



Submit comment on Update paper

Initiative: Generator deliverability challenges

1. Please provide your organizations comments on concerns regarding the current deliverability assessment methodology.

CESA thanks the ISO for publishing the Update Paper and for its intent to open a new stakeholder initiative on generator deliverability challenges in Q1 2023.

Given the potential to unlock greater levels of deliverability on the existing system in support of near- and mid-term reliability needs, CESA greatly appreciates the ISO in reassessing the current deliverability assessment methodology. In the Update Paper, the ISO frames the potential modifications highlighted by stakeholders as “soften[ing] the current technical requirements,”¹ but CESA believes that these considerations are not intended to reduce reliability of the grid or counteract the intended purpose of Resource Adequacy (RA) resources to be reliable and “deliverable” during times of system stress. Rather, any modifications to the deliverability assessment methodology proposed and advocated by CESA are intended to adhere to this intended purpose while more reasonably and realistically assessing how resources such as battery energy storage are dispatchable, energy limited, and complementary to other resources, such as solar and other variable energy resources (VERs).

With this in mind, CESA agrees with the ISO’s three main areas for potential modification as identified in the Update Paper. At this stage, we offer some preliminary reactions to the ISO’s discussion of these potential modifications in the Update Paper but generally look forward to diving deeper into these issues during the stakeholder initiative.

First, regarding dispatch assumptions, CESA believes it is worthwhile for the ISO and stakeholders to have technical discussions on the reasonable dispatch assumptions for various resource types during periods of system stress. During the limited stakeholder process in June 2022 when the ISO proposed and adopted modifications to energy storage dispatch assumptions, the ISO explained how it used the Summer Resources Assessment and selected July 9, 28, and 29 in 2021 to determine the dispatch levels of energy storage resources on “stressed” days, based on days with the highest minimum unloaded capacity margin. While this approach is logical in theory, CESA has some concerns with the “incidental” nature of storage dispatch on days when “resource supply was scarce” as a means to deterministically set the level of storage dispatch in generator deliverability assessments. In doing so, the ISO is modeling energy storage resources as always dispatching at such levels during times of reliability need, when there may be a number of complicating factors that led to the observed levels of dispatch during the selected or sample days, such as dynamic market conditions (e.g., bidding and scheduling of resources, including imports).

¹ Update Paper at 3.

Second, regarding the need for the SSN scenario, the Update Paper details how generator deliverability assessments need to evolve to one that looks at more than a single peak load, to which CESA wholeheartedly agrees. The ISO also details how the SSN was the binding constraint in a majority of assessments, more so than the High System Need (HSN) scenario.² However, CESA wonders whether the fact that the SSN constraint is a binding constraint in many cases can be attributed to the very problem of deterministic simultaneous dispatch levels for energy storage and VERs (*i.e.*, solar) during the SSN period, based on observed levels during selected days. Since solar and energy storage resources have complementary contributions to reliability, as evidenced by effective load carrying capability (“ELCC”) studies in California and elsewhere, CESA is unclear on why the ISO has the SSN scenario and has structured it in a way where renewables serving load during this period cannot conflict with other resources, especially with energy storage resources mostly charging from solar during the SSN period. CESA raises the question to the ISO on whether any curtailment test for solar resources in the SSN period should be a scenario in the off-peak deliverability (OPD) test and whether this should be addressed through the Transmission Planning Process (TPP), which can assess the need for economic transmission projects.

Furthermore, given the energy-limited nature of the vast majority of energy storage resources deployed today (*i.e.*, four hours of duration at maximum output), CESA is again unclear on the reasonableness of the assumptions to assess energy storage dispatch at high levels during the SSN period, when the HSN study spans a four-hour period during the most stressed grid conditions. Most of all, short of running a stochastic production cost model to capture the dispatchability and complementary nature of energy storage and other generation resources, the current deterministic approach and assumptions should be revisited to more realistically reflect their operations during stressed system conditions, which can be accomplished without jeopardizing reliability or deliverability of RA resources. In comparison, it is CESA’s understanding that other ISO/RTOs do not incorporate the SSN scenario test into their generator deliverability assessment methodology. To that end, CESA wonders how other ISO/RTOs’ generator deliverability assessment methodologies can be used to enhance that of the CAISO’s, and more reasonably assess energy storage dispatch.

Third, regarding the N-2 operating condition, CESA believes that this assumption for the generator deliverability assessments warrant reconsideration. While recognizing the impact of facility overloads or voltage limit violations due to N-2 contingencies, CESA wishes to discuss with the ISO on whether the N-2 operating condition should be addressed in the generator interconnection and deliverability studies as opposed to the TPP – a point that was touched upon in the TPP but could benefit from a broader discussion on the merits of addressing them elsewhere. In addition, in our understanding, no other ISO or RTO uses the SSN scenario in interconnection studies. PJM and MISO appear use the N-1 contingency since they follow NERC’s TPL-004 standard, even though they may be working on an updated standard (TPL-005), which suggest using the N-2 contingency. Overall, it may be helpful to assess the rationale and basis for their approaches in contrast to that of the California ISO.

Notwithstanding our points above, CESA is open to a healthy, technical discussion on each of the matters above. Where reasonable and justifiable and informed by data and analysis, CESA hopes that the ISO will be open to modifications. The launch of a new stakeholder initiative is a step in the right direction, and we look forward to the discussion and collaboration.

2. Please provide your organizations comments on concerns regarding the timeliness and availability of deliverability.

² Update Paper at 5.

CESA supports the inclusion of the timing and availability of deliverability as a scoping issue in this initiative. Beyond the discussion on the generator deliverability assessment methodology itself, there may be other incremental fixes to the way that deliverability is allocated, which could address the current issues around the lack of existing deliverability leading to the abandonment of projects in the queue, even though they may be cost-effective and needed for near- or mid-term reliability. As the ISO discussed at length in the 2021 Interconnection Process Enhancements (IPE) Initiative, more work is needed on how to align procurement timelines with generator interconnection (e.g., locations, available Transmission Plan Deliverability [TPD]) and transmission planning. The same issue is highlighted in the Update Paper, where the ISO focuses on how some yet-to-be-defined “transitional relief” could be contemplated to not overly limit new resource procurement due to unexpected new requirements or delays in deliverability network upgrades.³

CESA agrees and looks forward to developing ideas and proposals on this matter in the stakeholder initiative. First, the timing of TPD affidavits in December and allocations in March/April can present challenges to the procurement process if load-serving entities (LSEs) conduct competitive solicitations at a time prior to allocated or retained TPD amounts or if the California Public Utilities Commission (CPUC) transmits portfolios and directs procurement in a similarly mismatched manner. Second, to facilitate procurement and contracting activities, the ISO should consider the potential pros and cons of allocating more TPD than actually available on the system – *i.e.*, a form of “shadow” or “conditional” TPD – in order to allow potential project development to move forward and to facilitate transactions with LSEs, who will likely not find such project bids as conforming and thus will not shortlist them for further negotiations and contract execution. Ultimately, the ISO would still “finalize” TPD allocations in accordance with the actual transmission capacity available on the bulk electric system, but a shadow or conditional TPD availability in excess of actual TPD availability could go a long way to aligning procurement and generator interconnection activities. Such an approach could also address the ISO’s concerns with the timing and availability of deliverability as new or delays to deliverability network upgrades are identified.

In sum, we reiterate our support for the consideration of this scoping issue for the aforementioned reasons.

3. Please provide your organizations comments on the path forward outlined in the update paper.

CESA greatly appreciates the ISO’s intent to open a new stakeholder initiative on generator deliverability challenges in Q1 2023, especially as the state is in urgent need of deliverable capacity in the near- and mid-term periods. A stakeholder initiative is timely and necessary in order to ensure that the current generator deliverability methodology appropriately assesses generation and energy storage resources in a way that makes them deliverable and at the same time recognizes the dispatchability and complementary nature of the current and future RA fleet. If modifications are found to be warranted as a result of this stakeholder initiative, the ISO will be able to unlock significant amount of otherwise abandoned projects with deliverable capacity. In doing so, existing transmission capacity can be maximized while ensuring all resources that are allocated TPD are able to provide their deliverable amounts.

To illustrate the direct impact on actual energy storage projects, CESA asked for members’ input on any future projects that may or may not receive deliverability under the current ISO deliverability assessment methodology. While project information was kept anonymous for the survey conducted, and represents a small sample size of projects, CESA found that approximately 1.8 GW of energy

³ Update Paper at 8.

storage projects that would be at risk of or will not receive deliverability status due to the current deliverability assessment methodology used by the ISO. Most of these projects are or were expected to be in operation within the next few years; however, given the current highly conservative assumptions for energy storage dispatch, some projects will not be able to secure deliverability and will be deemed not commercially viable. Many more projects may be in a similar situation, on the order of several more GW of capacity, which could otherwise be procured to meet the state's urgent reliability challenges.

Overall, CESA supports the three tracks outlined in the Update Paper. When launching the first track on the deliverability assessment methodology, CESA encourages the ISO to invite stakeholder presentations on the topics. As a standalone stakeholder initiative, CESA also assumes that the usual ISO process will be followed (*i.e.*, Issue Paper, Straw Proposal, Final Proposal, workshops or stakeholder calls in between), unlike the one-off "miscellaneous" stakeholder call held for a limited modification to storage dispatch assumptions as done in June 2022. Given the technical nature of the methodology, CESA hopes that more extensive discussion will be held.

4. Please provide your organizations comments on the proposed next steps.

CESA supports the next steps identified in the Update Paper, along with the rough timelines. However, CESA noticed the tentative nature of a new IPE Initiative. The ISO may be deferring to the Generator Interconnection Procedures Notice of Proposed Rulemaking (NOPR) (RM22-14) to play out and await a Final Rule, but CESA still sees merits in launching a new IPE Initiative, especially if signs point to another "supercluster" with Queue Cluster (QC) 15 opening in April 2023. The queue backlogs and the prolonged QC periods may not be tenable to support mid-term procurement needs, such that interim steps may be needed. In reviewing the comments submitted in response to the NOPR, CESA has concerns about the unclear timeline of a Federal Energy Regulatory Commission (FERC) Final Rule in RM22-14, considering the complexity and scope of issues being considered.

5. Please provide any additional comments you have on the deliverability challenges.

While very supportive of the three tracks in this new stakeholder initiative, CESA offers two additional issues that may warrant further consideration.

- 1. Creating local versus regional deliverability designations:** As the ISO embarks on a review of the generator deliverability assessment methodology, CESA believes that it would also be a good time to consider whether local-only deliverability studies could be developed, conducted, and implemented. CESA acknowledges the complexity of such a revision since it would require multiple study types and may entail an "unbundling" of System and Local RA attributes, impacting the transactability of RA contracts. Importantly, it would have an impact to other projects interconnected on the system or in the queue, with "system-only" resources potentially having reduced deliverability due to "local-only" resources serving a greater portion of such loads. Despite these complexities, CESA still believes that it is worthwhile for the ISO to consider a local deliverability designation, studies, and process since many local energy storage projects are stalled or bear high costs to ensure deliverability network upgrades are in place to be able to wheel power to the bulk electric system, even though, from a power flow perspective, the generation and/or energy storage will likely serve local load (*e.g.*, LA Basin storage unlikely to actually serve load in the SF Bay Area). The Update Paper touches upon this issue, but further comprehensive changes merit some discussion and potential further development of proposals, especially as clean local generation and storage resources play an important role in both the state's reliability requirements and decarbonization goals.

2. **Addressing deliverability process and timelines for behind-the-meter (BTM) aggregations with export capacity:** CESA believes that this is the appropriate stakeholder initiative to receive clarifications on the applicability of the current distributed generation deliverability (DGD) study criteria and modifications to the current deliverability study and allocation process to accommodate BTM aggregations – an issue that has confounded the ability for BTM aggregations under the Distributed Energy Resource Provider (DERP) model to qualify for RA for its export capabilities. Notably, the applicability of the current commercial viability and deliverability retention criteria will require some clarifications or revisions to accommodate BTM hybrid and energy storage project development. Whereas COD is more clear and appropriate for IFOM projects, DERAs are almost always built over time (i.e., not all at once), where VPP contracts are typically executed in a way where certain development milestones are in place for customer sites are progressively developed and incorporated into the VPP portfolio. A number of key areas of clarification and/or modification are detailed in a proposal that CESA jointly submitted with collaborating parties in R.21-10-002.⁴

⁴ See Joint DER Parties Reply Comments in R.21-10-002 filed on February 24, 2022 [here](#).