COMMENTS OF CLEARWAY ENERGY
ON PROPOSED CAISO DELIVERABILITY ASSESSMENT CHANGES

Clearway Energy (Clearway) appreciates the opportunity to comment on the CAISO's proposed Deliverability Assessment methodology changes. These comments address the CAISO's initial materials on this topic from the November 16th Transmission Planning Process (TPP) meeting, as well as the supplemental material provided for the December 18th follow-up workshop.

Clearway appreciates the CAISO's efforts to further explain and clarify its proposal. The additional workshop materials and presentation were especially helpful in showing that the CAISO proposal is not directly related to the CPUC's new ELCC-based Qualifying Capacity (QC) methodology for Variable Energy Resources (VERs), though both are motivated by the same sort of grid changes.

Clearway does have some concerns about the new methodology, though, as well as the framework generally. These concerns are summarized below and further explained in the rest of this document.

- **Disconnect between CPUC QC figures and CAISO NQC multiplier:** The CPUC (and other Local Regulatory Authorities (LRAs)) set the QC – the Resource Adequacy (RA) value of the resource – and the CAISO determines the portion of that QC that can be counted for RA. As the CAISO explained at the December 18th meeting, there is no connection between the QC MW amount and the determination of the proportion that can be counted for RA. Clearway believes that there should be such a connection, and that a broader look at this issue is warranted.
  - Dispatch of certain resources in the CAISO's Deliverability Assessments at much lower level than the LRA-determined QC will not identify sufficient upgrades to support the QC.
  - Conversion of CAISO-system availability from MWs into percentage terms, and applying those percentages to the QC without regard to the level of the QC, is logically inconsistent.
- **Congestion impact:** It seems apparent that the revised CAISO methodology will identify far fewer transmission upgrades needed for VER deliverability, particularly in solar-intensive areas. Additionally queued projects without the addition of transmission upgrades will have the potential to significantly increase congestion, and CAISO's proposed remedy – to adjust analysis of economic upgrades to relieve congestion – is still unclear.
- **Transition issues:** The new methodology as proposed by the CAISO seems very likely to significantly reduce the upgrades needed for full deliverability. The CAISO should thus consider:
  - Postponing upcoming Interconnection Financial Security (IFS) postings for projects in the study process until after the new methodology is reflected in the next annual Reassessment;
  - Clarifying the impact of the new methodology on deliverability transfers "behind the interconnection," and providing a "grace period" for developers to adjust if needed.

Disconnect between CPUC QC and CAISO NQC

NQC is determined by for different resource types using the following equation:

NQC = (Qualifying Capacity) x (Deliverable % Multiplier)

LRAs determine QC for different resource types for their jurisdictional LSEs. This QC is intended to reflect the "value" of the resource for reliability purposes. The CAISO then determines – through Deliverability Assessments – the Deliverable % Multiplier (terminology used here, not an official CAISO term), i.e., the proportion of that QC value found to be "deliverable" to load.

Conceptually, these two terms should be related. In other words, both the QC, and the method to determine how much of it is deliverable, should be consistent.

However, as noted above, the December 18th meeting clarified that the LRA QC methodology and the CAISO deliverability methodology are not, in fact, directly related at all, i.e., the new CAISO methodology is not intended to "reflect ELCC" in QCs but is driven by grid condition changes. So, if the CPUC had retained the Exceedance methodology, the CAISO could still propose its deliverability methodology changes here, since that methodology does not consider or reference ELCC in any way. Conversely, even though the CAISO has adopted the ELCC methodology, the CAISO could have retained the current deliverability methodology.

Because these two parts of the NQC calculation are inconsistent, the CAISO methodology effectively undermines the LRA's authority to establish QC. For example, the CPUC has already determined at a policy level that solar resources are worth about 44 MW of RA, and that this determination should consider all hours during the year. By contract, CAISO dispatch of such resources in Deliverability Assessment scenarios intended to determine policy-driven upgrades (i.e., in the HSN scenario) at a much lower level in its analysis, reflecting only a few hours in the day, will effectively only identify upgrades needed to accommodate deliverability at those much lower levels, i.e., it will not identify sufficient upgrades to support the LRA's QC determination.

The same would be true, but in the opposite direction, if LRAs determined that VER resources are worth much less for RA than the CAISO's Deliverability Assessment dispatch assumptions. In that situation, the CAISO's methodology would trigger greater policy-driven upgrades than needed to support the LRA's QC determination.

Moreover, the CAISO's conversion of available deliverability into percentage terms fails to reflect the LRA-determined QC, i.e., the CAISO Deliverability Assessment determination would be exactly the same, regardless of how much the resource can count for RA. This is simply not logical.

Suppose, for example, the CPUC had not changed its QC methodology, so a 100 MW solar resource QC would be about 88 MW in a peak summer month, and that the new CAISO multiplier methodology found the resource to be 60% deliverable. The resource would count for 88 MW x 60%, or 45 MW of RA.

Under the new ELCC QC method, that same 100 MW resource would have a QC of about 44 MW in a summer peak month. The new CAISO multiplier methodology would be **exactly** the same, i.e., the resource would still be found 60% deliverable, but it would count for 44 MW x 60%, or only about 26 MW of RA.

If there is actually 45 MW of deliverability available in the system for this project, as indicated by the first calculation, there should be enough deliverability to make a 44 MW resource fully deliverable, i.e., a 44 MW QC resource should be 100% deliverable, not 60%.

In other words, the CAISO should be using actual MWs of available deliverability that reflect grid conditions, and not apply the same percentage blindly no matter how high or low the QC might be.

Congestion impact

The proposed new Deliverability Assessment methodology should provide some financial relief for generation developers, who must finance needed upgrades, and absorb the cost through CPUC-jurisdictional LSE "Least Cost, Best Fit" application in competitive supply solicitations.

However, Clearway is very concerned that the proposed change will significantly increase congestion in many VER-intensive areas, for both existing and new generation projects. Even under the Secondary System Need (SSN) scenario, solar RA resources will be dispatched at 35-56% of nameplate, while it is near-certain that nearly all solar generation will be on-line at the same time, and RA resource output may be close to twice that level in high-output hours.

The CAISO said at the December 18th workshop that it would be amending the Transmission Economic Assessment Methodology (TEAM) process, used to assess the cost-effectiveness of economic upgrades, to incorporate in some way lost generation or revenue from congestion-related curtailments. This change would supposedly facilitate consideration of additional upgrades to relieve this congestion as economic upgrades, to help mitigate the impact of the much lower solar dispatch assumptions in the Deliverability Assessment methodology.

That may be a viable strategy, but stakeholders have not seen these revisions and have no way to assess whether they would be an effective mitigation tool for this increased congestion. At the very least, the CAISO should promptly release a mark-up version of its current standard TEAM methodology description to reflect the changes it is proposing, just as it did for the current Deliverability Assessment methodology.

The effectiveness of this revision is an important and integral part of implementing the new Deliverability Assessment methodology, and stakeholders should have an opportunity to review, evaluate, and comment on that piece as well in this process.

Transitional issues - impacts on IFS posting requirements

The CAISO's illustrative analyses, using the Cluster 10 Phase I projects and the CPUC "42MMT" portfolio, indicates a high likelihood that many LDNUs and RNUs now assigned to new generation projects may not be needed. Given the large potential changes, the CAISO should consider the following actions.

- **At a minimum, postpone upcoming IFS postings currently due before the 2019 Reassessment**, until 30 calendar days after the Reassessment is issued. Developers of projects in progress have no information yet about the impact of the new methodology on those projects (unless they are in Cluster 10, where the CAISO released illustrative results). Developers should not have to determine whether continuing projects under study (or where third postings are due soon) makes economic sense based on outdated and essentially inaccurate information. Instead, they should have a reasonable opportunity after receiving that information to make those decisions before the new postings are due.

- **Postpone additional IFS postings for upgrades no longer needed by a project or cluster** but retained in a Reassessment due to need by later-queued projects, until those later-queued projects execute GIAs. Developers should not have to fund upgrades no longer needed for their projects in order to accommodate later-queued projects where no commitments have even been made for those later projects, i.e., it is not clear that the upgrades will be needed at all by any project that will actually be developed.

Transitional issues – deliverability transfers

The CAISO is in the process of implementing a new methodology (in the 2018 Interconnection Process Enhancements (IPE) initiative) to allow transfers of TP Deliverability from a generating facility to capacity added "behind the interconnection" that is configured with a separate Resource ID. For example, a common application of this proposal might be for transfer of deliverability from a solar facility to energy storage added through the Material Modification Assessment (MMA) request process; the latter must currently be separately metered if the original solar facility is to retain its Variable Energy Resource status and is considered Energy Only.

The CAISO's 2018 IPE Revised Straw Proposal, where the final version of this proposal is explained, bases the amount of TPD transfer allowed on the "maximum output tested in the deliverability assessment, based on the methodology adopted at the time of the transfer request." (pp.23-24). Implementation of the CAISO's new proposed Deliverability Assessment methodology in its current form raises several major issues related to the new TPD transfer ability.

First, it is not clear whether the "methodology adopted at the time of the transfer request" would be the current or the new methodology, for a project that has completed its Phase I and Phase II Interconnection Studies.

Second, if the CAISO intends for the applicable methodology to be the new methodology and not that used under a project's Interconnection Studies, it is not clear what the applicable "maximum output" would be – that under the HSN or the SSN scenarios.

Third, if the CAISO intends for the applicable methodology to be the new methodology, then for solar projects, that output level would be significantly lower than that used in the Interconnection Studies regardless of whether the HSN or SSN figures are used. This change would therefore significantly reduce solar deliverability-study output assumptions, and thus the TPD MWs available for transfer for, e.g., solar projects contemplating TPD transfers to storage capacity added through the MMA process or under consideration (given the new IPE TPD transfer proposal).

The CAISO TPD transfer proposal is still very new, and many developers have been considering requesting storage additions and/or TPD transfers. The CAISO's new Deliverability Assessment methodology proposal, only provided very late in 2018, would materially impact those decisions and is not yet final.

Therefore, Clearway recommends that the CAISO:

- **Clarify how the new methodology would apply for deliverability transfers**, per the questions posed above; and
- **Provide a "grace period" (e.g., 90 days) after the new methodology is final for developers whose projects have competed the Interconnection Study process to submit MMAs for storage additions and/or deliverability transfers under the current methodology**, if that the new methodology would otherwise apply to such deliverability transfers. This is a matter of basic fairness, given the very recent and rapid CAISO changes in the CAISO's deliverability assessment and transfer policies.