Clearway

Comments On Deliverability Assessment Initiative Issue Paper

Clearway Energy, Inc. (Clearway) hereby submits comments on the CAISO's April 24th Deliverability Assessment Methodology - Issue Paper (Paper), and the May 2nd stakeholder meeting discussion about the Paper.

While Clearway understands the CAISO's reasoning behind the Deliverability Assessment changes proposed in the earlier 2018-2019 Transmission Planning Process (TPP), Clearway has significant concerns about the resulting adverse congestion impacts on existing and earlier-queued generation projects. The Paper and meeting discussion posed some interesting ideas in response to stakeholder comments on this issue in the TPP discussions, and Clearway's comments here build on those ideas.

Specifically, Clearway recommends that the CAISO take the following actions in this initiative:

- **Augment the Interconnection Studies process** to include a congestion assessment and required mitigation for impacts on other generation projects.
- **Expand the initiative scope** to include a limited modification of the Transmission Economic Assessment Methodology (TEAM), to broaden the types of generation projects considered in the Transmission Planning Process (TPP).

These recommendations are discussed further below. Like the Paper and the stakeholder-meeting discussion, Clearway's comments focus on solar projects, which would appear to be the most heavily affected under the approaches discussed thus far.

Clearway thanks the CAISO in advance for its consideration of these recommendations.

Interconnection Studies enhancements

The new methodology would dispatch solar projects at significantly lower levels than their nameplate capacity, reflecting output levels for later hours in the day. Thus, the number and extent of Deliverability Network Upgrades (DNUs) would be reduced, as shown in the Cluster 10 comparison analysis done by CAISO, and new resources can receive FCDS quicker and cheaper, and with fewer DNUs.

As noted by the CAISO and others, this approach has the potential to significantly increase congestion and curtailment risk, for both new and existing resources. Historically, existing solar projects could assume that new projects seeking Full Capacity Deliverability Status (FCDS) would fund upgrades to effectively relieve congestion, since Deliverability Assessments focused on peak output hours (which coincided with hours of peak demand/consumption). Thus, increased congestion from new generation was a temporary condition, at best, pending completion of DNUs for the new projects.

The CAISO should not revise its Deliverability Assessment methodology without additional changes to keep curtailment at reasonable levels, as the current deliverability methodology has done to date, for the following reasons.

- The likelihood that new generation projects will pay for upgrades to alleviate resulting increased congestion is a strong incentive for developers to build/invest in California renewables, and for Load-Serving Entities (LSEs – IOUs, munis, CCAs, ESPs) to buy at the POI. This protection mitigates risks and therefore helps offset high costs and other hurdles to developing in California.

- The new methodology would be inequitable. It would result in use of DNUs originally financed by earlier-queued projects to provide deliverability to later-queued projects that could severely impair operations and financial viability of the earlier projects.

Clearway supports the CAISO's ideas about requiring new-generation projects seeking deliverability to fund upgrades to relieve congestion they cause, i.e., to preserve peak-production deliverability of the area. This proposal would likely yield similar results as studies today, at least for solar projects. The study would examine conditions of peak flows in the local area (for solar projects, mid-day hours. maybe close to the 1-6pm currently used) and identify upgrades to relieve any incremental congestion – in other words, basically the same analysis now performed.

Thus, the Interconnection Studies for projects seeking deliverability would consist of: (1) Reliability Assessments; (2) RA Deliverability Assessments; and (3) "Congestion Deliverability" Assessments. This framework would be better aligned with a concept of "deliverability" that ensures deliverability for peak flows in local areas and not only on peak flows in the system.

The cost of these "Congestion Deliverability Upgrades" should be reimbursable, just like other upgrades, on both economic and policy-driven bases, for these reasons:

- They would help ensure the ability of already existing and approved projects, and their LSE off-takers, to help meet state Renewables Portfolio Standards (RPS). In the absence of these upgrades, new-generation projects could damage the operating ability and economic viability of existing renewables projects, and also cause harm to Load-Serving Entities (LSEs) that contracted with those projects and expected them to provide renewable energy to meet their RPS requirements.

- Once those Network Upgrades are in place, like other transmission upgrades, they will be available for use by others for other purposes.

Potential application of this congestion-relief framework to Energy Only (EO) projects should also be considered in this initiative. Those projects increase congestion just as much as those seeking FCDS. Recent CPUC renewables portfolios provided for study in the TPP show a large expected increase in EO projects, and thus their negative congestion impacts may greatly increase in the future. Therefore, the CAISO could consider requiring a form of the "Congestion Deliverability Assessment" for new EO projects, and not just those seeking FCDS.

Limited consideration of TEAM methodology

Clearway understands the CAISO's wish to limit consideration of changes to the TEAM methodology to the TPP process. However, as the CAISO itself noted in the stakeholder meeting discussion, aspects of the TEAM methodology may prevent it from acting as the mitigation tool that the CAISO originally assumed. Stakeholder support for Deliverability Assessment changes may depend on TEAM revisions that would help make it a viable and effective economic congestion-mitigation tool.

Currently, TEAM only considers upgrades in areas where generation projects in the queue are likely to proceed to construction and operation – specifically:

- Generators owned by the utilities serving CAISO load;
- Wind and solar projects with LSE PPAs; and
- "Other generators under contracts of which the information is available for public may be reviewed for consideration of the type and the length of contract."

Developers and off-takers need assurance that expected severe congestion in a promising or proven renewables area would be mitigated before committing to PPAs, and areas that are or are expected to be congested are those where congestion-mitigation upgrades are most likely to be economic. However, those very PPAs would be needed in order to justify the transmission expansion needed to support the contracts.

This "chicken and egg" problem indicates that at least some limited aspects of the TEAM methodology should be included in the scope of this initiative, i.e., expanding the kinds of generation projects included in the analyses. Rational generation developers are highly likely to gravitate to areas where they know congestion will not impair their projects, and LSEs are more likely to contract with such projects in those areas.

The methodology should thus rely less on the status of specific projects and more on maintaining and increasing the ability of projects generally to develop in promising areas, e.g., by assuming development at least to the level indicated in CPUC-provided renewables portfolios, and perhaps incorporating public information about LSE procurement plans.