



Comments of the American Wind Energy Association – California (AWEA-California) on CAISO’s Generation Deliverability Issue Paper

May 16, 2019

Comment Summary

AWEA-California appreciates that the CAISO opted to open a stakeholder initiative to address potential changes to the Generation Deliverability Assessment Methodology. Given the wide-ranging impacts of changing this methodology, the time for additional stakeholder input and consideration is worthwhile for all those impacted by this change and is very much appreciated.

AWEA-California generally supports the changes to the Generation Deliverability Assessment Methodology that were discussed during the end of 2018, but believes the increased curtailment risk to all generators which would result from its implementation warrants additional exploration of various options. In these comments, AWEA-California outlines some additional questions that CAISO should consider as part of this initiative, and provides some comments on areas that should be addressed going forward. Additionally, one potential methodology for considering transmission upgrades to mitigate excessive curtailments which may result from the change in methodology for deliverability assessments is outlined at a high-level.

While, AWEA-California looks forward to additional stakeholder process and consideration of these comments, we reiterate that we recognize the importance of allowing the new deliverability methodology to be implemented expeditiously. Therefore, AWEA-California supports implementation of the new deliverability methodology as soon as practicable, while also working to develop solutions to the associated increased curtailment risk, and looks forward to working with the CAISO to determine the best way to successfully implement this change.

Excessive Curtailments Should be Addressed as Part of the Implementation of a New Deliverability Methodology

As the CAISO and stakeholders have pointed out, the implementation of the new deliverability methodology is likely to increase renewable curtailments, as more generation (especially solar generation) is added to the grid and capable of achieving Full Capacity Deliverability Status (FCDS) on existing and currently planned transmission. This dynamic will increase the likelihood of renewable energy curtailments during peak production periods, which could have adverse impacts on existing (and advanced development) generation resources of all types. Notably, because in many instances under existing contracts, the output lost due to economic curtailment is still paid for by the load serving entity, the cost of excessive curtailments may



ultimately be paid for by ratepayers. Therefore, to provide the most benefits to ratepayers, cost-effective transmission solutions to mitigate excessive curtailment should be analyzed by the CAISO.

Furthermore, addressing the possibility for high levels of renewable energy curtailments may be important for prospective generators to obtain project financing and, thus, addressing and evaluating potential curtailment issues is an important component to ensuring California's load serving entities can continue to contract with renewable generation developers to achieve the state's policy goals. Therefore, ensuring excessive curtailment will be addressed and, when appropriate, mitigated should continue to be an important goal of this initiative.

Given the wide-ranging impacts, AWEA-California supports full and thorough exploration of all options to approve transmission to mitigate excessive curtailments, which may include approval of transmission through the Transmission Planning Process (TPP) and, consequently, should also include review of potential modifications to the current TPP procedures, including the Transmission Economic Assessment Methodology (TEAM). At this junction, we do not take a position on whether upgrades to mitigate excessive curtailment should ultimately be approved through the TPP or the interconnection process. There are pros and cons to each approach and, given the potential cost of meeting California's policy-goals with increased levels of curtailment, we encourage thorough exploration of all the options.

There are different ways to look and cost/benefits and cost responsibility as they relate to policy, deliverability and economic congestion benefits associated with upgrades to mitigate excessive curtailment. They all deserve further consideration and discussion. One important consideration should be the costs and benefits of building additional transmission compared to the cost of additional curtailment. For this assessment, the CAISO should consider a process that follows these general, high-level steps:

- Through the generator interconnection process, transmission upgrades would be identified to accommodate interconnection requests utilizing the "new" generation deliverability assessment methodology¹
- Next, CAISO would perform an assessment of what additional transmission upgrades would be necessary to accommodate interconnection requests if the generation deliverability assessment methodology that exists today were in effect
- CAISO would next perform production cost simulations under both sets of potential transmission build outs (e.g. under the new deliverability methodology and under the old methodology) to analyze how much renewable curtailment would be avoided if all the transmission upgrades necessary under the generation deliverability assessment methodology that exists today were to be constructed

¹ The "new" methodology is generally assumed to be consistent with the methodology proposed by the CAISO in late 2018.

- The cost of the transmission upgrades identified under the generation deliverability assessment methodology that exists today should be compared to the benefit of avoided curtailments
 - The benefit of avoided renewable curtailment used in this assessment should be valued at an expected cost of renewable generation (e.g. \$20-30/MWh or another reasonable range of expected contract prices for renewable generation)²
 - If, the full set of transmission upgrades has a benefit-cost ratio greater than or equal to one under most cases evaluated, then the transmission upgrades should be approved
- Additionally, CAISO would perform more production cost simulations and cost-benefit analyses for individual transmission upgrades or sets of transmission upgrades deemed, based on the CAISO's judgement and input from interconnection customers, to potentially offer high value, in terms of reduced curtailment
 - If any of the transmission upgrades, or set of upgrades, has a benefit-cost ratio greater than or equal to one under most cases evaluated, then the transmission upgrades should be approved

AWEA-California recognizes that, under this proposed study and approval approach there remain a number of questions that would need to be answered and the exact mechanisms used for approving the upgrades remain to be developed. AWEA-California does not offer specific solutions or recommendations at this time, but looks forward to working with CAISO and other stakeholders to develop a workable solution to ensure transmission upgrades needed to cost-effectively mitigate excessive curtailment can be constructed. Given the potential magnitude of the impacts on existing and future generators, CAISO should conduct a thorough exploration of the full suite of options that might be available to address excessive curtailments. AWEA-California continues to believe that a limited review of TEAM could be helpful and effective in addressing these concerns and should be considered as part of this stakeholder initiative.

This Process Should Consider Methods to Address Impacts to Existing Generators and Transfer of Deliverability (for existing generators) as a Result of this Transition should be Addressed

In the Issue Paper, CAISO indicated that “once the revision to the methodology are finalized, then the details on how transfers of deliverability would be impacted can be addressed.” However, as was pointed out during the stakeholder call, if deliverability transfers are not addressed early on in this initiative, it is possible that there will be a rush to transfer

² AWEA-California believes it is important for this step to value avoided curtailment *not* utilizing LMPs, but at an approximate cost of renewable generation. This valuation of curtailments is important as eventually the PPA price of the curtailed generation is likely to be paid by Load Serving Entities and thus this is the true cost of curtailment that should be analyzed in making determinations regarding transmission build out to avoid curtailment.



deliverability in an effort to initiate the transfers under the current methodology (which would allow for more transfers for many resources than the new methodology will allow). CAISO should try to avoid this rush by outlining the impacts of deliverability transfers early in this stakeholder initiative. Also, CAISO should consider a process that would provide generators an opportunity to indicate a deliverability transfer is being considered. If those submissions are made, CAISO might provide a length of time for deliverability transfers to occur with deliverability transfers able to occur up to the max deliverability output that was analyzed under the OLD methodology.

As Part of this Initiative CAISO Should Explore the Implications of Qualifying Capacity (QC) Exceeding the Capacity Studied in Deliverability Assessments and Explain the Development of the Secondary System Needs Case

Under the current structure of today's Resource Adequacy (RA) program and the current deliverability assessment methodology, there are times when a solar resource (for example), the QC is generally much lower than the amount that is studied for deliverability (so the resource's full QC should always be deliverable). But the proposal considered by the CAISO in late 2018, could result in the opposite problem: a resource's QC may be higher than the amount it was studied for under the Highest System Need case.

AWEA-California asks CAISO to consider whether this situation could cause any reliability concerns and, if CAISO believes there might be a potential for reliability implications due to this disconnect, to add an additional layer of analysis to the deliverability assessment methodology to address those potential impacts. CAISO should consider dispatching wind and solar resources at the higher of the currently applicable QC figures and the level that would otherwise apply in the deliverability methodology as a means of addressing this disconnect between the Deliverability Assessment and the CPUC's RA requirements.

The use of the Secondary System Needs case may help to address this issue. But it would be helpful for CAISO to document why it does not believe there are potential reliability impacts due to this disconnect between the RA program and the deliverability methodology.

Additionally, as the process goes forward CAISO should provide details on its selection of the Secondary System Needs case and the conditions which it feels should be addressed through this case.

Conclusion

AWEA-California looks forward to working with the CAISO and other stakeholders on this initiative and hopes a proposed direction and resolution can be achieved as quickly as possible, while still defining a path forward that will allow for necessary transmission upgrades to be approved to mitigate excessive curtailment.