November 30, 2018

RE: Comments Of EDF-Renewables (EDF-R) and SPower on Proposed ELCC-based Deliverability Assessment methodology in Transmission Planning Process (TPP) and Interconnection Studies

EDF-R and SPower appreciate the opportunity to comment on the CAISO's proposal for implementing the Electric Load Carrying Capacity (ELCC) methodology in its TPP and generator interconnection studies. These comments are based on the presentations and discussions at the November 16th TPP stakeholder meeting.

The ELCC concepts and methodology are extremely complex, and EDF-Rand SPower appreciate the time and effort the CAISO has devoted to develop a thoughtful framework. The comparison of results for Cluster 10, Phase I (C10/Ph1) studies was especially helpful, and the results (fewer upgrades needed for the requested amount of full deliverability) were generally in the direction expected, given the lower Resource Adequacy (RA) Qualifying Capacity values under ELCC.

However, EDF-R and SPower have both process and substance concerns about both this development process and the elements of the CAISO proposal. In general: (1) The process here does not provide an adequate opportunity for stakeholder review of the proposed methodology, especially this late in the TPP cycle; and (2) many of the proposed study assumptions do not realistically reflect the portfolio mix likely to occur or the RA needs of the resources.

Specific concerns include (but are not limited to) those described below.

Process issues

EDF-R and SPower strongly support the requests from other developer representatives at the stakeholder meeting for a more extensive stakeholder process, once complete explanatory written materials are available and stakeholders can better consider the assumptions and implications.

As with other parts of the TPP, there is no written documentation explaining the new methodology. The Study Plan for this TPP cycle did not include any explanation or consideration of this new framework, and the only written material provided so far is the cursory explanation in the 300+ slide deck for the November 16th meeting.

As a result of the lack of written materials thus far, key details are missing for this methodology and its major elements, including alternatives considered by the CAISO and the rationale for the CAISO choices made. The CAISO and stakeholders would both benefit from a more careful and considered process that leads to better and more robust methodology and assumptions.

Portfolio deliverability requirement assumptions

EDF-R and SPower share Large-scale Solar Association (LSA) concerns about the lack of alternative renewables portfolio assumptions – in particular, use of CPUC portfolios in TPP studies where the Energy-Only (EO) portion (e.g., the 42MMT portfolio assumption of ~40% EO) is unrealistically low.

Several large Load-Serving Entities (LSEs) claim to have contracted enough renewable supply to meet the 50% Renewables Portfolio Standard (RPS) requirement, and virtually all LSE competitive solicitations to date have required full deliverability. EDF-R and SPower suspects that the EO portion of the C10/Ph1 portfolio was extremely small. That difference partly explains the additional upgrades under the C10/Ph1 portfolio results not triggered with the 42MMT portfolio, even though the latter assumed a higher (~58%) renewables share.

Variable Energy Resource (VER – solar and wind) output assumptions

In TPP and GIP/GIDAP Deliverability Assessments, the CAISO proposes to assume VER output at 20% and 50% of nameplate for the Highest System and Secondary System Need scenarios, respectively – an approximate blend of output percentages for wind and solar-project output in different geographic areas during the identified peak hours for those two load scenarios. (See the table below, based on data in the TPP meeting slides.)

Wind and Solar Output Percentile (% of Nameplate) for Defined Scenario Hours & UCM<6%

RESOURCE TYPE	***AREA***	***HIGHEST SYSTEM NEED*** *(HE18-HE22)*	***SECONDARY SYSTEM NEED*** *(HE15-HE17)*
Wind	SDG&E	33.7%	11.2%
	SCE	55.7%	20.8%
	PG&E	66.5%	16.3%
Solar	SDG&E	3.0%	35.9%
	SCE	10.6%	42.7%
	PG&E	10.0%	55.6%
VER STUDY ASSUMPTION	→	***20%***	***50%***

Concerns include (but are not limited to) the following:

- **Relationship of Deliverability Assessment VER output assumptions to CPUC-adopted Qualifying Capacity (QC) figures.** The CAISO should consider using VER output estimates that better reflect the resource RA values.

  The proposed output assumptions seem unrelated to the Technology Factors adopted by the CPUC. For example, the ELCC-based QC for CPUC-jurisdictional solar resources is about 30-45% of nameplate in April-September, but TPP and GIP/GIDAP Deliverability Assessments would dispatch those resources under the Highest System Need scenario at only 20% of nameplate.

  Upgrades needed to support the CPUC-approved QC level may thus not be triggered in CAISO studies where Deliverability Assessment dispatch percentages are much lower. The very large VER curtailment estimates (15-20% in most areas for the Cluster 10 Phase 1 portfolio) in the TPP slides strongly indicate that this may happen under the proposed methodology.

- **Use of blended/uniform VER output estimates:** As explained below, there are large technology and geographic differences in expected VER output levels under the two load scenarios. The CAISO should dispatch the resources based on the type and area to test deliverability and not attempt to use blended/uniform production levels.

  - **Use of blended/uniform technology output estimates:** Wind and solar output during the indicated hours are very different. Use of the blended figures may thus under- or over-estimate the upgrades needed. For example, use of the 20% figure for the Highest System Need scenario in a wind-heavy area would greatly underestimate the expected output of 30-70% of nameplate capacity, thus greatly underestimating the upgrades needed for deliverability.

  - **Use of blended LSE-area output estimates:** SCE-area output percentages are generally the largest for both wind and solar, while SDG&E-area figures are far smaller for the respective technologies. Thus, use of uniform output percentage estimates can be expected to fail to trigger needed upgrades for deliverability in the SCE area and to trigger unneeded upgrades in the SDG&E area.

NQC for individual resources

The CAISO proposes to calculate deliverability as a percentage of QC for each resource under both load scenarios; the scenario results with the lowest deliverable percentage would determine the NQC. However, there is no explanation of why the lowest deliverability percentage would be used, or why the Highest System Need scenario (the primary scenario) should not be used even if it yields the higher deliverability percentage.

Also, there is no information about how the proposed methodology would impact NQC for individual resources or LSE portfolios generally. It is unreasonable to ask stakeholders to comment on the new methodology without any indication of these impacts.