PROPOSED CAISO DELIVERABILITY ASSESSMENT ASSUMPTION CHANGES
LSA COMMENTS

LSA appreciates the opportunity to comment on the CAISO's proposed changes to the Deliverability Assessment Methodology (Assessment) scenario-hour definitions and certain resource dispatch assumptions, as described in the recent June 6th CAISO meeting presentation.

LSA agrees generally that periodic updates to the Assessment structure and assumptions are appropriate. The current structure and assumptions have not been updated since 2018, and LSA recommends that the CAISO consider updates on a more regular and predictable basis.

However, some additional clarifications and information are needed. With respect to specific changes proposed in this effort, LSA has the following overall comments:

- **Scenario-hour definitions:** The proposed changes seem consistent with the overall trend toward peak-hour flows later in the day, but CAISO should clarify the new definitions, since:
  - Slides 14-26 show "updated" SSN hours as HE14-18 and HSN hours as HE18-22; but
  - Slides 19-20 show updated SSN hours as HE15-18 and HSN as HE19-22; but

- **Storage dispatch assumptions:** LSA is more concerned with the proposed energy-storage dispatch assumptions. LSA requests that the CAISO:
  - **Clarify its proposal for calculating energy storage dispatch.** The multipliers for the proposed 80% and 50% dispatch levels are unclear, as is the direction of the dispatch.
  - **Clarify the timing and method for implementing the new dispatch assumptions**, for the different Assessment applications.
  - **Better explain the implications** of the new storage dispatch assumptions.

LSA's concerns about the energy storage dispatch assumptions are described further below.

Finally, the CAISO should issue a draft mark-up version of the Deliverability Assessment Methodology description currently posted on the CAISO Web site, as it did during the late-2019 Assessment methodology-change stakeholder process.

Concerns about storage-related proposals

Calculation methodology for dispatch levels

CAISO currently assumes energy storge dispatch at the four-sustainable output, but the June 6th meeting slides reference the new 80% and 50% (short- and long-term) dispatch levels as a percentage of "installed capacity." Is "installed capacity" the same as four-hour sustainable output?

Charging vs. discharging dispatch: The CAISO should also clarify whether storage dispatch in the SSN scenario would be a charging dispatch at the level defined above, and not a discharging dispatch. The meeting slides seem to indicate a discharge mode, but:

- Storage dispatch was described in the earlier Assessment stakeholder process as a mitigation measure; and
- The SSN scenario assumes higher renewable-resource flows – specifically, higher solar output, and thus higher likelihood that mitigation would require storage charging and not discharging, at least during the earlier portion of the SSN window.

Implementation timing and method

The CAISO proposes that SSN scenario storage dispatch levels be reduced to 80% in the "short term" and 50% in the "long term." The CAISO should clarify the timeframes for these "short-term" and "long-term" changes, the transition between them, and how and when these changes would be implemented in the various Deliverability Assessment applications (annual NQC determination, Transmission Plan Deliverability (TPD) allocation process, Transmission Planning Process (TPP)).

Rationale for, and implications of, the new storage dispatch assumptions

Among other things, CAISO should:

- **Offer a reasonable explanation for why storage utilization would go down over time**, given factors such as the huge quantities of renewable energy required to meet the state's long-term goals and the imminent retirement of large natural gas plants.

- **Clarify the reliability implications of studying energy storage at a level below the current CPUC Qualifying Capacity (QC) methodology, if the proposed SSN dispatch is in discharge mode.**

  Currently, the CAISO's posted Deliverability Assessment methodology specifies that intermittent generators would be studied in the SSN scenarios at "50% exceedance level in applicable hours, but no lower than average summer QC ELCC factor." The reference to summer QC ELCC factor was added during the earlier stakeholder process on this methodology due to potential reliability problems if a resource was studied at one level but allowed to count at a higher level under the CPUC QC methodology.

  If the CAISO proposing to assume discharge levels at the new, lower levels, then is it possible that this could cause similar reliability issues? For example, if a 100MW/400MWh resource counts for 100 MW of QC as an FCDS resource but the CAISO only studies it at 80% discharge dispatch (80MW), it would count at a higher level than it was studied.

- **Explain how the new assumptions would impact energy storage deliverability status, and deliverability transfers to/from energy storage.** It would be extremely helpful if the CAISO could explain the implications of the proposed changes. For example, are there any implications for these situations?

  - **Energy storage FCDS:** If the CAISO is proposing to dispatch energy storage discharge at an 80% dispatch level, could a 100 MW storage resource become FCDS with only 80 MW of deliverability? Might some current PCDS storage resources become FCDS as a result (e.g., using this example, a 100 MW storage resource with PCDS at 80 MW)?

  - **Deliverability transfers:** Would a 100 MW storage resource be able to transfer only 80 MW of deliverability to another resource?

  - **FCDS for other resources:** Would the charging dispatch of energy storage at lower levels provide less mitigation in high-flow SSN study hours, and therefore: (1) reduce the amount of deliverability available to other projects; and/or (2) trigger need for additional Delivery Network Upgrades?