

MTEP Futures Workshop Feedback Request (20191205)

The OMS Transmission Planning Work Group (TPWG) appreciates the opportunity to respond MISO's request for additional feedback regarding the December 5th MTEP Futures Workshop. This TPWG feedback does not represent the views of the OMS Board. It represents the views of Commission Staff. The positions represented in this feedback are not intended to represent minority and majority positions among Commission Staff. This feedback is intended to convey the spirit of the discussion within the TPWG. The TPWG presents this feedback so that MISO and other stakeholders can benefit from the range of feedback generated within the TPWG with the understanding that not all members of the TPWG will necessarily agree with all aspects of this feedback.

Energy and Demand Growth Rates

The December 5th Futures presentation needs to specify values for Demand and Energy Growth rates rather than "Low", "Medium" and "High".

Based on Q & A during the workshop, MISO indicated that the Electrification and Deep Electrification concepts meant that Energy growth would be 1.4% in the Accelerated Fleet Change, and 2.2% in the Advanced Electrification Future. The TPWG finds these assumptions to be wildly high compared to MTEP19/20 assumptions. These values represent a 55% and 120% increase over the previous year's Energy Growth assumptions while Electric Peak and Energy Growth rates have been trending down for many years, especially in the last decade.

In the Electrification slides, MISO appears to be relying on a forthcoming Applied Energy Group study, and the TPWG looks forward to reviewing this study once posted to the MISO website. However, the TPWG is concerned that MISO relies on an unpublished study in these slides.

Slide 11 lists seven "variables" included in electrification. However, with the exceptions of EVs and perhaps some limited C&I applications, we are not seeing stakeholders making similar electrification assumptions in similar studies such as Integrated Resource Plans, or independent state electric forecasts. If MISO believes that the effects of electrification will occur in the out years of the study period (Years 10-20), it should say so and propose a non-linear growth rate. This would be a significant change from the linear growth rate assumptions that have always been used in these transmission studies. The growth rates in the near term are especially important in whether potential Market Efficiency Projects are projected to be beneficial. If MISO and others would like to employ non-linear growth rates showing large amounts of electrification in the out years for the purpose of indicative transmission studies, then we should understand that. For the purpose of studying potential MEPs, we favor D&E growth rate assumptions similar to what we have been using in the recent past for the near-term.

The TPWG discussed that if the bookends are truly intended to describe a range of possible developments, MISO should continue to consider whether or not there should be a future that considers no growth, or even a decline, in the load.

The TPWG discussed whether or not the driver behind MISO's advanced electrification assumptions anticipated to be policy or economics and requests MISO draw this distinction where appropriate going forward.

Coal Retirement Assumptions

The TPWG discussed whether or not to lower the retirement age for coal plants to 35 years in each future, allowing states to provide more accurate information where necessary to enhance the accuracy of this metric. Lowering the retirement age in at least one of the futures would ensure that the bookends do not become too clustered should a higher retirement age be retained in the other futures.

The WG discussed whether MISO should revert its assumption on coal retirement age to the original proposal and how specific data should be able to replace the retirement assumption when available. In support of the original proposal, coal units retired in 2018 had an average age of 46 years and were trending down, based on the most recent EIA data.¹ The TPWG also discussed whether or not the coal retirement assumptions in the first straw proposal might be too conservative.² Given the trend of demarginalization in MISO energy market and increase in net loss of coal power plant operation, the coal retirement trend will likely accelerate in the MISO footprint.³ In addition, future Carbon Pricing mechanisms may render and even larger percent of existing coal plants uneconomical. The TPWG recognizes that this is only one possible bookend future and is not intended to be a conclusive projection of the future. As such, the OMS TPWG suggests MISO to assume an appropriate retirement age and allow individual states to deviate when supported by specific plans.

The TPWG agreed that MISO should rely on an OMS survey of public utilities because this could more accurately provide this data. The TPWG also encourages MISO to more closely coordinate with each state to allow each state's IRP or similar process to more accurately inform this metric. States that make individual decisions about resources in their states should be able to easily inform these futures with more accurate information.

IRP Met

The TPWG needs additional information to understand the "IRP % met" variable. The work group members recognize that there is uncertainty in the outcome of any IRP, and note that states purposely do not approve the entirety of IRPs for just that reason. There is, however, a much greater certainty in the near term of state resource plans, than in the out years. If the %

¹ "The annual number of retired U.S. coal units has declined since 2015, and the configuration of retired coal capacity has changed. Coal-fired units that retired after 2015 in the United States have generally been larger and younger than the units that retired before 2015. The U.S. coal units that retired in 2018 had an average capacity of 350 megawatts (MW) and an average age of 46 years, compared with an average capacity of 129 MW and average age of 56 years for the coal units that retired in 2015." <https://www.eia.gov/todayinenergy/detail.php?id=40212>.

² In 2017 dollar, all the coal plants should have a minimum of \$20 per MWh to be economical. In 2017 dollars, all the coal plants should have a minimum of \$20 per MWh to be economical. <https://www.eia.gov/todayinenergy/detail.php?id=42155>

³ Further, the 2019 Lazard report indicated that unsubsidized Wind and utility scale PV levelized cost of energy ranges from \$28 to \$54 and \$32 to \$44. <https://www.lazard.com/media/451086/lazards-levelized-cost-of-energy-version-130-vf.pdf>. In combination of two data points, about 66% of coal plants in the U.S. are not economical to operate. Also the remaining 33% of the coal plants do not have bright future either. Pressure from the financial industry forces many coal plant owners to reconsider their carbon risk. <https://www.latimes.com/business/la-fi-chubb-bans-coal-coverage-20190701-story.html>

met figure should attempt to address uncertainty in the out years only, and not through a linear discounting of resource plans throughout the entire time horizon.

Although it would be nice in theory to attempt to quantify the out year uncertainty of state resource plans through the resource planning template that OMS is working on in conjunction with MISO, it is believed that this would be. MISO should come up with a single methodology that is agreed upon by most stakeholders.

Economic Evaluation of Required Upgrades

Substantial interconnection, deliverability, and reliability upgrades will be required to accommodate renewable generation additions assumed in the proposed futures cases. Not accounting for such upgrades in the economic evaluation will produce erroneous results. Economic benefits for a proposed transmission project will not exist if such upgrade costs are included. It is suggested that renewable energy capital costs account for not only direct interconnection costs, but also associated reliability and deliverability upgrades, which are proving to be significant. These reliability and deliverability upgrade costs must also address stability violations. Recent MISO DPP Studies can provide insight into what these cost adders could look like.

Purpose of Futures

At a high level, the TPWG discussed that the MTEP futures act as bookends of the likeliest range of possible futures. They exist to mitigate the risk from building long-lead projects that must remain useful in the face of future uncertainty. They are not meant to be projections of futures with corresponding levels of certainty based on information available today but to allow projects that are built to remain beneficial in a range of different scenarios. While recognizing the abbreviated nature of the current retooling process, the TPWG discussed possible benefit from creating additional futures to the degree MISO's computational capabilities allow for sub-regional modeling within the MTEP time frame available.

The TPWG appreciates MISO proposing to model futures on a sub-footprint basis. This is necessary to ensure that each subregion and each LRZ are not foreclosed from pursuing the preferred generation mix in their jurisdiction.