

## Feedback to MISO on MTEP Futures and Sensitivities Consideration for Economic Transmission Projects

### OMS Transmission Planning Work Group Staff.

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In the August 16, 2017 meeting of the Planning Advisory Committee (PAC), stakeholders were invited to send additional feedback on how individual futures and sensitivities should be considered when recommending an economic transmission project (Item 02a). Specifically, one should consider the following questions when providing comments:

- *How could MISO make the determination of sensitivities more predictable?*
  - *What examples or information from past MTEP cycles would help shape process reforms?*
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***The feedback below is a collection of comments from the OMS Transmission Planning Work Group (TPWG). The staff comments offered during and following the discussion do not necessarily represent the view of any State, Commission or OMS Commissioner. The staff views are just being combined to better meet the MISO deadline for initial comments.***

The TPWG appreciates MISO listening to the June stakeholders' feedback and delaying the overall MTEP Futures Process Reform until 2019.

MISO's proposal has the stated objective "to increase predictability and transparency in economic project recommendations." The proposal discussed at the August 16, 2017 PAC meeting does have the appearance of trying to deal with the range of uncertainty outcome using different Futures and reviewing the current methodology of weighting. For instance, the proposal considers moving from the use of simple weighting to the possibility of incorporating additional methodologies to deal with outlier results (large range of B/C ratios), while also including Sensitivities in the mathematics of averaging.

The objective is good, but the methodology proposed needs some significant additional work.

#### **1. Proposal to use Equal Weighting for all Futures**

Generally, the TPWG does not agree with the MISO proposal's logic that, since there is a large range of uncertainty associated with the future, assigning equal weights "will increase the predictability and efficiency of the process." On the contrary: the fact the past voting process did not turn out to accurately predict the today's outcomes only confirms the observation of a large range of uncertainty. In addition, the creation of the Futures was not predicated on assigning equal probabilities for each Future. If the multiple futures were designed to be

“bookends” of different scenarios at, say, 2 or 2 ½ standard deviations of a central subjective probability value, then an equal weighting methodology might apply to each Future.

To change to equal weightings would require a different design process for the creation of each Future and for the selection of the Low, Medium and High metric variables. There is a compounding factor to be recognized with the range assigned to each variable’s probability distribution and use if indeed the Future Scenarios are to be assigned an equal probability.

## **2. Base MEP Weighting with Other Futures**

This might be another good step toward improving the new process over the current straight averaging B/C ratios. Requiring both the minimum negative floor threshold and more than half of the Futures to have to be greater than 1.0 recognizes any given project may not be very cost effective under *all* conditions, yet might well be somewhat robust as a whole.

A robust test could include:

- Have a completely different set of B/C ratio methodologies based on:
  - The tiered voltage levels
  - The sub-regions, LRZs, and LBAs

## **3. Sensitivities of Variables within a Future on B/C Ratio**

This is a good step in helping to determine the robustness of a Future based on its projected B/C ratio, by determining which variables are the value drivers for the B/C ratio. This analysis would be very informative on one aspect of what drives a B/C ratio for any given single Future, but may also provide insights into the other Futures.

The proposed methodology reviewed in the August 16<sup>th</sup> meeting leaves too much uncertainty to allow its endorsement. First of all, the selection and range of any variable could be used to bias a Future in order to eliminate a project or to artificially promote a project. A standardization of the range of any given variable, at a minimum, needs to be determined. The simple deletion of any given Future by the use of average weighting seems totally inconsistent with the distribution of range of uncertainty associated with the variable. In addition, not testing all Futures with a consistent sensitivity analysis could misrepresent lower or higher B/C ratios in the other Futures.

The process for the sensitivities is incomplete, and without further refinement could lead to bad MTEP recommendations, with truly non-beneficial projects recommended for approval, and truly beneficial projects not recommended for approval.

The risk management of the distribution curve tails is one of the main planning functions required for large capital projects with life cycles of at least 60 years.

Hypothetically, the variables could be tested one at a time, and then compounded by adding another variable to the sensitivity test to expose the combined change in the B/C ratio. The top 3 or 4 top variables could be identified by MISO and stakeholders early in the process to provide a reasonable time frame for analysis. The first variables would be a part of the preliminary screening analysis. Then a separate test on the standard deviation of B/C ratios could be used to determine the range of uncertainty of a proposed transmission project.

#### **4. Robustness Testing**

Another type of robustness testing beyond variable sensitivities analysis is more process in the system network review of the MEP projects. Other tests for robustness could include:

- Location of future generation additions
  - Or repositions if sensitive
  - Percentage on Distribution vs. Transmission
  - ERIS vs. NRIS
  - And related transmission upgrades
- Location of generation retirements
- The LSEs:
  - Planning reserve level (internal to LBA)
  - Fleet characteristics to the market

The current review process for market congestion could include these same tests.

These suggestions are intended for the beginning of the MTEP18 process, for proof of concept testing and refinement.

#### **5. Past MTEP Cycles Experience for Advising Reform**

While the past weighted voting has promoted robust, even intense, discussion in the stakeholder process; it is necessary for all to hear each sector's particular view to achieve transparency and balanced outcomes. That discussion process has not adversely impacted our evaluation of market efficiency projects. The votes are advisory in nature, leaving MISO free to review any sector's vote as being particularly biased in order to support their business plan or to advocate in favor of some related position.

The development beyond simple averaging, with more informative analysis, is the next logical step.