2M payments over time including scheduled and unscheduled transmission and generation outages, or modeling assumption and calculation errors. Would it be necessary for a M2M payment reduction metric that utilized historic data to capture these potential changes? If so, what are some potential solutions?
- What time period is proposed for use in calculating the benefits of the reduced M2M payment? A single year, multiple years?

Would this benefit metric only be used to justify MEPs? The proposal of this new benefit metric generates the possibility for another project type. Is there a possibility that MISO would consider a new project type to address this issue?