Comments of EDF-Renewables on Deliverability Assessment Methodology Initiative Draft Final Proposal

October 18th, 2019

1. Introduction & Overview

EDF-Renewables (EDF-R) appreciates the opportunity to comment on the CAISO's Draft Final Proposal (Proposal) in the Deliverability Assessment Methodology initiative.

EDF-R supports the CAISO's position to proceed with Deliverability Assessment changes and congestion-mitigation features as a combined package. In addition, EDF-R is pleased to see that the Proposal includes some changes to the earlier Straw Proposal in response to stakeholder comments.[1] EDF-R particularly supports the CAISO's support of full reimbursement of Off-Peak Network Upgrades (OPNUs), which is discussed further in Section 2 below.

However, the Proposal did not respond to other stakeholder comments, and some new proposed provisions raise further questions. The number of important issues requiring additional details and clarifications is striking for an initiative at the Draft Final Proposal stage. It will be difficult or impossible for the CAISO to craft and file a tariff filing at FERC without addressing these issues.

The unresolved issues are more urgent given the apparent near-term implementation timing for at least some Proposal elements. It only became clear, for example, that the CAISO's desire stated before to implement the new methodology in "the 2020 Reassessment" actually meant in the Spring 2020 TPD Allocation process, where affidavits are due in about a month. Many details are not resolved about these affidavits, most notably whether Off-Peak Deliverability Status (OPDS) will be awarded in that process in some other manner (see below).

Moreover, this timing seems to be the driving force behind the CAISO's "offer" to allow storage additions and/or deliverability transfers to storage under the current methodology only if the required Material Modification Assessment (MMA) and/or deliverability transfer requests are submitted and complete by December 2nd and validated by January 15th. EDF-R's significant concerns about this timing and process are discussed in Section 3 below.

Overview of other policy issues (explained further in Section 4 below)

EDF-R questions the general policy matters listed below.

- Why average summer CPUC ELCC Qualifying Capacity (QC) value should be used in Secondary System Need (SSN) On-Peak Deliverability Assessment scenarios
- Why OPDS project self-schedules would have priority in on-peak hours over FCDS/non-OPDS project self-schedules
- Whether other OPDS incentives that would not encourage self-schedules should be considered
- Concept and implementation of the proposed hybrid-resource rules for OPDS eligibility
- Why projects could receive OPDS before OPNU completion

[1] LSA suggests renaming the terms here that reference "Off-Peak" (Deliverability Assessment, Deliverability Status, Network Upgrades) to refer instead to "Congestion," since the status (OPDS) associated with these terms applies in all hours (not just "off-peak" hours) and many of the applicable hours for the analysis (e.g., summer afternoons) are still widely considered to be "peak" hours for consumption.

Overview of other process issues (explained further in Section 5 below)

Important missing or unclear OPDS details include (but are not limited to) those listed below.

- Distinction (if any) between groups that would receive OPDS vs. those that would not but could continue "grandfathered" self-scheduling
- OPDS status of new wind/solar projects "in the queue before OPDS implementation"
- Any OPNU cost reflection in Maximum Cost Exposure (MCE) figures
- How area constraints identified in the On-Peak Assessment Secondary System Need (SSN) would interact with Transmission Planning Process (TPP) analyses

2. OPNU reimbursement

EDF-R strongly supports the proposed full refundability for Off-Peak Network Upgrades (OPNUs). However, the value of Off-Peak Deliverability Status (OPDS) is not clear; self-schedules would still be price-takers and it's likely the CAISO will lower the bid-price floor further at some point, increasing risks for submitting self-schedules.

However, OPNU funding and construction will also protect existing/higher-queued generation from congestion and curtailment impacts even if OPDS projects submit economic bids instead of self-schedules, so (as the CAISO has stated) OPNU funding and construction should be encouraged. Those earlier projects would otherwise have no other protection against congestion/curtailment impacts of newer projects, and protection of those resources should be deemed to serve a "policy-driven" purpose.

Thus: (1) The framework should actively encourage OPNU funding; and (2) should at least not discourage it through limiting reimbursement.

Moreover, this will be a self-correcting mechanism, because:

- **Financing upgrades can be costly even with reimbursement**, e.g., because:
  - The required security postings require expensive financing instruments (e.g., letters of credit) and raise forfeit risk if projects later drop from the queue
  - The FERC interest rate is far below developers' cost of capital.
- **Most Load-Serving Entities (LSEs) count transmission costs against bid prices**, since ratepayers must pay for both transmission and procurement costs.[2] Thus, though OPNU costs may be reimbursed, effectively ratepayers will not pay these costs, since the price LSEs would be willing to pay under contracts with the applicable projects would be lower.

Finally, as EDF-R noted before, there is no basis for capping OPNU costs. Reliability Network Upgrade (RNU) cost caps are based on a percentage of actual historical costs, while OPNUs are entirely new, without any historical cost data to rely on.

[2] While PG&E's comment at the last stakeholder meeting – that buyers would have to recognize and perhaps modify their bid-assessment methods to recognize these additional costs. However, this is not a complicated issue and it seems like a relatively simple matter.

3. Submittal deadline for MMA requests & deliverability transfers for energy storage

The December 2nd application deadline for adding, or transferring deliverability to, energy storage is only 6 weeks away. As CAISO knows, an MMA request requires about as much effort to prepare as a full Interconnection Request (IR), and it is unreasonable to expect developers to make wise choices about where best to make these changes, and then prepare complete packages, by then.

In addition, while the CAISO disregarded earlier developer warnings about "gold rushes" to make these changes, it has set up conditions for exactly that. Given the timeframe, developers are likely to rush to add storage and/or transfer deliverability wherever they might want to make these changes, knowing that they could probably simply reverse them later (e.g., drop or downsize the storage and/or reverse the deliverability transfers) if those speculative plans don't pan out.

It would be better to delay the submittal deadline until at least January 15th, with validation soon after that. EDF-R understands that this would mean assuming in the 2020 TPD Allocation process that all submitted packages are accepted, instead of only the validated packages. However, it would avoid a potentially more serious problem of imposing a deadline before FERC has approved either the deadline or the new methodology – indeed, before CAISO has even filed tariff changes related to the new methodology. To the extent that some of the packages fail validation, that correction to available deliverability could be made in the Reassessment or the 2021 TPD Allocation process.

4. Other Policy issues

Use of CPUC ELCC QCs in On-Peak Deliverability Assessment SSN scenarios

The CAISO partly accepted earlier stakeholder comments that On-Peak Deliverability Assessments should not be assuming lower values than ELCC-based CPUC Qualifying Capacity (QC) figures, by raising the SDG&E-area resource dispatch in the SSN scenario to the summer average ELCC value. The CAISO's explanation was that the CAISO's analysis – focusing on peak-flow hours – should not logically use values below ELCC values (averaged over 8,760 hours a year). However, the CAISO noted in the last conference call that the ELCC methodology assumes resource ability to produce above the ELCC level in "a significant portion of hours." This argues for use of a dispatch above peak summer ELCC values, and against averaging over several months.

The CAISO said that, since ELCC values are declining over time, use of a lower-than-peak ELCC value in this adjustment would be more "stable." However, many study assumptions change over time, and peak ELCC values would not necessarily be less "stable" than load trends, for example.

Thus, the CAISO should use the peak-month ELCC value in this assessment, and not a smoothed multi-month summer value.

OPDS self-schedule priorities in non-peak hours

Stakeholders have expressed concerns that OPDS project self-schedule scheduling/curtailment priority would apply regardless of whether the reason for the limitations is related to local issues like congestion or system-wide issues like over-generation. The CAISO's response basically said that the CAISO cannot realistically assess (especially in real time) the source of the limitations.

However, that response does not explain why projects funding OPNUs (i.e., those with OPDS) should have priority over those funding upgrades identified in On-Peak Deliverability Assessments (i.e., those with FCDS) in on-peak hours. Instead, a more logical framework would give FCDS project self-schedules priority in on-peak hours and OPDS projects priority only in off-peak hours.

Whether other OPDS incentives that would not encourage self-schedules should be considered

EDF-R remains concerned that the primary direct incentive to fund OPNUs will encourage submittal of more self-schedules, even if only OPDS projects (which, with grandfathering, will be the overwhelming number and capacity of projects on the system) can submit them. If a significant proportion of OPDS resources submit self-schedules, then curtailment will be required anyway, and any "protection" from OPDS will be worthless. Moreover, self-schedules have inherent significant disadvantages, e.g., status as a price-taker and resulting lack of protection when prices are negative.

In addition, OPDS would be worthless if a project SC submits economic bids, and a developer cannot know when Interconnection Requests (IRs) are submitted how the project will be bid years later.

EDF-R believes that incentives for funding OPNUs should be included that encourage and add value for economic bidding, which is widely recognized to produce more efficient market outcomes than self-scheduling. Instead or in addition to self-schedule protection, the CAISO could simply give OPDS projects more economic bidding flexibility than non-OPDS projects. For example, OPDS projects could be allowed to submit economic bids at a lower bid floor than non-OPDS projects, so non-OPDS projects would be subject to market curtailment before OPDS projects. This would allow the market to work better than high levels of self-scheduling and provide value to OPDS projects even with submission of economic bids.

(These proposals would apply to FCDS/non-OPDS projects in on-peak hours if EDFR's proposal above is accepted.)

Proposed OPDS eligibility rules for hybrid resources

The Proposal does not explain how the OPDS hybrid eligibility rules would distinguish under realistic conditions between: (1) hybrids where "the energy storage component of the resource is not sized to eliminate intermittency of the wind or solar resources in the on-peak deliverability assessment" (eligible); and (2) hybrids where "the energy storage component of the resource is sized to eliminate intermittency of the wind or solar resources in the on-peak deliverability assessment" (not OPDS-eligible).

First, this entire proposal element depends on a developer knowing the configuration of a multi-fuel project when the Interconnection Request (IR) is submitted and an OPDS election is made, i.e., whether the project will be structured as a hybrid (single Resource ID) or as Collocated Resources (multiple Resource IDs). This determination is typically not required until a project enters the New Resource Implementation (NRI) process a few months before Initial Synchronization.

Second, there are numerous other unresolved details. For example:

- **Why is "elimination of intermittency" the right criterion to determine eligibility?** This seems like an effort to determine whether a hybrid is more like a VER or a non-VER, but that characteristic could be more related to relative installed capacity or output timing. Moreover, the CAISO itself has acknowledged in the Hybrid Resources Initiative that mitigation or elimination of VER intermittency is only one consideration for mixed-fuel projects.
- **Why would the HSN VER study dispatch percentage be used for this determination**, and not the higher SSN or Off-Peak Deliverability Assessment dispatch figures?

- **How would this framework accommodate changes in the HSN study dispatch percentage over time?** As flows on the system change, HSN hours and dispatch numbers may also change, so the proposed eligibility calculations could yield different results.

- **How would this framework accommodate creation or modification of hybrids over time?** For example, if OPDS VERs add storage and become hybrids, could that jeopardize their OPDS status? What if hybrids add or subtract VER or storage capacity (after IR submittal, or even after COD), e.g., through modification requests or the generator downsizing process, where the change would impact OPDS eligibility under this criterion?

- **How will this framework accommodate multi-fuel projects that start as Collocated Resources but later switch to a single Resource ID (hybrid)?** For example, what if the VER Resource ID has OPDS but the combined project would not qualify under the proposed criteria?

EDF-R believes that the CAISO should provide additional explanation of its intent for these eligibility rules, and how they would be applied under actual real-world conditions.

OPDS before OPNU completion

The CAISO said on the last stakeholder call that – unlike DNUs and FCDS – OPDS would be awarded to projects qualifying for and electing it when those projects reach COD, even if all the OPNUs were not complete. This provision would likely impair the status and self-schedule protection of other operating OPDS projects, and the CAISO should either justify or revise it.

5. Process issues

Whether "Existing wind/solar generation" Energy Only projects would receive OPDS

The Proposal at p.21 states that "OPDS will provide a scheduling priority by continuing to allow self-scheduling for existing resources and new non wind and solar resources that select FCDS and new wind and solar resources that select OPDS." However, Table 7 from the Proposal (reproduced below) addresses self-scheduling only, not OPDS explicitly.

There are several issues here:

- **Would all "grandfathered" groups where self-scheduling is allowed receive full OPDS (i.e., priority treatment of self-schedules), or would some simply be allowed to submit self-schedules without OPDS priority?**

  Specifically, Option 5 of the prior Straw Proposal would have provided OPDS to "Existing FCDS and P[C]DS generators" but not Existing EO generators (August 5th stakeholder meeting presentation, Slide 32). The rationale was that those FCDS/PCDS generators would have been studied at today's much higher dispatch levels and funded DNUs triggered under those studies.

  However, Table 7 below shows Existing EO generators as "Self Scheduling Allowed (Grandfathered)." Does this mean that this group would retain the ability to submit self schedules, but those self-schedules would not receive OPDS protection?

- **Why would Existing EO wind/solar projects, which would not have funded any DNUs, automatically receive OPDS and/or be allowed to continue self-scheduling, while New EO wind/solar projects entering the queue before OPDS implementation would have to request OPDS (and pay for OPNUs) to receive the same privileges?**

  New EO projects would have proceeded in the interconnection-study process (including security postings subject to potential forfeit) assuming they would have the same scheduling and bidding rights as others, only to find out in the middle of the process that they must pay more to receive those rights.

TABLE 7: SELF-SCHEDULE FOR WIND/SOLAR GENERATION INCLUDING ELIGIBLE HYBRID RESOURCES

<table>
<tr><th rowspan="2">STATUS</th><th colspan="2">FCDS</th><th colspan="2">EO</th></tr>
<tr><th>OPDS</th><th>Non-OPDS</th><th>OPDS</th><th>Non-OPDS</th></tr>
<tr><td>Existing wind/solar generation</td><td colspan="2">Self Scheduling Allowed (Grandfathered)</td><td colspan="2">Self Scheduling Allowed (Grandfathered)</td></tr>
<tr><td rowspan="2">New wind/solar in queue before OPDS implementation</td><td colspan="2" rowspan="2">Self Scheduling Allowed (Grandfathered)</td><td colspan="2">One-time chance to request OPDS</td></tr>
<tr><td>Self Scheduling Allowed</td><td>No Self Scheduling</td></tr>
<tr><td>New wind/solar entering queue after OPDS implementation</td><td>Self Scheduling Allowed</td><td>No Self Scheduling</td><td>Self Scheduling Allowed</td><td>No Self Scheduling</td></tr>
</table>

OPDS status of new wind/solar projects "in the queue before OPDS implementation"

These projects have requested FCDS but may not yet know whether they will receive a deliverability award. (This ambiguity includes projects coming off parking and seeking deliverability.) So, there is no way to know if they will be:

- FCDS, and thus receive some kind of grandfathering status automatically;
- EO, and thus must request OPDS through the "one-time opportunity" if they want that status; or
- PCDS, where their status is ambiguous in the Proposal – see below.

The CAISO should clarify whether they would need to elect the one-time option when their deliverability status is still in question

OPDS status of projects "in the queue before OPDS implementation" – Cluster 12

Cluster 12 projects are about to receive their Phase I Studies, under the current methodology, but their subsequent studies would be performed using the new methodology. The Proposal does not clarify whether these projects would be grandfathered as OPDS (entered the queue before OPDS implementation) but would likely have their Network Upgrade costs determined under the new methodology. The CAISO should explain the grandfathering and other treatment of these projects.

Any OPNU cost reflection in Maximum Cost Exposure (MCE) figures

The CAISO should explain further how the OPDS concepts and terms would fit into the recently revised Maximum Cost Responsibility (MCR)/Maximum Cost Exposure (MCE) framework.

How SSN-identified area constraints would interact with the TPP analyses

The proposal states that, if ADNUs are identified in the SSN analysis and then considered in the TPP, but no TPP upgrade was approved, then the upgrade would not be required or limit "portfolio deliverability." Since the TPP portfolio capacity differs from the capacity studied in Interconnection Studies, the practical application of this concept is unclear. The CAISO should provide some examples of how this provision would work.