

AEP Response to PJM Request for Sensitivity Scenarios for Discussion with TEAC

During the January 13, 2010, TEAC meeting, PJM requested the submittal of suggestions from stakeholders on scenarios PJM should be considering as part of the 2010 RTEP study. Based on PJM practice, the RTEP process presently considers only one bright-line future when evaluating the reliability performance of the PJM transmission system. However, PJM and its stakeholders have recognized the need to also consider alternative futures that reflect sensitivities around the inputs and assumptions that comprise the bright-line future. Study results from these alternative futures will be made available to the PJM stakeholders and Board of Managers for consideration when reviewing and approving RTEP projects. Listed below are some sensitivity scenarios that are being suggested by AEP that center around the more significant inputs and assumptions to the RTEP process.

1. Generation Retirements – Several factors, including environmental restrictions, age of units, limited operation, and reduced revenue streams, may put considerable amount of generation in the eastern portion of PJM at risk of retirement. Such a situation will result in the very real possibility of needing to increase imports into eastern PJM. Listed below are some estimated amounts of generation at risk of retirement for consideration under the sensitivity analyses.
 - a. By one estimate, there are approximately 7,500 MW of generation over 40 years of age in the eastern Mid-Atlantic portion of PJM. Some of this generation may already be included in the generation capacity that failed to clear the most recent RPM base residual auctions. Similar situations are likely in other areas of PJM.
 - b. By another estimate, coal-fired generation at risk of retirement from EPA regulations to control Hazardous Air Pollutants could amount to 7,000 MW in the eastern portions of PJM. Similar impacts are likely in other areas of PJM.
2. Generation Additions – Significant amounts of wind (and other renewable) generation are expected to interconnect to the western portions of PJM and in systems to the west of PJM. Since there are practical limits on the amount of intermittent generation that can be allowed to displace non-intermittent generation in a given area, western wind is expected to displace eastern fossil-fired generation. Consequently, west-to-east transfers that would result from such generation additions within and outside the PJM footprint need to be considered under the sensitivity analyses.
3. Load Forecast – Although the existing PJM load forecasting methodology takes into account a broad range of factors that could impact the amount of power that may be demanded by the loads in PJM, the sensitivity analyses should consider how the reliability performance of the PJM transmission system may be impacted by reasonable variations in those factors. Below are some variations that should be considered under the sensitivity analyses.
 - a. A load forecast that reflects the upper bounds of the GDP forecasts discussed during the January 13, 2010, PC meeting (agenda item 7).
 - b. A load forecast that reflects extreme weather conditions in the areas surrounding the LDA that is undergoing a capacity emergency.

4. Load Management – PJM and some of its stakeholders have already voiced concern with the uncertainties that surround Demand Response (DR) and Energy Efficiency (EE) resources. In particular, the uncertainty that DR resources may or may not continue to be available to PJM from year to year. In addition, EE programs have been noted as being largely new in concept, with no track record for the sustainability of the demand reductions that may result. Given that reality, the sensitivity analyses should consider the implications on the reliability performance of the PJM transmission system of future reductions in these load management resources.
5. CETO Assumptions – Although the CETO calculations already capture the generation and load factors noted above, and thus, will reflect the resulting generation and load sensitivities, the CETO calculations also reflect other inputs and assumptions whose variation should also be considered by PJM under the sensitivity analyses. The specific modeling details outlined on page 33 of PJM Manual 20 should be reviewed to determine which would be appropriate to include in the sensitivity analyses.
6. Circulation Flows – PJM and its stakeholders had previously recognized and acknowledged the need to consider as part of the RTEP studies circulation flows that are being imposed on the PJM transmission system by the activities of PJM's interconnecting neighbors. In 2006, the Planning Committee formed the Circulation Working Group that evaluated the extent of such flows on the PJM transmission system for the purpose of incorporating such flows in the RTEP studies. The working group determined that 1,000 MW flowed on a regular basis from the southwest to the northeast through the PJM transmission system. This analysis should be updated and the results incorporated under the sensitivity analyses.
7. Application of Results from Sensitivity Analyses – While the current TPL standards are generally interpreted to not require corrective actions to address performance violations identified through a sensitivity study, the revised TPL-001-1 standard, which will be balloted later in February, explicitly requires a corrective action plan to address situations where multiple sensitivity analyses identify a performance violation. Although this revised standard may not become effective until 2011 and the TPL-001-1 Implementation Plan will provide a two-year transition period, it is not too early for PJM to modify its planning process to incorporate sensitivity analyses, particularly for backbone transmission projects which will take many years to accomplish.

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