

**DELIVERABILITY ASSESSMENT METHODOLOGY INITIATIVE**

**Comments on Straw Proposal**

August 16<sup>th</sup>, 2019

EDF-Renewables (EDF-R) 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 that would make the proposed framework more cohesive and complete. EDF-R’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, unless the CAISO adopts EDF-R’s simpler proposal for funding off-peak Congestion Mitigation Upgrades (CMUs), or otherwise amends the proposed options as EDF-R recommends, then critical details for the package will require additional consideration, and an October-November CAISO Board decision instead of September is a more realistic target.

**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:** There is a fundamental disconnect between CAISO’s focus on only certain hours in determining Variable Energy Resources (solar and wind) deliverability and the CPUC’s use of an all-hours method to determine the Resource Adequacy (RA) values for these resources. The CAISO should consider further methodology revisions to help resolve this inconsistency.
- **SSN results:** The 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:** Under EDF-R’s simple proposal, CMU funding for both deliverable and Energy-Only (EO) projects would be:

- **Mandatory** (though not required for Full or Partial Capacity Deliverability Status (FCDS or PCDS)), based on a “hold-harmless” policy requiring new generation to fund CMUs to mitigate their congestion impacts (similar to on-peak assessment requirements); and
- **Fully reimbursable** (same as Option 5), since preservation of RPS capability serves a “Policy-Driven” purpose.

CAISO-proposed Options 4 or 5 will likely not effectively mitigate congestion from new generation projects in their current form, and their complexities are likely to delay the package. In particular, Option 4 reimbursement limits and free-rider issues, and Option 5 Off-Peak Deliverability Status (OPDS) provisions, raise issues that need more time to resolve, if it is possible to resolve them.

**On-Peak Deliverability Assessment**

**Scenario definitions**

The proposed hours studied under each scenario in the Proposal are based 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 it did not explain how or when.

Thus, the HSN and SSN definitions in the Proposal, and associated VER output and other metrics, may not be those used in the 2020 Reassessment (when the CAISO proposes to first apply the new method) or in later analyses. The next proposal version should clarify this process, for example:

- 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.

### **Reliability issues**

There is a fundamental disconnect between the CAISO's proposal to focus on only certain hours in determining Variable Energy Resources (solar and wind) 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), and examines all hours of the year. It assumes that all their output is deliverable in all hours when they are producing, and it considers that these resources will operate at 100% of capability in some hours and at 0% in others.

By contrast, the CAISO's methodology would study these resources at much lower levels, based on only the HSN peak-flow times on the grid. When resources are found to be deliverable in those few hours, at those very low dispatch levels, there is no guarantee that they would be deliverable in any other hours of the year or at higher dispatch levels, potentially undermining the foundation and basis for the ELCC figures. In other words, if VERs are not deliverable in the hours assumed in the ELCC methodology, they may not provide the reliability to load that the ELCC methodology assumes that they can.

The Off-Peak Deliverability Assessment could partly fill that gap, at least on a "snapshot" basis. However, unless off-peak upgrades are mandatory, the problem will still exist.

### **SSN-identified upgrades**

The Secondary System Need (SSN) would only identify ADNUs to be considered in the TPP, and not additional LDNUs that would be assigned to new generation like other LDNUs in the interconnection study process. The Proposal defines the SSN 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 both scenarios 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**

EDF-R agrees with the Proposal that this analysis 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.) In addition, EDF-R agrees that CMUs should not be required for RA deliverability, since they are not technically needed for deliverability in the most critical HSN/SSN hours.

However, EDF-R recommends that the CAISO fundamentally change and simplify its approach to funding CMUs identified in this assessment, to include just two elements:

- **CMU funding should be mandatory.** CAISO should adopt a “hold-harmless” policy that requires new generation to fund CMUs identified in this assessment to mitigate congestion impacts on existing and earlier-queued generation. These upgrades would not be required for Full or Partial Capacity Deliverability Status (FCDS or PCDS) but should nevertheless be required for interconnection of both deliverable and energy-only projects.
- **CMU costs should be fully reimbursable.** CMUs would be specifically identified to prevent operational impairment of existing/earlier-queued, largely renewable generation projects, and thus would serve a policy purpose to maintain the state’s ability to meet Renewables Portfolio Standards (RPS). Essentially, then, these upgrades should be considered equivalent to Policy-Driven upgrades in the TPP and reimbursable through the Transmission Access Charge (TAC).

Moreover, 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.

### **Comments on specific CAISO-proposed options**

Options 4 and 5 are incompatible with EDF-R’s recommended framework described above. Most notably, both options are optional, and that optionality applies only to new generators, so there is no assurance that existing/earlier-queued generators will not be impaired and no recourse for them to avoid that outcome. Both options have many other shortcomings as well, including those listed below. (These problems apply to both options unless otherwise indicated.)

- **Voluntary, applicable only to new projects:** Upgrades would not be built if new projects elect not to fund, so harm to existing/earlier-queued projects would not be mitigated.
- **Free-rider problem (Option 4):** Projects in the cluster-study group that elect not to fund get the same benefit as those that elect to fund.
- **OPDS conceptual problems (Option 5):** The proposed Off-Peak Deliverability Status, with higher scheduling/curtailment priority in all hours and under all conditions, is inconsistent with several CAISO policies. Conceptual problems that should be addressed include the following:
  - **Lack of equity:** Projects in the study cluster funding off-peak upgrades would get scheduling/curtailment priority, but projects funding on-peak upgrades (at least as important) would not; in fact, EO/OPDS projects would get priority over FCDS/non-OPDS projects in the same cluster, even in on-peak hours (where FCDS projects funded upgrades).

In fact, 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.

- **Reduced economic bidding incentives:** Scheduling/curtailment priority would only apply to self-schedules, i.e., OPDS would be worthless if a resource submits economic bids (e.g., at \$0 to avoid negative market-clearing prices), and potentially undermine CAISO efforts to increase VER economic bids. (For example, receipt of OPDS would increase incentives to all operating and higher-queued FCDS projects to submit self-schedules.)
- **Unduly large scope:** OPDS priority applies even where curtailments have nothing to do with local transmission constraints or congestion (e.g., system-wide over-supply conditions).
- **Inflexibility:** Funding commitments (and security postings) would be required: (1) For Option 4, after Phase I – when the total upgrade cost would be known but a project’s share would not; or (2) for Option 5, when neither the total upgrade cost nor a project’s allocated share would be known. There is no mechanism proposed to modify or eliminate this commitment once the project cost allocation is known. (This is contrast to Delivery Network Upgrades (DNUs), where the IC has the option to convert the project to Energy-Only status (and likely avoid funding them) after Phase I and (to a lesser degree) also later in the process.)
- **Reimbursement (Option 4):** Provides a disincentive to fund, especially if cash reimbursement levels are low, since CRRs are uncertain and are unlikely to be compensatory, and exacerbates free-rider problem by increasing costs to fund.

EDF-R believes that Options 4 and 5 should be removed completely from the next Proposal version in favor of its recommended simplified framework for mandatory CMU funding and full reimbursability. However, the suggested revisions below are offered to Options 4 and 5 if the CAISO nevertheless retains one or both these options instead.

<b>PROBLEM</b>	<b>OPTION 4 SOLUTION</b>	<b>OPTION 5 SOLUTION</b>
<b>Voluntary</b>	Mandatory funding	Mandatory funding
<b>Free-rider problem</b>	Mandatory funding; add reimbursement to reduce inequities	N/A
<b>OPDS conceptual problems</b>	N/A	Eliminate OPDS. If retained, consider these changes: <ul style="list-style-type: none"> <li>• Provide scheduling/curtailment priority: (1) To projects funding on-peak NUs (FCDS/PCDS) in on-peak hours; and (2) to projects funding off-peak upgrades in off-peak hours.</li> <li>• Limit OPDS priority applicability to situations where constraints are local.</li> <li>• Assess impacts of self-schedule incentives for all projects receiving OPDS on efforts to promote economic bidding.</li> </ul>
<b>Lack of flexibility</b>	Let ICs elect not to fund once they have a reasonable estimate of allocated share (post-Phase II for Option 4, post-Phase I for Option 5)	
<b>Disincentive to fund if refunds &lt; cost</b>	Make fully refundable as policy-driven	N/A