CAISO 2014-2015 TPP
November 19-20, 2014 Stakeholder Meeting
Stakeholder Comments

Submitted by	Company	Date Submitted
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TGP appreciates the opportunity to comment on CAISO's 2014-2015 TPP Stakeholder Meeting held November 19-20, 2014.

As the electrical grid has and continues to experience fundamental changes with the retirement and expected retirement of existing generation, the addition of new transmission lines and substations, and the increased penetration of renewable and preferred resources, it is imperative that Stakeholders have a clear and transparent understanding of how Locational Effectiveness Factor analysis are or could be utilized to optimally manage the evolving paradigm shift in California's electric grid. Only a transparent and detailed analytical process, with a common Stakeholder understanding and appropriate input, permits effective transmission planning that avoids costly planning decisions and provides a consistent input critical for cost-effective resource procurement decisions. To this end, TGP's comments focus on CAISO's presentation of the Methodology for Calculating Locational Effectiveness Factors (LEFs).

LEFs for Thermal Loading Constraints:

The detailed methodology presented by CAISO for these constraints, along with the numeric example, covers the entire gamut of the process involved. TGP commends the CAISO for the succinct presentation of the LEF calculation methodology for the Thermal Loading Constraints.

LEFs for Voltage Stability Constraints:

The detailed methodologies presented by CAISO for determination of LEFs for Voltage Stability Constraints, while very informative with the numeric illustrations, are missing 4 key elements itemized below. TGP commends the CAISO for presenting the framework and requests the CAISO to include the step-by-step processes associates with the missing elements. TGP believes that CAISO's documentation of these study procedures would enable the stakeholders to understand the baseline assumptions and limitations inherent to these studies.

A. Nodal Analysis
    1. Step-by-Step Process:
       While the CAISO acknowledges the potential for a nodal analysis, the description of the potential study types for the nodal analysis and the associated step-by-step

processes are missing. TGP requests CAISO to include the missing details on the potential study types (like, P-V, Q-V or reactive margin analysis) from the CAISO toolkit that are candidates for determining the LEFs. Further, if the selection of the study type is constraint-dependent, then TGP requests the CAISO to include the selection criteria as well.

B. Zonal Analysis

2. Creation of New Sub-Areas:
   The CAISO presentation includes methodological details on a zonal analysis for an LCR area that *already* consists of sub-areas; however, the criteria and procedures involved in subdividing a large LCR area to create new sub-areas is missing. While the procedures and processes employed for creating new sub-areas for the purpose of determining LEFs for Thermal Loading Constraints is well documented by the CAISO, the same is not the case for creating new sub-areas for the purpose of determining LEFs for Voltage Stability Constraints.

   Relative to creation of new sub-areas for the purpose of determining LEFs for Voltage Stability Constraints, TGP requests the CAISO to include the detailed methodological process and evaluation criteria used to (i) identify the need to create new sub-areas, and (ii) determine the appropriate number of new sub-areas to be created. Further, to enhance stakeholder understanding and appreciation of any process complications involved, TGP requests the CAISO to use illustrations, either generic or the scenario relevant to the creation of 3 new sub-areas within the Western LA Basin LCR area[1]. Providing this missing information should directly contribute to eliminating one of the disadvantages that the CAISO has acknowledged for the zonal analysis.

3. Sub-Area Assignment for Nodes:
   CAISO's presentation is missing the detailed methodological process and evaluation criteria used to determine (i) the electrical boundary of the new sub-areas and (ii) assign existing LCR nodes to the newly created sub-areas. TGP requests the CAISO to include this missing detail along with either generic illustrations or the scenario relevant to the assignment of 27 nodes from Western LA Basin to the 3 newly created sub-areas within the Western LA Basin.

4. Allocation of Additional Capacity Need (MW) among Sub-Area Nodes:
   While the illustrations used by CAISO for the simple zonal analysis is helpful, it is missing key details associated with the process and procedures used to allocate incremental sub-area capacity among the nodes within a sub-area. TGP requests the CAISO to include this missing detail and, for illustration, use the scenario relevant to allocation of incremental sub-area capacity to any of the 3 newly created sub-areas in the Western LA Basin LCR area. If the allocation of the

[1] http://www.caiso.com/Documents/LocationalEffectivenessFactors-LA-Basin_2013-2014.pdf

incremental sub-area capacity to the nodes is scenario-dependent, then TGP requests the CAISO to include the criteria used for such scenario-specific allocation.