

DELIVERABILITY ASSESSMENT METHODOLOGY INITIATIVE

Comments on Straw Proposal

August 16th, 2019

The Large-scale Solar Association (LSA) appreciates the opportunity to comment on the CAISO's Straw Proposal (Proposal) in the Deliverability Assessment Methodology initiative. The Proposal includes several thoughtful changes in response to earlier stakeholder comments; this submittal suggests additional revisions to make the proposed framework more cohesive and complete.

LSA's comments are summarized below and explained further in the remainder of this document.

- **Initiative process:** CAISO's plan to move Deliverability Assessment changes forward together with congestion-mitigation measures is a good one and should be retained. However, critical details for the package are still unresolved, especially with respect to the treatment of Network Upgrades (NUs) triggered by the new enhanced Off-Peak Deliverability Assessment.

LSA agrees with CalWEA that implementation of the new methodology should take place as soon as possible. Even so, it will not be helpful for the CAISO to proceed with a package that still contains major unresolved issues. Thus, LSA would recommend that the CAISO do the following, in order of preference:

- **Provide sufficient information in the upcoming Draft Final Proposal** for stakeholders (and the CAISO Board) to fully understand and assess the proposal.
 - **Delay Board consideration of the proposal until the next regular Board meeting**, presumably in November, and streamline or expedite internal CAISO processes so that does not delay planned implementation of the new study methodology in the 2020 Reassessment.
 - **Split the initiative into two parallel parts** – implementation of the new study methodology for in the 2020 Reassessment, and continuation of this initiative to address the unresolved Off-Peak Deliverability Assessment and treatment of the triggered NUs – if and only if the required information cannot be provided before September but a delay of Board consideration to November would delay the study-methodology implementation.
- **On-Peak Deliverability Assessment**
 - **Scenario definitions:** The CAISO should clarify the High System Need (HSN) and Secondary System Need (SSN) scenario definitions, and how they might change over time.
 - **VER output:** LSA does not disagree with CAISO's proposal generally, including the proposed Variable Energy Resource (VER) dispatch levels. However, CAISO should do more to reconcile the apparent contradictions between the Deliverability Assessment methodology and the CPUC method for determining the Resource Adequacy (RA) values that resources actually count for.
 - **SSN results:** CAISO should explain why Local Delivery Network Upgrades (LDNUs) cannot be identified in the SSN scenario or assigned in the interconnection-study process.
 - **Off-Peak Deliverability Assessment:** As noted above, this element of the Proposal contains many new ideas and requires further consideration. LSA supports the voluntary nature of the funding options offered, but the Proposal does not contain enough information to determine whether the incentives they contain are sufficient to ensure that these upgrades are actually built (so congestion can be mitigated). In particular, Option 4 reimbursement limits and Option 5 Off-Peak Deliverability Status (OPDS) provisions raise issues that should be addressed.

On-Peak Deliverability Assessment

Scenario definitions

The proposed hours studied under each scenario are based in the Proposal on the “Unloaded Capacity Margin” metric (<6%) in the CAISO’s 2018 Summer Assessment. However: (1) the CAISO now has information from the 2019 Summer Assessment; and (2) more importantly, the CAISO stated at the stakeholder meeting that it wants to use “Loss of Load Expectation” (LOLE) figures from the CPUC’s ELCC analyses for these definitions but did not explain how or when.

Thus, the HSN and SSN definitions in the Proposal, and the associated VER output and other metrics, may not be those that would be used in the 2020 Reassessment (and later analyses). For example, it’s not clear:

- How CPUC LOLE figures would be used to define the HSN and SSN study hours;
- How or whether the definitions might be updated to incorporate the 2019 Summer Assessment results and/or future Summer Assessments; and/or
- How and when these scenario definitions would change over time.

Thus, the CAISO should cover all these questions in the next proposal version.

Potential reliability issues

There is a fundamental disconnect between the CAISO’s proposal to focus on only certain hours in determining VER deliverability and the way in which these resources actually count for RA. Specifically, the CPUC’s Electric Load Carrying Capacity (ELCC) counting methodology for VERs assigns much higher values to these resources than the CAISO’s proposed dispatch in the HSN scenario (where LDNUs would be identified and assigned).

The ELCC methodology examines all hours of the year in determining VER RA value, essentially assuming that they are deliverable in every hour. By contrast, the CAISO’s methodology would study these resources based on only the HSN peak-flow times on the grid, at much lower output levels. When CAISO finds resources to be deliverable in those HSN hours, at those very low dispatch levels, there is no study finding about whether they would be deliverable in all of the other hours of the year, potentially undermining the basis for the ELCC figures. If VERs are not deliverable in all hours assumed in the ELCC methodology, they may not provide the reliability needed to serve load for which they are counted.

The Off-Peak Deliverability Assessment seems intended to partly fill that gap, i.e., if resources are deliverable in both the On- and Off-Peak Assessments, then they could safely be assumed to be deliverable in all or most hours of the year. However, unless off-peak upgrades are actually constructed, then this disconnect would remain.

SSN-identified upgrades

It is not clear why the Secondary System Need (SSN) scenario cannot identify additional LDNUs that would be assigned to new generation in the interconnection study process, like other LDNUs. Instead, only ADNUs from this analysis would be identified, and that would only be considered in the TPP. The Proposal defines this scenario as follows:

The secondary system need scenario represents when the capacity shortage risk will increase if the intermittent generation while producing at a significant output level is not deliverable. If the addition of a resource will cause a deliverability deficiency determined based on a deliverability test under the secondary system need scenario, and is not identified in the highest system need scenario, then the constraint can be classified as an Area Deliverability Constraint following the classification guidelines in the BPM for the Generator Interconnection and Deliverability Allocation Procedures. (p.18)

If a deliverability constraint is identified in this scenario, but that constraint is largely local under the LDNU definition, it is not clear why it would automatically be considered an Area Deliverability Constraint (and thus considered only in the TPP). In the next proposal version, the CAISO should either make the treatment for LDNUs identified in either scenario the same or explain why SSN-identified LDNUs would be treated different from HSN-identified LDNUs.

Enhanced Off-Peak Deliverability Assessment

General comments & recommended approach

LSA agrees with the following general principles reflected in the Proposal:

- **This assessment should include both FCDS/PCDS and EO generation**, because the primary purpose of this assessment should be congestion analysis and mitigation. (The next proposal version should state that explicitly.)
- **Funding of these NUs should not be required for RA deliverability**, since they are not needed for deliverability in the most critical HSN/SSN hours.
- **Funding of these NUs should be voluntary**. However, the viability of this voluntary approach depends on providing potential participants with sufficient incentives, and removing disincentives, such that they will elect to fund the NUs, and it's not clear that either of the options offered have such features. Otherwise, the identified upgrades will not be constructed, even where warranted, and the additional congestion resulting from the new on-peak methodology will not be mitigated.

In addition, LSA requests that the CAISO provide better definition of "Off-Peak" hours, as that term is used for this assessment, and how that definition might change over time. Are off-peak hours simply all the hours not covered by the HSN or SSN definitions, or is there some other method proposed for defining them?

Comments on specific CAISO-proposed options

Both Options 4 and 5 suffer from significant inherent and/or potential flaws. These options require additional consideration and modification to be viable, and other options should be considered as well. Non-viable "options" are simply window-dressing that will not resolve the congestion-mitigation problems inherent in the new on-peak assessment methodology. (One example in the CAISO tariff today is GIDAP Option B, which (to LSA's knowledge) has yet to produce funding of a single additional NU.)

As noted above, LSA has concerns that both options contain insufficient incentives for developers to elect them, and both may have significant disincentives discouraging such elections.

Both options also require developers to make funding decisions before they know the cost to their projects. The current FCDS framework at least allows conversion to Energy Only at various stages in the study and development process once developers learn of their project costs, but that flexibility is not specified for either option offered here. At a minimum, developers should have the ability to elect not to fund these upgrades once they have a reasonable estimate of allocated share (post-Phase II for Option 4, post-Phase I for Option 5).

Other concerns with Options 4 and 5 are discussed below.

Option 4

The most significant problems with Option 4 relate to the “free rider” problem discussed above and the reimbursement limits.

There is no real way to mitigate the free-rider problem under this voluntary structure, i.e., projects not electing to fund identified NUs would receive the same congestion-mitigation benefit as those not electing to fund. However, the reimbursement limits would exacerbate this inequity, since they would increase the net cost to funding participants. Moreover – depending on the limits adopted – they could serve as a major disincentive for funding these NUs and may make this entire option non-viable.

LSA believes that funding of off-peak NUs should be reimbursable in any case. The Proposal added the entire off-peak upgrade approach in order to address concerns that considering such upgrades in the TPP would lead to lengthy delays that could not be tolerated in the project-development process.

These upgrades are thus effectively the equivalent of TPP Policy-Driven upgrades. The NUs would be specifically identified to prevent significant operational impairment of existing/earlier-queued, largely renewable generation projects, and they would be dropped later through the annual Reassessment process if no longer needed for that purpose. They would therefore serve a “policy-driven” purpose, to maintain the state’s ability to meet Renewables Portfolio Standards (RPS), and should be reimbursable as such.

Finally, the CAISO has not specified a methodology to determine a reasonable off-peak reimbursement limit. The current Reliability Network Upgrade (RNU) reimbursement limit was determined using a percentage of historic RNU costs and (per recent changes) will be escalated over time. The CAISO has no similar history for congestion-related off-peak NUs.

Option 5

LSA’s concerns about Option 5 revolve largely around the proposed Off-Peak Deliverability Status (OPDS) provisions and whether this is the best way to incent off-peak NU funding elections. This element of the CAISO’s proposal is interesting, but considerable additional information is needed before stakeholders (and the CAISO Board) can determine whether it offers net benefits.

Generally speaking, before adopting such a significant change to its markets, the CAISO should perform research and studies to determine the net impacts, so that decision has a reasonable basis and considers all relevant factors. LSA’s concerns specific to this option, and some suggestions about how to resolve them, are summarized below.

- **Equity between projects funding on-peak and off-peak upgrades:** The Proposal would provide scheduling/curtailment priority, in both on- and off-peak hours, to projects funding off-peak upgrades, even though NUs identified in the on-peak assessment are arguably more important for reliability. For example, a project funding on-peak upgrades for FCDS but electing not to fund off-peak upgrades would have a lower operational priority, in all hours, than an Energy Only project funding only off-peak upgrades.

Moreover, the CAISO has always maintained that funding on-peak upgrades could and/or should not carry any operational scheduling or curtailment priority. The Option 5 proposal demonstrates that the CAISO has the capability, at least, to provide such priorities.

Therefore, the CAISO should consider whether it would make more sense to give: (1) Projects funding on-peak upgrades the proposed scheduling/curtailment priority in on-peak hours; and (2) projects funding off-peak upgrades scheduling/curtailment priority in off-peak hours.

- **Scope of OPDS priority:** OPDS scheduling/curtailment priorities would apply regardless of the nature of the constraints causing scheduling or operational limitations, i.e., even where curtailments have nothing to do with local transmission constraints or congestion (e.g., system-wide over-generation conditions). In fact, projects may choose to pay for off-peak upgrades for reasons unrelated to local constraints but in order to avoid over-generation curtailments.
- **Impact on bidding behavior:** The proposed OPDS would provide scheduling/curtailment priority only for self-schedules, i.e., projects submitting economic bids (which the CAISO has sought to promote, e.g., for market-efficiency purposes) would get no benefit from OPDS. This is true, not only for new projects, but also existing FCDS/PCDS projects, which would also receive OPDS. This is a disincentive to submit economic bids and may cause changes in bidding behavior.
- **Modeling implications:** The addition of OPDS raises questions about how the CAISO will model OPDS projects in other analyses as well, e.g., the portfolio-based UCAP analyses under consideration in the RA Enhancements Initiative. The CAISO has established practices for modeling FCDS and EO projects, but it is not clear whether or how its modeling practices would change, for example, for FCDS/non-OPDS or EO/OPDS projects.
- **Off-taker considerations:** Election of OPDS would generally occur before project PPA acquisition, and there is no indication at this time whether off-takers would consider OPDS to be sufficiently valuable to justify paying any premium for projects that have it.