

## **OMS Transmission Planning Work Group (TPWG) Feedback to MISO on the January 31 Regional Transmission Overlay Study Workshop.**

Due February 14, 2017 – Summary of comments made in Workshop by participating regulatory staff.

1. Natural Gas Pricing - Some of the regulatory staff have been independently reviewing the production cost runs for the various scenarios and years. We have discovered some interesting outcomes when it concerns large coal plants. Each Future has a natural gas price forecast with coal staying “flat” for the period. The price separation of course opens with the different futures to a differing amount. We suggest that a sensitivity of natural gas price separation be done within each Future Scenario. That is, change the gas price both up and down. The price differential can make base coal plant either “profitable” or net marginal fuel and O&M “losers” without regard to reliability or book value. This is a very important concept for planning the fleet beyond production cost minimization and congestion.
2. New Metrics – The display of little congestion areas and limited reliability problems, the discussion of new metrics was introduced with the concept of more local reliability issues arising in the future with the changing system technologies. Several potential metrics were given as examples for use in planning the system. We seemed to have plateaued the economic transmission overlay with the 2011 MVP projects. The afternoon suggested transmission lines for source to sink, seemed to be more of a “fill in the local gap” as opposed to an “overlay” solution. We now seem to be faced with capacity and energy deliverability at a local level. The new metric list is worthy of study to find the “value” for capacity, energy adequacy, etc. The workshop forums will be a good place to have discussions of the metrics uses for the decisions concerning local transmission for resource adequacy. The metrics and their use should be discussed in the next workshop with additional value information.
3. Load and Capacity Diversity – As noted above, the planning scale seems to be moving to a more sub-regional level including our individual neighboring RTO seams. This concept is a good issue to pursue at this time. The scale of solutions will be quite involved and require years to implement. We look forward some detailed examples for discussion purposes.
4. Cost Estimates – During the closed planning exercise only source to sink transmission elements were recorded as potential elements for congestion or reliability solutions. As noted this technique was to capture voltage level and general distances. The Footprint Diversity Study is refining its transmission cost elements for the specific solution designs (voltage, structure, conductor, transformer, etc.). We suggest added three elements to each potential transmission solution in RTOS. Besides the dollars based on distance add: 1) a distance and angular multiplier for route based on previous experience, 2)

environmental mitigation construction contingency, 3) degree of difficulty for permitting success based on local knowledge.

5. Futures Summary Slide -Item #4 in the workshop was “Benefit Metrics for Transmission Justification: Past and Future.” Slide #3 provided the change in GW for each future by Demand Side Additions (EE & DSM), Renewable Additions, and Generation Retirements at the last year Of 2031. It would be more informative to also like the change (and Base) for the Demand growth in GW for each Future. It would be also informative to have one or more interim years detailed. It would also be helpful to have similar energy comparison slide for the futures. The energy load growth in GWH could be matched with the EE, DSM, and Renewables. Slide 5 does have a display but only in %.