

The ISO received comments on the topics discussed at the October 4, 2019 stakeholder call from the following:

1. [8minute Solar Energy](#)
2. [American Wind Energy Association – California \(AWEA-California\)](#)
3. [Bay Area Municipal Transmission \(BAMx\)](#)
4. [EDF-Renewables \(EDF-R\)](#)
5. [EDP Renewables North America \(EDPR\)](#)
6. [First Solar](#)
7. [Golden State Clean Energy \(GSCE\)](#)
8. [Large-scale Solar Association \(LSA\)](#)
9. [LS Power](#)
10. [NextEra Energy Resource \(NEER\)](#)
11. [Pacific Gas & Electric \(PG&E\)](#)
12. [RWE Renewables \(RWE\)](#)
13. [San Diego Gas & Electric \(SDG&E\)](#)
14. [Southern California Edison \(SCE\)](#)
15. [Cities of Anaheim, Azusa, Banning, Colton, Pasadena and Riverside \(Six Cities\)](#)

Copies of the comments submitted are located on the generation deliverability assessment page at:

<http://www.caiso.com/informed/Pages/StakeholderProcesses/GenerationDeliverabilityAssessment.aspx>

The following are the ISO's responses to the comments.

| 1. 8minute Solar Energy<br>Submitted by: Ali Chowdhury |  |  |
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| No   | Comment Submitted  | CAISO Response   |
| 1a   | <p>8minute Solar Energy agrees with the comments of the Large Solar Association and other electric power generators, in particular the lack of opportunity in the Draft Final Proposal for Energy Only (EO) and Partial Capacity Deliverability Status (PCDS) projects that are in the earlier CAISO queues studied using the existing deliverability methodology to get allocated a Full Capacity Delivery Status (FCDS) allocation under the new Deliverability Assessment Methodology. If capacity will be freed up through this new methodology, as expected, those projects that did not receive FCDS because of the lack of such capacity should have the option to apply for it in the applicable highest-priority levels (Groups 1-3), instead of being relegated to Groups 4-7.</p> <p>Many of these EO and PCDS projects are in advanced development, and with FCDS designation, can help meet the near-term need for Resource Adequacy (RA) that has been determined by both the CAISO and the CPUC. What's more, these are carbon-free power generation projects that can also meet the energy component of the State's GHG goals under SB100 and AB32/SB32. Lastly, because of their advanced stage, these projects are most able to replace the gas-fired Once-Thru-Cooling plants that otherwise have to be kept in operation to meet RA needs.</p> <p>At least some EO and PCDS projects currently in the queue were denied FCDS because there was not sufficient deliverability capacity. Thus, it is only fair that they be able to apply for the newly available capacity. The CAISO would not have to modify its seven-priority ranking system for TPD allocation. If the EO or PCDS projects have a PPA or are short-listed, they could be included in Groups 1 and 2, respectively. If they do not, they could elect Group 3 at their option. A straightforward eligibility determination of this application right would be to grant the right to inclusion in Group 1-3 to all projects in the CAISO queue system at the time the new methodology becomes effective, through Cluster 10.</p> <p>8minute Solar Energy applauds the CAISO's creative approach to utilizing the transmission system more efficiently and appreciates the opportunity to raise these very important details in this very complex proposal.</p> | <p>Please see section 6.2 of the Revised Draft Final Proposal.</p> |

| 2. American Wind Energy Association – California (AWEA-California)<br>Submitted by: Caitlin Liotiris |   |   |
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| No   | Comment Submitted   | CAISO Response  |
| 2a   | <p>AWEA-California generally supports the direction of the Draft Final Proposal as it balances the positions of various stakeholders, and appears more likely to receive approval from the Federal Energy Regulatory Commission (FERC). Below, AWEA-California offers comments on the benefits of filing the deliverability and curtailment proposal as “severable” when filed at FERC. Comments are also offered on the need to provide optionality for hybrid resources to select OPDS, regardless of the underlying size of the various resources that make up the hybrid. Finally, AWEA-California encourages CAISO to continue to consider curtailment information that can be provided and to work to translate the new deliverability methodology into new transmission constraints for the California Public Utilities Commission (CPUC) Integrated Resource Planning (IRP) process.</p> <p>With the federal production and investment tax credits winding down, this is a crucial time for the CAISO to be able to accommodate incremental, clean-energy resources and it will be important for those additions to be capable of achieving Full Capacity Deliverability Status (FCDS). AWEA-California looks forward to CAISO’s expeditious implementation of new deliverability methodology, starting with the 2020 Reassessment in early 2020 and offers the following comments in support of achieving that goal.</p> | <p>The CAISO intends to use the information from both the On-Peak and Off-Peak Deliverability studies to inform the transmission constraint information that is provided to the CPUC IRP renewable portfolio development process.</p>   |
| 2b   | <p><b><u>Ultimate FERC Filing Should Provide the Option of Severing OPDS from the Deliverability Methodology, if Necessary</u></b></p> <p>AWEA-California appreciates the changes CAISO has made to the Off-Peak Deliverability Status (OPDS), under which only OPDS resources would be eligible to self-schedule and, in order to receive OPDS, these resources would need to fund local, off-peak deliverability network upgrades. Under the Draft Final Proposal, rather than OPDS resources having a different penalty price, only OPDS resources would be able to self-schedule into the market on a going forward basis. This structure appears to be an improvement over the prior proposal and is more likely to receive approval from FERC.</p> <p>AWEA-California understands that CAISO intends to jointly submit the new deliverability methodology and the OPDS construct in a single tariff filing to</p>   | <p>One of the main objectives of the deliverability study is to ensure that the deliverability of existing generation and earlier queued generation is not impacted by new interconnection requests. The CAISO has successfully met this objective by consistently applying the same on-peak deliverability test to all capacity generation, and this framework has clearly assigned network upgrade cost responsibilities fairly and transparently for over ten years. This initiative will relax the on-peak deliverability study methodology for the reasons described in the Draft Final Proposal, and stakeholders raised concerns about resource curtailments impacts on existing generation that are expected to result from this change. Some of the delivery network upgrades that are expected to be removed from the interconnection study reports could have a major impact on expected renewable curtailments, and</p> |

| No | Comment Submitted   | CAISO Response   |
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|    | <p>FERC. In order to ensure the deliverability proposal can move forward, and to mitigate against any risk that the OPDS portion of the proposal may require revision or take more time for consideration, AWEA-California urges CAISO to include language in the tariff filing letter indicating that the proposals are intended to work together but can be severed if FERC does not approve the portions related to OPDS.</p> <p>This language would allow FERC to approve the changes in deliverability methodology even in the unlikely event that FERC rejected or required changes to the OPDS component. Providing this “backstop” option will provide greater certainty that CAISO will be able to maintain the implementation timeline for the new deliverability methodology, which will begin with the 2020 Reassessment. And, if OPDS were rejected or changes required, the new deliverability methodology could move forward while CAISO and stakeholders work to address any deficiencies FERC identified with OPDS. This scenario appears unlikely, but by specifically indicating that the proposal for deliverability and OPDS are severable, CAISO will provide additional certainty that the new deliverability methodology can be implemented quickly.</p> <p>Utilizing this strategy is important because timely implementation of the deliverability methodology is critical to ensuring new resources can come online in time to meet both requirements for federal tax credits and for overall system Resource Adequacy (RA) needs.</p> | <p>simultaneously implementing the OPDS framework with the on-peak deliverability changes is expected to avoid these impacts on existing generation. Delaying the implementation of the OPDS framework would result in generation projects moving through the interconnection study process based on the relaxed on-peak deliverability study and without being able to pass the off-peak deliverability study. Their cost responsibility would be capped and there would be no ability to retroactively assign network upgrades that are needed to avoid excessive renewable curtailment. Implementing the OPDS framework simultaneously with the relaxation of the on-peak deliverability study methodology will avoid creating a large gap in meeting one of the main objectives of the deliverability study.</p> |
| 2c | <p><b><u>Modification to Treatment of Hybrid Resources</u></b></p> <p>The Draft Final Proposal would not allow all types of hybrid resources to qualify for OPDS. The proposal states that hybrid resources would not be OPDS eligible if “the energy storage component of the resource is sized to eliminate intermittency of the wind or solar resource in the on-peak deliverability assessment (i.e. 4-hour discharging capacity of energy storage + HSN study amount of solar or wind <math>\geq</math> requested maximum output”.</p> <p>This restriction on OPDS eligibility is not logical, may raise discrimination concerns and inefficiently influence resource sizing. Therefore, CAISO should provide additional flexibility for hybrid resources and should allow all hybrid resources the option of selecting OPDS.</p>  | <p>The CAISO will modify the proposal to allow all hybrid interconnection requests with solar or wind component select OPDS. To maintain the flexibility of resizing energy storage, the energy storage facilities of the hybrid interconnection requests cannot be dependably relied upon in the charging mode to relieve overloads identified in the off-peak deliverability assessment and will be responsible for off-peak upgrades based on the flow impacts from solar and wind components.</p>  |

| No | Comment Submitted  | CAISO Response   |
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|    | <p>This flexibility is important because, it is possible the size of the underlying resource components may change over time and the hybrid resource may ultimately be OPDS-eligible under CAISO's proposed definition, but the timing may be such that the resource could no longer become OPDS and fund the appropriate upgrades. Additionally, there may be benefits associated with allowing different types of resources to be eligible for OPDS and fund the needed upgrades to eliminate curtailment. These could include economic and reliability-based benefits. Restricting certain types of resources from being OPDS eligible would not allow resource owners and off-takers to consider those benefits in determining whether to select OPDS or not. Finally, a proposal that only allows certain hybrid resources to be OPDS-eligible may be viewed as discriminatory and/or may inappropriately influence hybrid resource development sizing, such that resources size just below the threshold to maintain OPDS eligibility.</p> <p>Therefore, CAISO's final proposal and tariff language should provide all hybrid resources an option to select OPDS, just as other resources are afforded.</p>  |  |
| 2d | <p><b><u>Curtailment Information &amp; Transmission Limitations</u></b></p> <p>AWEA-California continues to encourage the CAISO to provide as much information as possible on expected curtailment impacts and potential mitigation solutions for curtailment that result from the Off-Peak Deliverability studies. This information will serve as an important data source for developers, off-takers and other market participants. AWEA-California points CAISO back to its previous comments in this initiative regarding curtailment information (see AWEA-California comments on the Straw Proposal page 3-4, available here).</p> <p>AWEA-California also encourages the CAISO to quickly develop new transmission limitations for communication to the CPUC (for use in the IRP process). The new transmission limitations should reflect the expected changes associated with the new deliverability methodology. AWEA-California and other parties have advocated for the CPUC to relax the transmission constraints in RESOLVE during the 2019-20 IRP modeling process. As in prior comments in this initiative, we encourage the CAISO to offer support for that approach at the CPUC going forward. Allowing the IRP to begin to account for the possibility of</p> | <p>The CAISO will provide curtailment and potential mitigation information as much as the off-peak deliverability assessment supports. Certain information, such as duration of expected curtailment, can't be derived from the off-peak deliverability assessment.</p> <p>The CAISO intends to use the valuable information from both the On-Peak and Off-Peak Deliverability studies to inform the transmission constraint information that is provided to the CPUC IRP renewable portfolio development process.</p> |

| No        | Comment Submitted   | CAISO Response                         |
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|           | <p>increased accommodation of renewable resources on existing transmission will be critical to ensuring that the portfolios which come out of the IRP, and are used by the CAISO to determine the necessary area network upgrades in the TPP, are more accurate.</p>  |  |
| <p>2e</p> | <p><b>Conclusion</b><br/>         AWEA-California generally supports the Draft Final Proposal, but encourages CAISO's tariff filing to include language that would allow the new deliverability proposal to move forward in the unlikely event that there are regulatory hang-ups with the OPDS portion of the proposal. Additionally, CAISO should modify the proposed treatment of hybrid resources, allowing all hybrid resources to be OPDS eligible. CAISO should also continue to discuss curtailment-related information that can be provided and should encourage timely consideration of new transmission constraints in the IRP, which will more accurately reflect the transmission constraints under the new deliverability methodology. We look forward to working with the CAISO and other stakeholders as this initiative continues.</p> | <p>Please see the responses above.</p> |

| 3. Bay Area Municipal Transmission group (BAMx)<br>Submitted by: Paulo Apolinario |   |   |
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| No  | Comment Submitted   | CAISO Response  |
| 3a  | <p><b><u>Revised On-Peak Deliverability Assessment Methodology Incorporating ELCC-based QC Should Be Implemented Soon</u></b></p> <p>The Bay Area Municipal Transmission group (BAMx) appreciates the opportunity to comment on the CAISO Deliverability Assessment Methodology Draft Final Proposal discussed during the October 4, 2019 stakeholder call. BAMx recognizes that the deliverability methodology revisions are needed to keep the CAISO studies correlated to the maximum extent with the implementation of the effective load carrying capability (ELCC) methodology being adopted by the CPUC in conformance with State law. Modeling the solar and wind output levels consistent with the ELCC based QC values should further minimize the excessive and unneeded transmission upgrades identified from the deliverability assessment in both the generation interconnection study process and the Transmission Planning Process (TPP). Therefore, BAMx urges the CAISO to retain the flexibility to revise the production levels, especially for the intermittent generators. For example, in the future, if the CAISO finds that the proposed assumption of setting the intermittent generators to 20% exceedance level during the selected hours to study the Highest System Need Scenario is not consistent with the ELCC based QC values, then it should be revised in consultation with the stakeholders.</p> <p>BAMx believes that the CAISO proposal is headed in the right direction with its revisions to the deliverability methodology. It should provide a better indication of the capability of the existing transmission system to accommodate the renewables necessary to achieve California's policy goals. However, the Draft Final proposal does not alleviate our concerns that the CAISO's Off-Peak Deliverability Assessment proposal to address excessive curtailment is misdirected and would lead to network upgrades, not in the CAISO ratepayer's interest.</p> | Please see the response below.  |
| 3b  | <p><b><u>The Proposed Option Considered to Address Curtailment Concern within the GIP Would Lead to Upgrades not in the Ratepayer's Interest</u></b></p> <p>The Draft Final Proposal seems to respond to the concerns about the deliverability methodology revisions leading to increasing levels of generation curtailment due to congestion. BAMx reiterates its past comments that the existing Transmission Economic Assessment Methodology (TEAM) provides a decent framework for that to be studied thoroughly, which would lead to</p>   | The framework proposed by the CAISO primarily relies on the TPP TEAM analysis for the development of transmission network upgrades needed to deliver generation developed to meet the State's GHG goals. However, for the necessary development of certain localized transmission upgrades as described in the Draft Final Proposal, the interconnection study process is needed to supplement the TPP. |

| No | Comment Submitted  | CAISO Response |
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|    | <p>transmission upgrades if they are economically justified. BAMx believes that TEAM is well suited to determine the need for any transmission additions that can be justified on the basis of reducing generation curtailments. This appears to be the exact type of application for why TEAM was developed.</p> <p>As we mentioned in our August 16th comments, it is important to note that curtailment is not a resource adequacy (RA) issue for which the deliverability assessment is designed, but rather an operational issue. Since any increase in curtailments can be addressed by identifying needed policy and economic driven transmission upgrades in the TPP, we do not believe there is any need for such assessment in the GIP.</p> <p>BAMx believes that any off peak deliverability status (OPDS) upgrade including a local deliverability network upgrade (LDNU) triggered by an interconnecting customer (IC) needs to be paid by that IC, unless it is also identified to be needed for the renewable portfolios studied under the CAISO TPP. Since the Draft Final Proposal recommends a full reimbursement to new generators triggering any OPDS upgrades, we strongly oppose it. Departing from cost causation principals would lead to decisions that are not in CAISO ratepayers' best interests.</p> <p>In response to BAMx's concerns expressed in its comments on the Straw Proposal, the CAISO indicated that the OPDS upgrades, "due to low cost and only moving forward together with generation development, are expected to improve the market efficiency and benefit the ratepayers." BAMx does not agree that the OPDS upgrades are necessarily "low" cost ones. They would likely be of lower cost than the typical area delivery network upgrades on average. However, we routinely see a number of LDNUs comprising some 115kV and 230kV reconductoring and 500/230kV transformer replacement/additions, which should not be deemed low-cost upgrades. Furthermore, with the increasing penetration of renewables, there could be a significant amount of LDNUs that could be triggered by ICs seeking OPDS. And all the ratepayers will be on the hook for ultimately paying for those upgrades. Such costs should be paid by the project so it is included in the project's total costs. The CAISO also states that "Not identifying the need for these local upgrades could result in poor generation siting decisions from a transmission</p> |                |

| No | Comment Submitted  | CAISO Response                 |
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|    | <p>and ratepayer perspective.” BAMx believes that the renewable portfolios developed under the CPUC IRP that are studied under the CAISO TPP are the proper forums to assess the appropriate siting of the generation, not the CAISO GIP. The CAISO argues that “Procurement processes take into account the cost of identified upgrades in their selection process of renewable generation contracts, so the combined cost of the resource and the upgrades are considered and the transmission costs are only triggered if they are in the ratepayer’s interest.” BAMx does not believe that LSEs adequately take into account the cost of identified upgrades in their selection process of renewable generation contracts if the cost of those upgrades are socialized across all CAISO ratepayers and are not directly included in the contract procurement cost.</p> <p>In a nutshell, the off-peak deliverability assessment part of the Draft Final proposal does little in terms of addressing BAMx-raised concerns on ratepayers paying for the cost of transmission not necessarily in their benefit. It clearly departs, improperly, from cost causation concepts.</p> |                                |
| 3c | <p><b><u>Conclusion</u></b><br/>           BAMx would encourage the CAISO to implement their proposed methodology for on-peak deliverability without any further delay and modify its off-peak deliverability assessment to have the off-peak upgrades costs non-reimbursable unless those upgrades are also identified to be needed for the renewable portfolios studied under the CAISO TPP.</p>   | Please see the response above. |

| 4. EDF-Renewables (EDF-R)<br>Submitted by: Susan Schneider (Consultant to EDF-R on this matter) |   |   |
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| No  | Comment Submitted   | CAISO Response                                |
| 4a  | <p><b>1. Introduction &amp; Overview</b></p> <p>EDF-Renewables (EDF-R) appreciates the opportunity to comment on the CAISO's <u>Draft Final Proposal</u> (Proposal) in the Deliverability Assessment Methodology initiative.</p> <p>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 <u>Straw Proposal</u> in response to stakeholder comments. 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.</p> <p>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 <u>Draft Final Proposal</u> 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 <u>Reassessment</u>" 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).</p> <p>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.</p> | See below response to each individual comment |

| No | Comment Submitted  | CAISO Response   |
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|    | <p><u>Overview of other policy issues</u> (explained further in Section 4 below)<br/> EDF-R questions the general policy matters listed below.</p> <ul style="list-style-type: none"> <li>• Why average summer CPUC ELCC Qualifying Capacity (QC) value should be used in Secondary System Need (SSN) On-Peak Deliverability Assessment scenarios</li> <li>• Why OPDS project self-schedules would have priority in on-peak hours over FCDS/non-OPDS project self-schedules</li> <li>• Whether other OPDS incentives that would not encourage self-schedules should be considered</li> <li>• Concept and implementation of the proposed hybrid-resource rules for OPDS eligibility</li> <li>• Why projects could receive OPDS before OPNU completion</li> </ul> <p><u>Overview of other process issues</u> (explained further in Section 5 below)<br/> Important missing or unclear OPDS details include (but are not limited to) those listed below.</p> <ul style="list-style-type: none"> <li>• Distinction (if any) between groups that would receive OPDS vs. those that would not but could continue “grandfathered” self-scheduling</li> <li>• OPDS status of new wind/solar projects “in the queue before OPDS implementation”</li> <li>• Any OPNU cost reflection in Maximum Cost Exposure (MCE) figures</li> <li>• How area constraints identified in the On-Peak Assessment Secondary System Need (SSN) would interact with Transmission Planning Process (TPP) analyses</li> </ul> |  |
| 4b | <p><b><u>2. OPNU reimbursement</u></b><br/> 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.</p> <p>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</p>   | <p>OPNU cost is fully reimbursable. The maximum cost responsibility (cost cap) is to provide cost certainty to the interconnection customers. It is not a reimbursement cap.</p> |

| No | Comment Submitted  | CAISO Response  |
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|    | <p>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.</p> <p>Thus: (1) The framework should actively encourage OPNU funding; and (2) should at least not discourage it through limiting reimbursement</p> <p>Moreover, this will be a self-correcting mechanism, because:</p> <ul style="list-style-type: none"> <li>• Financing upgrades can be costly even with reimbursement, e.g., because: <ul style="list-style-type: none"> <li>○ The required security postings require expensive financing instruments (e.g., letters of credit) and raise forfeit risk if projects later drop from the queue</li> <li>○ The FERC interest rate is far below developers’ cost of capital.</li> </ul> </li> <li>• Most Load-Serving Entities (LSEs) count transmission costs against bid prices, since ratepayers must pay for both transmission and procurement costs. 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.</li> </ul> <p>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.</p> |   |
| 4c | <p><b><u>3. Submittal deadline for MMA requests &amp; deliverability transfers for energy storage</u></b></p> <p>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.</p>   | <p>Please see the presentation on this subject from the November 4, 2019 stakeholder call.</p> <p><a href="http://www.aiso.com/Documents/Presentation-OpportunitiesforAddingStorageatExistingorNewGenerationSites-Nov4-2019.pdf">http://www.aiso.com/Documents/Presentation-OpportunitiesforAddingStorageatExistingorNewGenerationSites-Nov4-2019.pdf</a></p> |

| No | Comment Submitted  | CAISO Response  |
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|    | <p>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.</p> <p>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.</p> |   |
| 4d | <p><b><u>4. Other Policy issues</u></b><br/> <b><u>Use of CPUC ELCC QCs in On-Peak Deliverability Assessment SSN scenarios</u></b></p> <p>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&amp;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).</p> <p>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.”</p>   | <p>The CAISO explained in the Draft Final Proposal that the SDG&amp;E solar exceedance value in the SSN is lower than the maximum 2019 ELCC factor due to ELCC factor being for the entire CAISO area, while the deliverability study exceedance values were calculated for different study areas. To account for this difference, the CAISO adjusted the SDG&amp;E solar study assumption to the 2019 average summer ELCC. The average number was used because we were expecting the ELCC values to decline. ELCC values have declined for 2020. Comparing the deliverability study assumptions with 2020 ELCC values, the study amount is higher than all the ELCC values. The study amount in the deliverability assessment is based on the output profiles and remains relatively stable as more solar generation is being added. Therefore, the study assumptions presented at the October 4 meeting will be used until we see some significant changes that necessitate updates of the assumptions.</p> |

| No | Comment Submitted   | CAISO Response   |
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|    | <p>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.</p>   |  |
| 4e | <p><b><u>OPDS self-schedule priorities in non-peak hours</u></b><br/>           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.</p>   | <p>The CAISO is proposing to relax the output assumptions for intermittent generation in the On-Peak deliverability study for the reasons explained in the Draft Final Proposal. As such, the On-Peak deliverability study provides very little assurance that there will not be excessive curtailments even during typical on-peak load hours outside of typical resource shortage conditions.</p>  |
| 4f | <p><b><u>Whether other OPDS incentives that would not encourage self-schedules should be considered</u></b><br/>           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.</p> <p>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.</p> <p>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</p> | <p>Currently all generation can self-schedule in the CAISO market. The CAISO proposal is to prohibit generation that do not elect OPDS from self-scheduling. This should reduce self-scheduling, and certainly should reduce it in problematic transmission areas.</p> <p>The value of OPDS is to encourage future generation to not locate in transmission deficient areas and to provide a mechanism to expedite low cost local transmission upgrades that are not likely to be developed in the TPP in a timely manner for the reasons described in the Draft Final Proposal.</p> |

| No | Comment Submitted  | CAISO Response   |
|----|--|--|
|    | <p>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.</p> <p>(These proposals would apply to FCDS/non-OPDS projects in on-peak hours if EDFR's proposal above is accepted.)</p>   |  |
| 4g | <p><b><u>Proposed OPDS eligibility rules for hybrid resources</u></b></p> <p>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).</p> <p>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.</p> <p>Second, there are numerous other unresolved details. For example:</p> <ul style="list-style-type: none"> <li>• 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.</li> </ul> | <p>The CAISO will modify the proposal to allow all hybrid interconnection requests with solar or wind component select OPDS in order to maintain the flexibility of resizing energy storage. As the results of this change, the energy storage facilities of the hybrid interconnection requests cannot be relied upon in charging mode to relieve overloads identified in the off-peak deliverability assessment and will be responsible for off-peak upgrades based on the flow impacts from solar and wind components.</p> <p>The deliverability assessment of a hybrid interconnection request is not affected by the commercial configuration, i.e. hybrid resource or co-located resources. The CAISO will update the proposal to replace the term “hybrid resources” with “hybrid interconnection requests”. In the context of the deliverability assessment, hybrid interconnection requests refer to active interconnection requests in the queue or an operating generating site developed from one interconnection request that include more than one type of technology.</p> |

| No | Comment Submitted   | CAISO Response   |
|----|---|--|
|    | <ul style="list-style-type: none"> <li>• 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?</li> <li>• 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.</li> <li>• 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?</li> <li>• 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?</li> </ul> <p>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.</p> |  |
| 4h | <p><b><u>OPDS before OPNU completion</u></b></p> <p>The CAISO said on the last stakeholder call that – unlike DNU 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.</p>  | <p>OPDS is a mechanism for the interconnection customers to fund inexpensive local upgrades to manage curtailment risk. Once the interconnection customer makes all the financial postings and achieves operations, the interconnection customer has fulfilled the obligation and proceed with the same self-scheduling right as any existing generators.</p> <p>In addition, OPNU's are expected to be small scale upgrades with relatively short lead-times. Therefore, they are expected to be in service around the same time as the generation, and as a simplification to the process will not be required to be in-service before allowing the generation to obtain OPDS.</p> |

| No | Comment Submitted  | CAISO Response   |
|----|--|--|
| 4i | <p><b>5. Process issues</b></p> <p><b><u>Whether “Existing wind/solar generation” Energy Only projects would receive OPDS</u></b></p> <p>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.</p> <p>There are several issues here:</p> <ul style="list-style-type: none"> <li>• <b>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?</b></li> </ul> <p>Specifically, Option 5 of the prior <u>Straw Proposal</u> 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.</p> <p>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?</p> <ul style="list-style-type: none"> <li>• <b>Why would Existing EO wind/solar projects, which would not have funded any DNU, 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 OPNU) to receive the same privileges?</b></li> </ul> <p>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.</p> | <p>Similar to FCDS, OPDS is a status only existing in the interconnection studies. The purpose of the flag is to indicate which interconnection requests choose to fund off-peak local upgrades.</p> <p>OPDS does not exist in operation. Instead, there is a self-scheduling flag in operation. All existing generators have a self-scheduling flag of Yes, allowing self-scheduling. When a new generating resource achieves commercial operation, the self-scheduling flag is set as described in Tables 7 and 8 in the Draft Final Proposal.</p> <p>The CAISO will make two changes to Table 7 and Table 8 cited:</p> <ol style="list-style-type: none"> <li>1. PCDS is treated the same as FCDS</li> <li>2. All hybrid interconnection requests are eligible for OPDS. See response above.</li> </ol> <p>The limitation of self-scheduling can’t be retroactively applied to the existing generators.</p> |

| No  | Comment Submitted  | CAISO Response   |   |                    |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |   |                         |                    |                         |                    |  |
|---|--|--|---|--------------------|----|--|------|----------|------|----------|--------------------------------|---|--|---|--|--|---|--|---------------------------------|--|---|-------------------------|--------------------|-------------------------|--------------------|--|
|   | <p style="text-align: center;">TABLE 7: SELF-SCHEDULE FOR WIND/SOLAR GENERATION INCLUDING ELIGIBLE HYBRID RESOURCES</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <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> </thead> <tbody> <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>New wind/solar in queue before OPDS implementation</td> <td colspan="2">Self Scheduling Allowed (Grandfathered)</td> <td colspan="2">One-time chance to request OPDS</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> </tbody> </table> | STATUS   | FCDS                                    |                    | EO |  | OPDS | Non-OPDS | OPDS | Non-OPDS | Existing wind/solar generation | Self Scheduling Allowed (Grandfathered) |  | Self Scheduling Allowed (Grandfathered) |  | New wind/solar in queue before OPDS implementation | Self Scheduling Allowed (Grandfathered) |  | One-time chance to request OPDS |  | New wind/solar entering queue after OPDS implementation | Self Scheduling Allowed | No Self Scheduling | Self Scheduling Allowed | No Self Scheduling |  |
| STATUS  | FCDS   |  | EO                                      |                    |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |   |                         |                    |                         |                    |  |
|   | OPDS   | Non-OPDS   | OPDS                                    | Non-OPDS           |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |   |                         |                    |                         |                    |  |
| Existing wind/solar generation                          | Self Scheduling Allowed (Grandfathered)  |  | Self Scheduling Allowed (Grandfathered) |                    |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |   |                         |                    |                         |                    |  |
| New wind/solar in queue before OPDS implementation      | Self Scheduling Allowed (Grandfathered)  |  | One-time chance to request OPDS         |                    |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |   |                         |                    |                         |                    |  |
| New wind/solar entering queue after OPDS implementation | Self Scheduling Allowed  | No Self Scheduling   | Self Scheduling Allowed                 | No Self Scheduling |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |   |                         |                    |                         |                    |  |
| 4j  | <p><b><u>OPDS status of new wind/solar projects “in the queue before OPDS implementation”</u></b></p> <p>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:</p> <ul style="list-style-type: none"> <li>• FCDS, and thus receive some kind of grandfathering status automatically;</li> <li>• EO, and thus must request OPDS through the “one-time opportunity” if they want that status; or</li> <li>• PCDS, where their status is ambiguous in the Proposal – see below.</li> </ul> <p>The CAISO should clarify whether they would need to elect the one-time option when their deliverability status is still in question</p>  | Please see the response below  |   |                    |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |   |                         |                    |                         |                    |  |
| 4k  | <p><b><u>OPDS status of projects “in the queue before OPDS implementation” – Cluster 12</u></b></p> <p>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.</p>   | <p>The CAISO will add the following clarification to the proposal:</p> <p>Wind and Solar projects in Queue Cluster 10, 11, and 12 that initially requested FCDS or PCDS and have not been converted to EO, will be assumed to select OPDS.</p>   |   |                    |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |   |                         |                    |                         |                    |  |
| 4l  | <p><b><u>Any OPNU cost reflection in Maximum Cost Exposure (MCE) figures</u></b></p> <p>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.</p>  | <p>The OPNU cost is a separate category from DNU and RNU. OPNU cost will not be included in the MCE for LDNU and RNU. Instead OPNU will have its own current and maximum cost responsibility under a structure similar to CCR and MCE. See the Off-Peak Network Upgrades section of the Draft Final Proposal for cost allocation, cost responsibility and maximum cost responsibility of OPNU.</p> |   |                    |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |   |                         |                    |                         |                    |  |

| No | Comment Submitted   | CAISO Response   |
|----|---|--|
| 4m | <p><b><u>How SSN-identified area constraints would interact with the TPP analyses</u></b></p> <p>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.</p> | <p>In a particular study (NQC study or TPD allocation study), the overload is mitigated by reducing generation capacity behind the constraint. If the portfolio amount is deemed deliverable, generation capacity reduction stops when the overload is mitigated or the remaining generation capacity behind the constraint is less than or equal to corresponding total generation capacity in the most recent TPP policy study power flow model.</p> |

| 5. EDP Renewables North America (EDPR)<br>Submitted by: Cameron Yourkowski |  |                             |
|--|--|-----------------------------|
| No   | Comment Submitted  | CAISO Response              |
| 5a   | <p><b>Deliverability Assessment Methodology Comments:</b><br/>           Consistent with our previously submitted comments, EDPR continues to support the proposed changes to the Deliverability Assessment Methodology. The proposed changes properly adjust the methodology to better align with changing system conditions and the timing of peak system needs. For these reasons, the proposed changes to the Deliverability Assessment Methodology itself have enjoyed broad stakeholder support.</p> <p>As discussed in more detail below, EDPR strongly supports the ISO moving forward with gaining the necessary approvals for the Final Proposal in time for the upcoming 2020 reassessment.</p>   | The comment has been noted. |
| 5b   | <p><b>Off-peak Deliverability Status Comments:</b><br/>           EDPR also appreciates the changes the ISO staff has made to the Off-peak Deliverability Status proposal. ISO staff clearly listened to the comments received on the earlier variations of the OPDS concept and the Final Proposal strikes a balance between the need to mitigate curtailments, avoid unnecessary transmission upgrades, encourage economic bidding, and incentivize Off-Peak Network Upgrades (“OPNU”) where justified. EDPR appreciates that these OPNUs would be fully reimbursable and we also support the emphasis on economic bidding.</p>  | The comment has been noted. |
| 5c   | <p><b>Implementation Timing and Tariff Filing Comments:</b><br/>           EDPR encourages the ISO to move forward with the Draft Final Straw Proposal on the proposed timeline, delivering it to the CAISO Board in November and seeking FERC approvals immediately thereafter, ideally in time for the 2020 reassessment. The proposed changes to the Deliverability Assessment Methodology have been under consideration since November 2018. Renewable energy developers are attempting to make sound business decisions, meet readiness requirements, and progress through the ISO’s interconnection process while managing the uncertainty around which Deliverability Assessment Methodology will ultimately be used to assess their project(s). Delaying implementation of the new Deliverability Assessment Methodology for</p> | Please see response to 2b   |

| No | Comment Submitted  | CAISO Response |
|----|--|----------------|
|    | <p>another year, until the 2021 reassessment, will only delay the benefits of adding more renewables to the grid without unnecessary Network Upgrades.</p> <p>For these reasons, EDPR encourages the ISO to recognize the importance of getting FERC approval in time for the 2020 Reassessment and consider structuring the filing in such a manner that the uncontroversial changes to the Deliverability Assessment Methodology itself could be approved on a separate timeline from the OPDS proposals, should the latter require more deliberation at FERC. In other words, the CAISO should indicate to FERC that the Deliverability Methodology changes are time sensitive and are severable from the OPDS portions of the filing, if necessary. If this is not acceptable to the ISO, EDPR respectfully requests the ISO consider all possible options and timelines to allow for the results of the 2020 Reassessment to benefit from the Final Proposal's superior methodology for assessing deliverability.</p> |                |

| <b>6. First Solar</b>                |  |                                    |
|--------------------------------------|--|------------------------------------|
| <b>Submitted by: Patricia Englin</b> |  |                                    |
| No                                   | Comment Submitted  | CAISO Response                     |
| <b>6a</b>                            | <p>First Solar provides these comments in response to CAISO's September 27, 2019 Deliverability Assessment Methodology Revisions Draft Final Proposal. We also include comments on the stakeholder call CAISO held October 10 discussing opportunities for adding storage at new or existing generation sites, where CAISO dealt with issues relevant to the changes to its deliverability assessment methodology.</p> <p>As we stated in our August comments, we appreciate CAISO's responsiveness to stakeholders as CAISO manages the challenges of a transitioning grid. We understand and agree with CAISO's need to shift its methodology to account for changes in the generation mix and are pleased that CAISO is considering impacts on congestion and curtailment. However, we remain concerned about several aspects of CAISO's proposal. We remain optimistic that these concerns can be addressed with some surgical changes to the proposal while maintaining the CAISO's timeline of implementation in 2020.</p>                         | <p>The comment has been noted.</p> |
| <b>6b</b>                            | <p><b>1) Current energy-only projects should be offered an opportunity to compete for a deliverability allocation on equal footing with newer projects</b></p> <p>The CAISO's allocation methodology does not offer more mature energy-only projects the same chance to compete for deliverability as later queued projects. In this unique circumstance, where a change in CAISO's methodology is making more deliverability available, we believe that a one-time transitional process is critically important.</p> <p>The upshot is that earlier queued energy-only projects in good standing and with the development maturity and investment that far exceed that of later-queued projects will not be afforded a chance to get a deliverability allocation without CAISO establishing a transitional process. For example, the option to proceed without a PPA would not be available to older vintage energy-only projects, since that provision is limited to projects that have just received their Phase II study results without parking.</p> | <p>Please see response to 1a.</p>  |

| No | Comment Submitted   | CAISO Response |
|----|---|----------------|
|    | <p>The more mature energy-only projects should be provided a chance at an allocation on equal footing with later-queued projects. Failure to provide this opportunity is contrary to California’s GHG reduction goals and current reliability needs. Given the recent concerns about a capacity shortage and the measures suggested to address it, including delaying retirement of OTC units, we believe there are strong policy and reliability reasons to allow energy-only projects the chance to obtain deliverability and consider adding storage to meet near-term needs.</p> <p>Without a deliverability allocation, these resources will not qualify to supply resource adequacy. These issues are of critical importance with CAISO sounding the alarm about a capacity shortfall and as California looks to renewable and zero-emission resources to help fill the gap. Existing energy-only projects are best positioned to offer new hybrid resources into the upcoming solicitations to meet the significant resource gap the CAISO and CPUC have identified. These projects are the only ones likely to be operational by 2021-2023. Projects in Clusters 11 and later will not have the necessary development maturity to meet those timelines, particularly where delivery upgrades necessary to qualify for resource adequacy are involved.</p> <p>In addition, there is a closing window on the investment tax credit benefits to California ratepayers – the more mature projects are much more likely to meet the deadlines and take advantage of this federal subsidy. Many of the utility-scale solar projects were designed, permitted and obtained the necessary rights to include storage as part of the facility.</p> <p>Another reason to support a transitional opportunity for energy-only projects to compete for deliverability relates to the new proposed requirement that energy-only projects be OPDS in order to self-schedule. While we agree that existing energy-only projects should receive the opportunity to request OPDS, we are concerned that limiting the ability of the earlier-queued energy-only projects to self-schedule may further impair these projects’ commercial viability, particularly since they don’t have the same opportunity to compete for an allocation of “new” deliverability on equal footing with projects just receiving their Phase II study results. As identified in LSA’s comments, there are still a number of questions related to off-peak deliverability status and off-peak network</p> |                |

| No | Comment Submitted  | CAISO Response                |
|----|--|-------------------------------|
|    | <p>upgrades, including how these will work to provide value to energy-only projects. Without the more valuable component of full or partial deliverability, it isn't clear what value OPDS provides for the added cost to the developer.</p> <p>We urge CAISO to establish a process that will provide a meaningful opportunity for energy-only projects to compete for deliverability. One option would be a very surgical change to the CAISO's allocation group three and Section 8.9.2.2 to remove the restrictions that limit that election to customers with a completed Phase II Interconnection study that have not parked. Doing this as a one-time transitional measure would leave the rest of the allocation groups and process intact. We also suggest that for this cycle CAISO allow projects subject to the restrictions of Section 8.9.2.2 to request a limited COD extension to no later than December 2024. This would allow projects to take full advantage of the ITC benefits, pass those along to ratepayers and would support the state's urgent capacity needs. Otherwise, the remaining limitations CAISO designed in its new provision 8.9.2.2 associated with proceeding without a power purchase agreement would still apply.</p> |                               |
| 6c | <p><b>2) Deliverable projects need more time to evaluate options before they lose existing levels of allocated deliverability</b></p> <p>Our second concern relates to the timing of the CAISO's process to require projects with full or partial deliverability to make a determination about adding storage and allocating deliverability to the storage element. While we appreciate that CAISO is thinking about a transitional opportunity for projects with full or partial deliverability, asking developers to make these critical decisions to support a full modification request by December 2 is not reasonable.</p> <p>Our projects currently negotiating PPAs would need to be examined before we could make decisions about how to navigate adding storage. Figuring out how to manage financing and PPA requirements associated with transfers of deliverability will take more time than CAISO has allowed.</p> <p>In addition, the question of transfers and what portions of the project will count as fully deliverable also needs to be discussed. Because off-taker requirements for hybrid storage vary widely, it is difficult to pre-determine appropriate</p>  | Please see the response to 4c |

| No | Comment Submitted   | CAISO Response |
|----|---|----------------|
|    | <p>allocations prior to PPA execution. We believe that both the solar and the storage component should be fully deliverable if within the current allocation of deliverability to a project, without decreasing the deliverable output of the solar facility. There should be sufficient headroom under the new deliverability methodology to accommodate this.</p> <p>With CAISO and the CPUC in the midst of considering how to address hybrid resources and setting an RA value for them, there's insufficient clarity for developers about how these evolving rules will affect choices to add storage and evaluate their configuration, market participation, and related issues. Guessing about how rules that are still under development may affect serious commercial decisions is not something we should ask of the state's renewable developers.</p> <p>Projects with full and partial deliverability have counted on the MW allocation and taken the responsibility and risk with significant postings to maintain deliverable status. Removing a significant portion of the deliverability these projects have been allocated, after the significant investment and risk they have incurred to remain in good standing as a deliverable project, without allowing more time to evaluate the storage option, is not reasonable.</p> <p>We suggest that CAISO consider a process by which interconnection customers would submit an affidavit this fall indicating the quantity of storage they anticipate adding to their facility to accept the deliverability transfer, and then require that the project provide the full details necessary for the CAISO to process the modification request within six to nine months at a size not to exceed the amount in the affidavit. This would allow CAISO to proceed with the studies in January and assume the amount of "reserved" deliverability from the affidavits that would be used for storage. This would also allow a much more reasonable timeframe for the project developer to develop plans to add storage, manage financial and commercial barriers and submit full modification requests to the CAISO. If the total amount of deliverability combined between the solar and the storage is less than the originally allocated deliverability amount when evaluated under the new methodology, we also believe that both the solar and storage elements should both be considered fully deliverable.</p> |                |

| No | Comment Submitted   | CAISO Response  |
|----|---|---|
|    | <p>We also suggest that CAISO consider a means for allocating costs of upgrades to the later-queued customers that will be receiving deliverability so the obligation for sharing the cost is equitably shared among those who benefit.</p>   |   |
| 6d | <p><b>3) The OPDS/OPNU proposal still poses a number of questions that should be resolved before taking the proposal to the CAISO Board</b><br/>           First Solar agrees with the concerns and questions raised in LSA's comments. While we see the CAISO's proposed off-peak deliverability framework as a promising solution to the concerns we raised earlier in the year about the curtailment and congestion impacts associated with CAISO's revised methodology, we remain concerned about the number of implementation questions that need to be answered before the proposal is finalized.</p> | <p>Please see the responses to First Solar's comments</p> |
| 6e | <p><b>Conclusion</b><br/>           First Solar remains supportive of the direction CAISO is headed with its revised methodology, and we appreciate the continued opportunity to offer feedback to the CAISO as it develops this new framework. However, we believe there are some significant issues that remain and look forward to participating in a process to cooperatively resolve them.</p>   | <p>The comment has been noted.</p>                        |

| 7. Golden State Clean Energy (GSCE)<br>Submitted by: Daniel Kim |   |                               |
|---|---|-------------------------------|
| No  | Comment Submitted   | CAISO Response                |
| 7a  | <p>Golden State Clean Energy (GSCE) provides the following comments on the CAISO's deliverability assessment methodology draft final proposal dated September 27, 2019. GSCE also provides comments on the stakeholder call held on October 10, 2019 to discuss adding storage to existing or new generation sites where CAISO provided additional detail around how it intends to implement its revised methodology.</p> <p>GSCE understands the CAISO's need to modify its study assumptions and adapt its on-peak methodology to accommodate changing system conditions that affect what resources are needed to supply resource adequacy. We appreciate the proposed framework the CAISO is setting out to mitigate for excessive curtailment and are generally supportive of the concept that the CAISO is developing. However, we remain concerned about some fundamental issues and believe that the CASIO should resolve them before moving forward.</p>  | The comment has been noted.   |
| 7b  | <p><b><u>Transferring deliverability</u></b><br/>           Projects with deliverability need more time than the 34 working days CAISO is suggesting to make decisions about adding storage to existing facilities to transfer deliverability. We agree that these projects should be afforded the opportunity to make the choice to add storage and transfer deliverability. However, developers need significantly more time than what is being proposed to make this assessment.</p> <p>We would suggest that CAISO establish a process by which interconnection customers would submit an affidavit this fall, with the deposit, indicating the quantity of storage they anticipate adding to their facility to accept the deliverability transfer, and then require that the project provide the full details necessary for the CAISO to process the MMA within six to nine months at a confirmed size not to exceed the amount in the affidavit. This would allow CAISO to proceed with the studies in January assuming the amount of "reserved" deliverability from the affidavits would be used for storage. Proceeding in this fashion would allow a much more reasonable timeframe for the project developer to evaluate the best storage technology and commercial considerations around sizing the battery, conduct the engineering assessments</p> | Please see the response to 4c |

| No | Comment Submitted   | CAISO Response                |
|----|---|-------------------------------|
|    | <p>needed to support the modification request and navigate any limitations that may be imposed by financing structures or offtake agreements.</p> <p>We also urge the CAISO to offer more flexibility to currently deliverable interconnection customers to maintain the full deliverability of the full solar plant output while offering the ability to add storage and transfer deliverability. We support the comments and suggestions offered by LS Power on this point.</p> <p>Although we understand that the deliverability allocation is not a property right and that the shifting ELCC methodology is resulting in a lower RA value for solar resources, developers with deliverability allocated under the current methodology have been making commercial decisions and plans based on the deliverability amounts allocated by the CAISO. Developers have taken on significant risk with the financial postings necessary to support the needed upgrades driven by the current methodology. It is reasonable to allow more time for developers make decisions and avail themselves of the upgrades they have funded before losing the deliverability to later-queued projects that have not faced the same risk and costs.</p> <p>We also believe that the CAISO should think more broadly about how projects that are at the same point of interconnection and under development by the same entity can allocate deliverability among their generating units. As part of the CAISO's transitional process, CAISO should remove the requirement that the generating units be under the same GIA in order for a project developer to qualify to transfer deliverability among generating units.</p> |                               |
| 7c | <p><b><u>Energy-only transitional opportunity to obtain FCDS</u></b></p> <p>In GSCE's August 16 comments filed on the July 29 straw proposal, we requested that CAISO develop a methodology to allow existing energy-only projects to compete for an allocation of "new" deliverability that will be available when CAISO changes its on-peak deliverability assessment methodology. We continue to believe that this should be a key element of the CAISO proposal and urge CAISO to rethink its decision to rely on its current allocation methodology rather than providing a transitional option for energy-only projects. Many energy-only projects will not be able to meet the criteria listed in CAISO's</p>  | Please see the response to 1a |

| No | Comment Submitted  | CAISO Response |
|----|--|----------------|
|    | <p>allocation methodology, and one of the groups – the option to proceed without a PPA – is not open to energy-only projects.</p> <p>Although CAISO asserts in response to the several parties who requested this transitional option for energy-only projects that “most of the projects that failed to obtain a TPD allocation was due to the project’s development status, not due to the availability of TPD,” this was not the case for GSCE’s projects. GSCE has projects in the queue that requested deliverability last year but did not receive an allocation, forcing them to convert to energy-only projects. These projects were eligible last year for an allocation but did not receive one because no TP deliverability was available. It is not reasonable a year later for CAISO to alter its methodology but restrict these projects’ ability to compete on the same terms as other projects in this affidavit cycle.</p> <p>The location of GSCE’s development, the southern part of the San Joaquin Valley, provides these resources with a unique opportunity to support grid reliability in the Bay Area as storage is added to these projects. Without deliverability, however, the opportunity to support the state’s goals for supplying RA from GHG-free resources is lost for these projects.</p> |                |

| 8. Large-scale Solar Association (LSA)<br>Submitted by: Susan Schneider (Consultant to LSA on this matter) |  |  |
|--|--|--|
| No   | Comment Submitted  | CAISO Response   |
| 8a   | <p><b><u>1. Introduction &amp; Overview</u></b></p> <p>The Large-scale Solar Association (LSA) appreciates the opportunity to comment on the CAISO’s Draft Final Proposal (Proposal) in the Deliverability Assessment Methodology initiative.</p> <p>LSA supports the CAISO’s position to proceed with Deliverability Assessment changes and congestion-mitigation features as a package. In addition, LSA is pleased to see that the Proposal includes some changes to the earlier Straw Proposal in response to stakeholder comments.<sup>1</sup> LSA particularly supports the CAISO’s support of full reimbursement of Off-Peak Network Upgrades (OPNUs), which is discussed further in Section 2 below.</p> <p>However, the Proposal did not respond to other significant comments from stakeholders, and some of the 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 resolution of these many open or unclear issues.</p> <p>The unresolved issues are made more urgent given the apparent near-term implementation timing for at least some elements in this proposal, i.e., that CAISO’s statements about “implementation in the 2020 Reassessment process” actually meant implementation through the Spring 2020 TPD Allocation process, where affidavits start to become due a month from now. If implementation of this proposal could impact project affidavits or other procedures associated with that allocation process, then developers urgently need to know now.</p> <p><b><u>Overview of policy issues</u></b> (explained further in Section 3 below)<br/>           LSA questions the general policy matters listed below.</p> <ul style="list-style-type: none"> <li>• Why there would be no “one-time” opportunity for EO/PCDS projects denied FCDS due to insufficient area deliverability to access newly available deliverability</li> </ul> | <p>Please see below responses to each individual comment</p> |

| No | Comment Submitted  | CAISO Response             |
|----|--|----------------------------|
|    | <ul style="list-style-type: none"> <li>• Why average summer CPUC ELCC Qualifying Capacity (QC) value should be used in Secondary System Need (SSN) On-Peak Deliverability Assessment scenarios</li> <li>• Why OPDS project self-schedules would have priority in on-peak hours over FCDS/non-OPDS project self-schedules</li> <li>• Whether other OPDS incentives that would not encourage self-schedules should be considered</li> <li>• Why there would be only a “one-time” opportunity for Energy Only projects to request OPDS, and how that opportunity would be implemented</li> <li>• Concept and implementation of the proposed hybrid-resource rules for OPDS eligibility</li> <li>• Why projects could receive OPDS before OPNU completion</li> </ul> <p><b>Overview of process issues</b> (explained further in Section 4 below)<br/>           Important missing or unclear OPDS details include (but are not limited to) those listed below.</p> <ul style="list-style-type: none"> <li>• Distinction (if any) between groups that would receive OPDS vs. those that would not but could continue “grandfathered” self-scheduling</li> <li>• OPDS status of new wind/solar projects “in the queue before OPDS implementation”</li> <li>• Grandfathering status of current PCDS projects (existing or in the queue)</li> <li>• Any OPNU cost reflection in Maximum Cost Exposure (MCE) figures</li> <li>• How area constraints identified in the On-Peak Assessment Secondary System Need (SSN) would interact with Transmission Planning Process (TPP) analyses</li> </ul> |                            |
| 8b | <p><b>2. OPNU reimbursement</b></p> <p>LSA strongly supports the proposed full refundability for Off-Peak Network Upgrades (OPNUs). 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.</p>  | Please see response to 4b. |

| No | Comment Submitted  | CAISO Response                 |
|----|--|--------------------------------|
|    | <p>However, as LSA explained in its last comment submittal, 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.</p> <p>Thus: (1) The framework should actively encourage OPNU funding; and (2) should at least not discourage it through limiting reimbursement.</p> <p>Moreover, this will be a self-correcting mechanism that protects ratepayers against unreasonably high OPNC and other transmission costs, even with reimbursement, because:</p> <ul style="list-style-type: none"> <li>• Financing unusually costly upgrades can be costly even with reimbursement, e.g., because: <ul style="list-style-type: none"> <li>○ The required security postings require expensive financing instruments (e.g., letters of credit) and raise forfeit risk if projects later drop from the queue</li> <li>○ The FERC interest rate is far below developers’ cost of capital.</li> </ul> </li> <li>• Most Load-Serving Entities (LSEs) count transmission costs against bid prices, since ratepayers must pay for both transmission and procurement costs.<sup>2</sup> “All other things equal, a project with high Network Upgrade costs will not be competitive, and this will help ensure that only cost-effective upgrades are built.”</li> </ul> <p>Finally, as LSA 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.</p> |                                |
| 8c | <p><b><u>3. Other Policy issues</u></b><br/> <b><u>One-time opportunity for certain EO/PCDS projects to access newly available deliverability</u></b></p>  | Please see the response to 4c. |

| No | Comment Submitted  | CAISO Response                 |
|----|--|--------------------------------|
|    | <p>The Proposal did not adopt proposals from LSA and others to provide a one-time opportunity for EO and PCDS projects to access newly available deliverability when their FCDS requests were denied earlier solely due to lack of area deliverability. The the CAISO stated on the last stakeholder call that “most” projects that requested FCDS but ended up as EO did so because of inability to qualify for a deliverability award.</p> <p>However, that is certainly not true for many projects coming out of the interconnection-study process that would have received full awards had sufficient deliverability been available in their areas. The CAISO should have sufficient historical information to identify these projects and, based on CAISO statements, there should be few of them to accommodate.</p> <p>LSA understands CAISO’s reluctance to modify the seven-priority structure for TPD awards the first time it will be used. It is a matter of simple fairness, though, that these projects be given higher priority to access available deliverability, e.g., through very narrow and temporary transitional adjustments within the existing structure that would allow them to be included, as appropriate, in:</p> <ul style="list-style-type: none"> <li>• Groups 1 or 2, if they have a PPA or are shortlisted, respectively, instead of Groups 4 or 5; and</li> <li>• Group 3, if they so choose.</li> </ul> <p>LSA also suggests that the CAISO allow this transitional group (including Group 3) to request a limited COD extension to no later than December 2024. This would allow projects to take full advantage of the ITC benefits to pass those along to ratepayers, thus supporting the state’s urgent capacity needs.</p> |                                |
| 8d | <p><b><u>Use of CPUC ELCC QCs in On-Peak Deliverability Assessment SSN scenarios</u></b></p> <p>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&amp;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-</p>  | Please see the response to 4d. |

| No | Comment Submitted  | CAISO Response                 |
|----|--|--------------------------------|
|    | <p>flow hours – should not logically use values below ELCC values (averaged over 8,760 hours a year).</p> <p>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.</p> <p>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.</p>   |                                |
| 8e | <p><b><u>OPDS self-schedule priorities in non-peak hours</u></b></p> <p>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.</p> <p>However, that response does not complain 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. Specifically, it seems contradictory for OPDS projects to have priority over FCDS projects even in on-peak hours.</p> <p>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.</p> | Please see the response to 4e. |
| 8f | <p><b><u>Whether other OPDS incentives that would not encourage self-schedules should be considered</u></b></p> <p>LSA 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</p>   | Please see the response to 4f. |

| No | Comment Submitted  | CAISO Response   |
|----|--|--|
|    | <p>on the system) can submit them. LSA believes that other incentives for funding OPNUs should be explored that may not have that adverse impact.</p> <p>Protection of self-schedules 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. Moreover, protection for self-schedules carries with it significant disadvantages, e.g., status as a price-taker and resulting lack of protection when prices are negative.</p> <p>Instead or in addition to self-schedule protection, the CAISO could simply allow more economic bidding flexibility for OPDS projects. OPDS projects could be allowed to submit economic bids at a lower bid floor than non-OPDS projects, so non-OPDS 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 projects in on-peak hours if LSA's proposal above is accepted.)</p> |  |
| 8g | <p><b><u>“One-time” opportunity for Energy Only projects to request OPDS – rationale</u></b></p> <p>The Proposal would allow existing EO projects, and those “in the queue before OPDS implementation,” a one-time opportunity to elect OPDS. Among other things, the Proposal does not explain why this should be a one-time opportunity, i.e., why such EO projects should not be allowed to elect OPDS at a later time. The CAISO should not impose this limitation without an explanation of the rationale behind it.</p>  | <p>One-time opportunity ensures all these EO projects are treated equally and a smooth transition into the new methodologies. It prevents gaming by the interconnection customers, i.e. waiting until OPNU has been identified and assigned to take a “free ride”.</p> |
| 8h | <p><b><u>“One-time” opportunity for Energy Only projects to request OPDS – implementation</u></b></p> <p>It is not clear when or how this one-time option would be implemented. For example:</p> <ul style="list-style-type: none"> <li>• Is the CAISO planning to award OPDS in conjunction with the upcoming Spring 2020 TPD Allocation process, as part of the C12 or C13 cluster-study process, or some other way?</li> <li>• Could projects electing this option be assigned OPNU costs?</li> </ul>   | <p>Please see the response to 4k. Also, the OPDS studies for these projects would be performed with C13 and if OPNU's are identified, then cost shares would be allocated accordingly.</p>   |

| No | Comment Submitted  | CAISO Response                 |
|----|--|--------------------------------|
|    | <ul style="list-style-type: none"> <li>The CAISO must provide more information about these processes and procedures.</li> </ul>  |                                |
| 8i | <p><b>Proposed OPDS eligibility rules for hybrid resources</b></p> <p>The Proposal does not fully explain the OPDS hybrid eligibility rules for: (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).</p> <p>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.</p> <p>Second, there are numerous other unresolved details. For example:</p> <ul style="list-style-type: none"> <li>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.</li> <li>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?</li> <li>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.</li> <li>How would this framework accommodate creation or modification of hybrids over time? For example, if OPDS VERs add storage and</li> </ul> | Please see the response to 4g. |

| No | Comment Submitted  | CAISO Response                 |
|----|--|--------------------------------|
|    | <p>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?</p> <ul style="list-style-type: none"> <li>• 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?</li> </ul> <p>LSA 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.</p>   |                                |
| 8j | <p><b><u>OPDS before OPNU completion</u></b></p> <p>The CAISO said on the last stakeholder call that – unlike DNU 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 is inconsistent with long-standing policies related to Full Capacity Deliverability Status (FCDS), which is not received by a new project until all the Delivery Network Upgrades (DNUs) are complete.</p> <p>Allowing OPDS before all the needed upgrades are complete, for example, would allow self-schedules of such projects scheduling/curtailment priority before all upgrades needed to provide that protection are constructed. Thus, this provision would likely impair the status and self-schedule protection of other operating OPDS projects, and CAISO should either justify or revise it.</p> | Please see the response to 4h. |
| 8k | <p><b><u>4. Process issues</u></b></p> <p><b><u>Whether “Existing wind/solar generation” Energy Only projects would receive OPDS</u></b></p> <p>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.</p>   | Please see the response to 4i. |

| No  | Comment Submitted  | CAISO Response     |   |                    |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |                         |                    |   |                         |                    |                         |                    |  |
|---|--|--------------------|---|--------------------|----|--|------|----------|------|----------|--------------------------------|---|--|---|--|--|---|--|---------------------------------|--|-------------------------|--------------------|---|-------------------------|--------------------|-------------------------|--------------------|--|
|   | <p>There are several issues here:</p> <ul style="list-style-type: none"> <li><b>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?</b> 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 DNU’s triggered under those studies.</li> </ul> <p>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?</p> <ul style="list-style-type: none"> <li><b>Why would Existing EO wind/solar projects, which would not have funded any DNU’s, 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 OPNU’s) to receive the same privileges?</b> 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.</li> </ul> <p style="font-size: small; margin-top: 10px;">TABLE 7: SELF-SCHEDULE FOR WIND/SOLAR GENERATION INCLUDING ELIGIBLE HYBRID RESOURCES</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <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> </thead> <tbody> <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> </tbody> </table> | STATUS             | FCDS                                    |                    | EO |  | OPDS | Non-OPDS | OPDS | Non-OPDS | Existing wind/solar generation | Self Scheduling Allowed (Grandfathered) |  | Self Scheduling Allowed (Grandfathered) |  | New wind/solar in queue before OPDS implementation | Self Scheduling Allowed (Grandfathered) |  | One-time chance to request OPDS |  | Self Scheduling Allowed | No Self Scheduling | New wind/solar entering queue after OPDS implementation | Self Scheduling Allowed | No Self Scheduling | Self Scheduling Allowed | No Self Scheduling |  |
| STATUS  | FCDS   |                    | EO                                      |                    |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |                         |                    |   |                         |                    |                         |                    |  |
|   | OPDS   | Non-OPDS           | OPDS                                    | Non-OPDS           |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |                         |                    |   |                         |                    |                         |                    |  |
| Existing wind/solar generation                          | Self Scheduling Allowed (Grandfathered)  |                    | Self Scheduling Allowed (Grandfathered) |                    |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |                         |                    |   |                         |                    |                         |                    |  |
| New wind/solar in queue before OPDS implementation      | Self Scheduling Allowed (Grandfathered)  |                    | One-time chance to request OPDS         |                    |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |                         |                    |   |                         |                    |                         |                    |  |
|   |  |                    | Self Scheduling Allowed                 | No Self Scheduling |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |                         |                    |   |                         |                    |                         |                    |  |
| New wind/solar entering queue after OPDS implementation | Self Scheduling Allowed  | No Self Scheduling | Self Scheduling Allowed                 | No Self Scheduling |    |  |      |          |      |          |                                |   |  |   |  |  |   |  |                                 |  |                         |                    |   |                         |                    |                         |                    |  |

| No | Comment Submitted   | CAISO Response                 |
|----|---|--------------------------------|
| 8l | <p><b><u>OPDS status of new wind/solar projects “in the queue before OPDS implementation”</u></b></p> <p>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:</p> <ul style="list-style-type: none"> <li>• FCDS, and thus receive some kind of grandfathering status automatically;</li> <li>• EO, and thus must request OPDS through the “one-time opportunity” if they want that status; or</li> <li>• PCDS, where their status is ambiguous in the Proposal – see below.</li> </ul> <p>The CAISO should clarify whether these projects would need to elect the one-time option when their deliverability status is still in question, or whether they should proceed in some other manner under the new framework.</p> | Please see the response to 4k. |
| 8m | <p><b><u>OPDS status of projects “in the queue before OPDS implementation” – Cluster 12</u></b></p> <p>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.</p>  | Please see the response to 4k. |
| 8n | <p><b><u>Grandfathered status of PCDS projects</u></b></p> <p>The Proposal does not allow for “partial” OPDS but says that existing FCDS/deliverable projects would receive OPDS. It does not address OPDS for existing PCDS projects, or those still in the queue that entered before OPDS implementation and then received a partial deliverability award.</p> <p>As noted above, the earlier Option 5 – upon which the current proposals are based – did provide grandfathering status for PCDS projects, but PCDS projects are not mentioned at all in the Proposal. It seems unfair for PCDS projects to be excluded from OPDS simply because they have PCDS but not FCDS. Those PCDS projects were dispatched in their Interconnection Studies</p>  | Please see the response to 4i. |

| No | Comment Submitted   | CAISO Response                 |
|----|---|--------------------------------|
|    | <p>at today's higher levels and likely fully funded the Delivery Network Upgrades (DNU) triggered in those studies.</p> <p>The CAISO should clarify the grandfathering status of those projects, e.g., whether the Option 5 provision allowing these projects to receive OPDS is included in the Proposal.</p>  |                                |
| 8o | <p><b><u>Any OPNU cost reflection in Maximum Cost Exposure (MCE) figures</u></b><br/>           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.</p>   | Please see the response to 4l. |
| 8p | <p><b><u>How SSN-identified area constraints would interact with the TPP analyses</u></b><br/>           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.</p> | Please see the response to 4m. |

| 9. LS Power<br>Submitted by: Sandeep Arora |  |                                |
|--|--|--------------------------------|
| No   | Comment Submitted  | CAISO Response                 |
| 9a   | <p>LS Power has two serious concerns with the CAISO's proposal. The first relates to the issue we raised in our August 2019 comments around the lack of opportunity for existing energy-only projects to obtain a deliverability allocation. We continue to believe that CAISO should provide a transitional opportunity for advanced stage energy-only projects to compete for deliverability with more recent interconnection customers.</p> <p>Our second concern relates to the CAISO's plan to require solar projects with deliverability calculated under the current methodology to decide by December 2 whether to add storage and transfer deliverability. This timeframe simply does not give projects sufficient time to make these significant decisions. CAISO should provide a reasonable time for developers to make these decisions before removing allocated deliverability.</p>  | Please see responses below.    |
| 9b   | <p><b>Providing Energy-Only Projects an Opportunity to Compete for Deliverability</b></p> <p>As we noted in our August comments, the CAISO's recently-revised allocation rules do not provide a chance for advanced stage energy-only projects to establish eligibility and compete for an allocation. CAISO's response to the suggestion by several parties to create a transitional opportunity for energy-only projects to qualify for deliverability was to state that "reconsidering the allocation order is out of scope of this initiative" and "most of the projects that failed to obtain a TPD allocation was due to the project's development status, not due to the availability of TPD". By indicating that this suggestion regarding energy-only projects is out of scope CAISO is impeding the ability of these resources to meet requirements for urgently-needed capacity in California. Our August comments made clear that we are not suggesting that CAISO reconsider the allocation order. We requested that CAISO provide a transitional opportunity for advanced-stage energy-only projects to compete for this, out-of-the-ordinary, one-time allocation based on ELCC counting changes.</p> <p>In addition, CAISO's assertion that project's development status was responsible for lack of TPD allocation is incorrect. Most projects did not get a TPD allocation because large transmission upgrades were required to make the</p> | Please see the response to 1a. |

| No | Comment Submitted   | CAISO Response |
|----|---|----------------|
|    | <p>projects deliverable. With the use of new deliverability assessment methodology, many previously-identified delivery network upgrades will be removed &amp; any new deliverability that becomes available, according to CAISO's proposal, will be allocated to the most recently queued projects.</p> <p>LS Power is only requesting the opportunity to compete in order to help meet important California policy goals and not to be denied that opportunity simply because CAISO's timing of implementation of the new methodology will inadvertently only benefit newer entrants to the queue. For example, while newer queued projects get the option to elect to proceed without a PPA as a means for demonstrating eligibility, a more advanced-stage energy-only project without a PPA is precluded from exercising this option because this energy-only project will not fall under any of the seven TPD allocation groups. Under this unique circumstance where deliverability will be made available solely because of a change in CAISO methodology, we believe that offering this option for newer projects while depriving more advanced-stage projects the same election amounts to undue discrimination. We do not see a justification for the differing treatment.</p> <p>We believe there are a number of policy and reliability reasons that support CAISO providing a transitional opportunity for advanced energy-only projects to compete for deliverability. First, these projects are most likely to be able to come on line and assist with the urgent need the CAISO and CPUC have identified for resources to supply resource adequacy. A resource without deliverability cannot supply RA and hence would not be eligible to participate in Resource Adequacy RFOs by Load Serving Entities. Second, there are zero-emitting energy-only storage resources in the CAISO queue capable of supplying RA in crucial LCR pockets that could help with this urgent reliability need, but without deliverability they won't qualify to do so. California policy favors these resources which help further its GHG reduction goals and CAISO rules should provide every opportunity to facilitate their ability to provide Resource Adequacy. California has also planned for the retirement of resources using once-through cooling technology; storage with deliverability is well positioned to reduce the need to postpone these retirements if supported by CAISO. Finally, greater supply of resources capable of providing Resource Adequacy will provide competition that will also translate into ratepayer benefits.</p> |                |

| No | Comment Submitted  | CAISO Response   |
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|    | <p>CAISO has managed transitions in the past with sensitivity to facilitating the developer community's ability to meet RPS goals and take advantage of ARRA funding, and FERC has approved CAISO's requests for flexibility in its rules to meet California policy and reliability needs. Another example is reducing the New Resource Implementation &amp; Interconnection timeframes significantly when new MWs were needed for Aliso Canyon reliability issues. CAISO has indicated a need for new capacity for operational flexibility and reliability in comments to the CPUC and the recent presentation to the Board on the potential resource shortage starting in 2020 of 2,300 MW, rising to 4,700 MW by 2022. We believe this is another instance where the CAISO should exercise its broad discretion to design a process that supports the grid, ratepayers and provides generation developers a fair and equitable opportunity to compete for the deliverability made available by the CAISO's change in methodology.</p> <p>Our recommendation for implementation of this transition is as follows. CAISO should allow all advanced-stage prior queue energy-only projects that desire TPD allocation, a one-time opportunity to receive an allocation under Allocation Group 3, as defined in CAISO GIDAP BPM. We propose that advanced-stage energy-only projects should be defined as those which in addition to meeting the TPD Allocation Affidavit requirements, have the ability to achieve In Service Date (ISD) by 2021. Achieving ISD in early 2021 allows a good chance that some of these projects can achieve Commercial Operations by Aug 2021; which is the timeline for first critical system capacity as recognized by CPUC &amp; CAISO. Achieving ISD in late 2021 allows a good chance that these projects can achieve Commercial Operations by June 2022; which is the timeline for second critical system capacity need according to CAISO's comments filed in response to CPUC Proposed Decision on System capacity procurement. This aligns with the policy and reliability reasons that support this opportunity for energy-only projects.</p> |  |
| 9c | <p><b>AFC Deliverability</b><br/>           CAISO GIDAP tariff section 9 lists a few Additional Annual Deliverability Assessment options. One of these options previously allowed for projects was to apply for Annual Full Capacity Deliverability. CAISO has recently discontinued use of this option; however there are a few Queue Cluster projects that are still under CAISO study process for this option. We recommend that</p>  | <p>The AFC study was performed during the QC11 Phase II studies. Both QC11 Phase II and QC12 Phase I deliverability assessment were completed with the current methodology. If the AFC request is behind any of the local or area deliverability constraints, the AFC request is not assigned any deliverability. Applying yet to be approved methodology to AFC requests only does not change AFC results at all.</p> |

| No               | Comment Submitted  | CAISO Response                        |
|------------------|--|---------------------------------------|
|                  | <p>any advanced-stage energy only projects that applied for Annual Full Capacity Deliverability Option, and for which the deliverability allocation results have not yet been published (i.e. these are still in study process), should be allocated available deliverability upon implementation of the new deliverability methodology. Since a significant amount of deliverability will become available with the use of this new methodology it is only equitable that these projects are also provided an opportunity to attain deliverability.</p>   |                                       |
| <p><b>9d</b></p> | <p><b>December 2 deadline for adding storage or losing allocated deliverability</b><br/>           In a stakeholder call held on October 10, CAISO laid out a process by which solar projects with deliverability can submit a request to add storage to their facilities and “capture” the opportunity to transfer deliverability at existing levels. We fully agree that solar projects should be provided a chance to add storage and transfer deliverability before that deliverability is lost due to CAISO changing its methodology. However, CAISO’s proposal with respect to this transfer is impractical for several resources, as explained below.</p> <p>Transfer of deliverability from Solar to Storage will not be a feasible option for most operational solar projects. Most of these projects are under existing financing and PPA structures that may impose limitations that would require amendments to facilitate adding storage. For instance, if exercising this transfer option leads to an existing solar project losing its Full Capacity Deliverability Status (FCDS) for the full amount of the solar facility, which it will, based on CAISO’s transfer rules, then this transfer option will be impractical for most operating solar projects where their PPAs require projects to maintain FCDS status at all times for the full output of the facility. CAISO should clarify that existing operational solar projects are able to transfer deliverability to storage projects up to the MW amount that is still required for Solar to still be able to retain FCDS. As an example, let’s take an existing 100 MW solar project. Let’s assume that it is currently being studied at 85 MW for it to be FCDS under the existing methodology and let’s assume it will be studied at 10 MW to be fully deliverable under the new methodology for it to be FCDS. This solar project should be able to transfer up to 75 MW deliverability to a related storage project while still preserving FCDS for the entire 100 MW of the solar project. If CAISO does not allow this, then the Existing Solar projects will be hugely disadvantaged. These projects put up the required capital to build, paid for</p> | <p>Please see the response to 4c.</p> |

| No | Comment Submitted  | CAISO Response |
|----|--|----------------|
|    | <p>interconnection facilities, took significant financial risks in bringing a full capacity deliverable solar project for the state. For these projects to not have a reasonable opportunity to transfer deliverability to storage based on shortcomings in CAISO's proposed implementation plan (without impacting their FCDS status at full output) will essentially mean their MW capacity will be released and will potentially be awarded to newer queued projects as a windfall. This will inadvertently lead to CAISO picking winners and losers, which we don't believe is CAISO's intent.</p> <p>We believe that all facilities with a current allocation of deliverability should be afforded more time to resolve some of these complex issues before submitting a MMA. There are many factors that drive these important decisions with respect to requesting transfer of deliverability from solar resource to storage. Developers need to make important commercial and technical decisions about storage design, size and configuration. We note that the timeline to request transfer by the December 2 deadline is extremely short. CAISO should allow additional time to complete the full support for the MMA and expeditiously clarify the transfer rules as these apply to existing solar projects. Finally, we request that CAISO clarify how allocated deliverability will be addressed during the retention affidavit process.</p> |                |

| 10. NextEra Energy Resources (NEER)<br>Submitted by: Grant Rosenblum |  |                                |
|--|--|--------------------------------|
| No   | Comment Submitted  | CAISO Response                 |
| 10a  | <p><b>All Hybrid Resources Should be Eligible for Off-Peak Deliverability Status (OPDS)</b></p> <p>The FD Proposal proposes to exclude from OPDS eligibility hybrid resources where “the energy storage component of the resource is sized to eliminate intermittency of the wind or solar resources.” This is defined as a resource where the 4 hour discharging capacity of the energy storage plus the high system need study amount is greater than the requested maximum output. (FD Proposal at page 21.) In contrast, hybrid resources where the combined amount is less than the requested maximum amount can seek OPDS. Although unclear, it is presumed that the requested maximum output is the maximum injection at the point of interconnection of the combined resources. NextEra does not believe this distinction is justified and should be rejected or, at least, needs more vetting.</p> <p>To begin, the relationship between eliminating intermittency and the desire to protect against the risk of curtailment is unclear. Storage resources of significant size in relation to the variable generator are likely not eliminating intermittency per se, but rather shifting energy. But most significantly, it is not clear that such hybrid configurations in and of themselves shields the resource from curtailment risk. The duration of the local curtailments may be different in different locations and exceed the hybrids ability to charge. Also, hybrid resources may be configured largely to charge from potentially clipped energy, such that the storage resource does not adequately protect the renewable generation from curtailment.</p> | Please see the response to 4g. |
| 10b  | <p>NextEra Reiterates the Request of Prior Parties that Existing Resources Under Limited Circumstances Should Have Priority to Transmission Capacity Made Available by the New On-Peak Deliverability Assessment</p> <p>The CAISO noted in the FD Proposal that “[w]ith the revised on-peak deliverability assessment assumptions, it is expected that more generation would be deliverable without further transmission upgrades. One benefit would be that more Transmission Plan Deliverability (TPD) allocation would become available.” (FD Proposal page 10) First Solar and LS Power previously requested that Energy Only resources should have a “one-time opportunity to</p>   | Please see the response to 1a. |

| No | Comment Submitted   | CAISO Response |
|----|---|----------------|
|    | <p>receive a TPD allocation ahead of other queue projects seeking TPD.” (Id.) The CAISO rejected that request stating that any increased capacity subject to TPD allocation would simply follow the existing tariff provisions. This outcome was purportedly justified as both outside the scope of the initiative and equitable based on an assumption that “most” projects that failed to receive TPD allocation did so based on the project’s development status. (Id.)</p> <p>Any regulatory change can have an arbitrary allocation of benefits simply based on the timing of the adopted change. Here, there is little doubt that projects that currently remain eligible for TPD allocation will benefit simply by the fortuity of the timing of the CAISO’s commencement of this effort. As an initial matter, NextEra appreciates that there must be limits on what issues will be considered in any stakeholder process to prevent scope creep and the resulting potential unintended consequences. But where that limit lies should be viewed through a lens of reasonableness. Here, that line should consider whether it is reasonable for all the benefits of the methodology change go to certain projects simply by virtue of timing.</p> <p>In particular, there are existing projects in operation that that have routinely sought FCDS through the annual process. To the extent that those projects have contractual obligations to obtain FCDS or have the ability to adjust their compensation based on obtaining FCDS, there is no reason why speculative projects should have a higher priority to the freed up capacity. Clearly, these projects did not fail to obtain FCDS because of their development status. It is recognized, however, that the new methodology increases the probability of existing resources ultimately receiving FCDS under an annual process, but NextEra believes that projects that can demonstrate prior applications and need, should be entitled to newly created capacity prior to the TPD allocation under the next cycle.</p> |                |

| 11. Pacific Gas & Electric (PG&E)<br>Submitted by: Tyrone Hillman |  |  |
|---|--|--|
| No  | Comment Submitted  | CAISO Response   |
| 11a   | <p><b>PG&amp;E requests that the CAISO identify a process, including a stakeholder initiative, to ensure that the CAISO's economic planning studies are robust enough to mitigate anticipated congestion in a timely fashion.</b> The current economic study approach requires building and bringing new resources on-line, incurring several years of economic inefficiencies under varying conditions in order to create a historical congestion record, and then allowing the CAISO to evaluate and approve new economic projects in the Transmission Planning Process (TPP). The CAISO should consider revisions to their processes that would evaluate congested facilities identified in the interconnection process and how to accelerate the development of transmission solutions before incurring years of economic inefficiencies before pursuing solutions.</p>  | <p>The ISO's economic and policy driven transmission study process addresses the deliverability needs of future generation by largely depending on the resource portfolios provided by the CPUC's IRP. Those portfolios identify zonal level quantities of generation within general renewable resource development areas, but do not provide accurate information down to the nodal level. Nodal level resource information is determined once bilateral contracts are executed between the resources and the load serving entities, and then these contracts are approved by the CPUC. The definitive need for large area transmission projects can be established from the zonal level information, but more localized transmission projects require nodal level information which is not available until much closer to the time that the generation will actually be developed.</p> |
| 11b   | <p><b>PG&amp;E believes that the CAISO should consider the value and impact of this deliverability modification to existing Power Purchase Agreements (PPA).</b> The revisions to the deliverability methodology recognize the lower reliability benefit of solar resources to the peak need that occurs later in the day. This will allow more solar resources to interconnect with fewer upgrades and is expected to increase congestion. This does not consider the impact to existing PPAs. Existing resources that have funded deliverability upgrades to support their interconnection will be subject to increased curtailment and lower energy prices. Many PPAs have contractual provisions to compensate generators for lost revenues associated with economic curtailments but this should be used as a complementary mechanism rather than a primary option. The impact to the overall value of existing PPAs that were based on anticipated energy market revenues and forecasted LMPs should not be ignored.</p> | <p>The proposed revisions to the off-peak deliverability assessment methodology are intended address the concern raised by stakeholder regarding the increased risk of excessive renewable generation curtailment that is expected from the proposed changes to the on-peak deliverability assessment methodology.</p>   |
| 11c   | <p><b>PG&amp;E supports the CAISO conducting Off-Peak Deliverability Studies (OPDS) to inform generators of their curtailment risk. However, the opportunity to obtain the option of self-scheduling in the market after funding the upgrade costs is an insufficient incentive.</b> The OPDS resources will be given the option of self-scheduling in both the day-ahead and real-time markets. The OPDS status is intended to encourage resources to site</p>  | <p>Currently all generation has the option to self-schedule to minimize their chances of being curtailed due to transmission constraints. The CAISO is proposing that this option be retained for generation that elect FCDS or OPDS depending on the type of generation. For generation that would prefer to be exposed to transmission constraints rather than elect FCDS or OPDS, self-scheduling would not be allowed as</p>   |

| No | Comment Submitted   | CAISO Response  |
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|    | <p>their facilities in locations that have minimal upgrades and lower curtailment risk. However, PG&amp;E is uncertain that the economic benefits of self-scheduling will be a sufficient incentive to fund the cost of transmission upgrades. The CAISO acknowledges within its paper that the goal of this new approach “should result in fewer self-schedules and more economic bids for market efficiency” during over-supply conditions that incents resources to reduce production when prices begin to fall. Resources that obtain the option to self-schedule will reduce curtailment risk and this will conflict with the need to curtail during the increased likelihood of low prices during over-supply conditions. Self-scheduling into low price or into a negative LMP is not a viable solution.</p> | <p>described in the Draft Final Proposal. This is expected to provide some level of incentive for generation to select OPDS. However, another incentive to selecting OPDS is that it provides a clear indicator for financing and procurement purposes that the OPDS generation project is less likely to experience curtailments due to local transmission constraints than a non-OPDS generation project somewhere on the system competing in the same procurement process.</p> |

| 12. RWE Renewables (RWE)<br>Submitted by: Jennifer Ayers-Brasher |   |                                |
|--|---|--------------------------------|
| No   | Comment Submitted   | CAISO Response                 |
| 12a  | RWE has followed the various discussions regarding the Deliverability Methodology assessment and appreciates the CAISO's initiative to improve the deliverability analyses. RWE supports the CAISO's position to proceed with Deliverability Assessment changes. RWE supports the CAISO's approach of full reimbursement of Off-Peak Network Upgrades (OPNUs).  | The comment has been noted.    |
| 12b  | <p><b>One-time opportunity for certain EO/PCDS projects to access newly available deliverability</b></p> <p>The CAISO Proposal currently does not provide a one-time opportunity for EO and PCDS projects to access newly available deliverability when their FCDS requests were denied earlier solely due to lack of area deliverability. The project with PCDS or Energy Only lost their FCDS status in the study process based on the methodology that modeled solar projects at 90-92% of their Pmax. For these projects with EO or PCDS status, the deliverability study revealed exorbitant Area and Local Deliverability Network Upgrades (ADNUs and LDNUs)</p> <p>However, that is certainly not true for many projects coming out of the current interconnection-study process or Cluster 13 and beyond that will have a great opportunity to receive full deliverability awards under the new methodology with solar project modeled at 10-12% of their Pmax. The CAISO has indicated that under the new methodology the need for deliverability project will be reduced and there will be less transmission available. However, RWE agrees with multiple other stakeholders that the new technique of modeling solar will far outweigh the deliverability that will be available in future studies. Energy only projects are currently ranked very low and are unfairly disadvantaged when it comes to seeking TPD allocations.</p> <p>RWE strongly recommends that the CAISO allow a one-time window for Energy Only projects (that originally requested for deliverability but lost it in the interconnection process) and PCDS projects to request deliverability under the new deliverability methodology. In order to not impact the current seven-priority structure for deliverability allocation, the CAISO could allow for a one-time option for EO/PCDS projects to have the same standing as Allocation Group 3</p> | Please see the response to 1a. |

| No | Comment Submitted   | CAISO Response |
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|    | <p>(if no PPA is available). These Energy Only/PCDS projects are in their advanced stages from a development, interconnection and permitting perspective and will help the CAISO/CPUC meets its reliability needs goal for 2021 with additional capacity. The one-time allowance window for EO/PCDS projects will not impact the CAISO's timeline to propose the new methodology to the board in November 2019.</p> |                |

| 13. San Diego Gas & Electric (SDG&E)<br>Submitted by: Pamela Mills |   |                             |
|--|---|-----------------------------|
| No   | Comment Submitted   | CAISO Response              |
| 13a  | <p><b><u>Introduction</u></b></p> <p>SDG&amp;E continues to support CAISO's revisions of the on-peak deliverability assessment to test the ability of intermittent resources to deliver power during peak demand conditions that have shifted later in the day. These changes include studying output levels of renewable resources and their associated network upgrades during two critical summer scenarios when the likelihood of capacity shortage is high: the "Highest System Need Scenario" (i.e. HE18-HE22) and the "Secondary System Need Scenario" (i.e. HE15-HE17).</p> <p>SDG&amp;E also supports the modeling revisions of the off-peak deliverability assessment in the interconnection studies that aim to identify potential curtailment risks. However, SDG&amp;E continues to believe that the treatment of network upgrades identified in the off-peak deliverability assessment should be further discussed with all stakeholders. In that regard, SDG&amp;E offers questions in the following comments that will help stakeholders develop a better understanding of the CAISO's proposal.</p>  | The comment has been noted. |
| 13b  | <p><b><u>Off-peak Deliverability Status (OPDS)</u></b></p> <p>As part of the off-peak deliverability assessment revisions, the CAISO proposes that new Interconnection Customers (ICs) have the option to elect a new OPDS status. If elected, those ICs would be required to fund reimbursable local network upgrades needed to reduce curtailment risks and would be able to self-schedule in the CAISO markets. All existing generators in the CAISO Queue, except energy only generators, will automatically be granted OPDS status. The CAISO offers the following arguments on why the reimbursement of off-peak deliverability upgrades may lead to upgrades in the ratepayer's interest</p> <ul style="list-style-type: none"> <li>• <i>"The cost being reimbursable is a strong incentive for generators to elect OPDS and up-front fund inexpensive local upgrades.</i></li> <li>• <i>Such upgrades, due to low cost and only moving forward together with generation development, are expected to improve the market efficiency and benefit the ratepayers.</i></li> <li>• <i>Procurement processes take into account the cost of identified upgrades in their selection process of renewable generation contracts, so the combined cost of the resource and the upgrades are</i></li> </ul> |                             |

| No | Comment Submitted   | CAISO Response  |
|----|---|---|
|    | <p><i>considered and the transmission costs are only triggered if they are in the ratepayer's interest."</i></p> <p>SDG&amp;E agrees with the CAISO that the interconnection process should encourage the siting of new generation projects in good locations to minimize congestion and curtailment issues. The revised off-peak deliverability assessment will provide good indications if an IC's new Project will run into curtailment risks or increase the curtailment of existing generators in a certain area. SDG&amp;E would appreciate if the proposal could clarify:</p> <ul style="list-style-type: none"> <li>• How should stakeholders rationalize scheduling priority differences between incumbent generators and new generators?</li> <li>• Given the current high level of renewable procurement and SB100 timeline, is there an urgency to accelerate more renewable integration by expediting changes such as an OPDS status today?</li> <li>• For the off-peak deliverability assessment, what would be considered "local inexpensive upgrades"?</li> <li>• How does the CAISO intend to derive the reimbursement cap for these upgrades?</li> <li>• Can the CAISO provide more details to explain how local off-peak deliverability upgrades "...are expected to improve the market efficiency and benefit the ratepayers."?</li> </ul> <p>Finally, although the procurement processes consider the cost of identified upgrades in their selection process of renewable generation contracts, SDG&amp;E believes it is the CAISO's role to determine if transmission upgrades can provide benefits to consumers. Using only the generation procurement process to determine which transmission upgrades are in customers' best interest can potentially lead to inefficient transmission expansion decisions since it considers the benefits of transmission only from the standpoint of each individual procurement decision, not from the collective impact of all procurement decisions. The CAISO's TPP is the place to make transmission expansion decisions that have benefits for a broad expanse of customers. SDG&amp;E understands that this is a key reason the CAISO revised its transmission planning process several years ago such that interconnecting generators were not always obligated to fund major transmission upgrades; i.e.,</p> | <p>As described in the Draft Final Proposal, the scheduling priority difference is proposed to be implemented as generally described in response to comment 11c.</p> <p>The CAISO is proposing to implement the changes to the off-peak deliverability methodology including incorporation of OPDS in early 2020.</p> <p>The current CAISO interconnection study process distinguishes between large area constraints and local constraints. Transmission upgrades needed to relieve large area constraints tend to be high cost long-lead time upgrades and are therefore addressed in the CAISO transmission planning process. Transmission upgrades needed to relieve local constraints tend to be low cost shorter lead-time upgrades. The proposed changes to the off-peak deliverability methodology would generally apply the same principles to identify local inexpensive upgrades.</p> <p>The network upgrades needed to relieve local constraints would be fully reimbursed since they are expected to be low cost. Directly assigning the cost responsibility to generation projects in their interconnection study report will provide transparency to potential load serving entities and regulators considering a power purchase agreement for that facility. Local upgrades tend to primarily benefit the generation project they are assigned to, so they should be directly considered during the procurement process—for example, when comparing that generation project to a different project that has submitted an offer that does not require a local upgrade. This transparency will help the LSE and Regulator make an informed choice that is in the best interest of ratepayers.</p> |

| No  | Comment Submitted   | CAISO Response   |
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|     | <p>the CAISO's TPP could find those upgrades beneficial overall and fund the costs through the TPP process, not the generation interconnection process.</p>   | <p>Large area upgrades tend to benefit multiple generation projects and provide more widespread benefits that need to be quantified in the transmission planning process. Ensuring that transmission upgrades are developed in a timely manner and in the ratepayers interest is best accomplished by relying on the interconnection process for local upgrades and the transmission planning process for large area upgrades.</p> |
| 13c | <p><b><u>Conclusion</u></b><br/>           For the aforementioned reasons, SDG&amp;E recommends that the CAISO's presentation to the CAISO Board in November include the modeling revisions related to the on-peak and off-peak deliverability assessments, and that refinements related to the reimbursement of network upgrades identified in the off-peak deliverability assessment and the new OPDS classification be further considered and vetted prior to inclusion.</p> | <p>The comment has been noted.</p>   |

| 14. Southern California Edison (SCE)<br>Submitted by: Eric Little and Fernando E. Cornejo |   |  |
|---|---|--|
| No  | Comment Submitted   | CAISO Response   |
| 14a   | Southern California Edison (SCE) appreciates the CAISO considering revisions to the deliverability study assumptions used in the existing methodology, as the CAISO-controlled grid continues to experience an increasing number of interconnecting intermittent resources. SCE supports the proposed changes contained in the CAISO's Deliverability Assessment Methodology Revisions Draft Final Proposal posted on September 27, 2019 and recommends that such proposed revisions be implemented as soon as possible. However, there are two related areas where SCE would like the CAISO to provide clarification regarding its proposal before it is presented to the CAISO Board for approval:  | The comment has been noted   |
| 14b   | 1.) SCE understands the CAISO's objective of evaluating intermittent resources under three different assumptions – High System Need, Secondary System Need, and Off-Peak Deliverability – to account for the increasing contribution of these resource towards resource adequacy. The proposed deliverability assessment would be in alignment with the CPUC's effective load carrying capacity (ELCC) approach to calibrate for the varying levels of output of intermittent resources during different time periods. Given that ELCC is a loss of load probability, is system reliability negatively impacted when all the resources are not providing their respective full MW production levels in the hours where they are capable of doing so? SCE understands the ELCC to be a method of loss of load probability and that while the ELCC arrives at a value coincident with the most binding case, there are other cases of potential loss of load for which the resource is expected to produce at a higher output including up to full installed capacity. If multiple resources are allowed to interconnect at their ELCC fully utilizing the interconnection capability, then their full capacity output would not be feasible and the other loss of load incidences that were only met by full capacity output would not be met. SCE asks the CAISO to more completely explain how the use of a High System Need, Secondary System Need, and Off-Peak Deliverability fully addresses the RA reliability need and ELCC methodology. | The monthly ELCC values for solar range from 0% to 39% and for wind from 8% to 33%. Between the Highest System Need and Secondary System need studies these resources will be studied at levels that exceed the ELCC values. In the off-peak deliverability assessment these resources will also be studied at levels that exceed their ELCC values. |
| 14c   | 2.) Developers frequently seek Full Capacity Deliverability Status (FCDS) for more than Resource Adequacy purposes. For example, a Load Serving Entity (LSE) relying on a resource to meet its RPS needs has a level of certainty of  | The CAISO agrees that the proposed changes to the on-peak deliverability assessment methodology will tend to increase the risk of renewable generation curtailment. However the proposed changes to  |

| No | Comment Submitted  | CAISO Response   |
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|    | <p>expected output under FCDS that it would not have if the FCDS only includes the level of output up to its ELCC. The market will need to better understand how to value the output of such a resource with regard to meeting the LSE's RPS needs. What information regarding multiple uses of the same impacted interconnection facilities does the CAISO propose to make publically available to allow LSEs to more properly value such resources when the service(s) they seek to provide go beyond Resource Adequacy, and are impacted by their deliverability status? If an entity interconnects at a point in time, will later interconnections be able to reduce the amount of deliverability of the previously interconnected resource? If so, by how much? As an alternative, will the CAISO offer deliverability on a separate basis to ensure a resource's output is deliverable 100% all of the time?</p> | <p>the off-peak deliverability assessment methodology are designed to avoid excessive renewable generation curtailments due to local transmission constraints.</p> |



| No | Comment Submitted  | CAISO Response |
|----|--|----------------|
|    | <p>of imports. The Draft Final Proposal does not clearly address how imports will be treated as a result of the new limitations on self-scheduling. The Proposal also does not address how modifications to existing resources will be addressed and whether existing resources that undergo modification will continue to be grandfathered.</p> |                |



**Stakeholder Comments**  
**Generation Deliverability Assessment**  
**Draft Final Proposal - Stakeholder Meeting**  
**October 4, 2019**