



AWEA California Caucus Comments on the CAISO 2017-18 Draft Transmission Plan: Focused on the Interregional Transmission Project and 50% Out-of-State Renewable Portfolio Standard Special Study Assessment

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The American Wind Energy Association California Caucus (ACC) appreciates the California Independent System Operator's (CAISO) efforts to study future generation portfolios that include significant wind from high-quality, and low cost, regional wind resource areas and to study transmission to those resources, but urges the CAISO to augment its previous analysis with additional study work. The results of the 2016-17 Interregional Transmission Project (ITP) Evaluation and 50% Renewable Portfolio Standard (RPS) Out-of-State Portfolio Assessment, which are included as part of the Draft 2017-18 Transmission Plan, are an important step forward in the ISO's transmission planning for cost-effective public policy resources. However, ACC continues to believe that additional transmission planning work performed by the CAISO on behalf of Utility Distribution Companies (UDCs) in accordance with the CAISO's tariff would be beneficial to UDCs and the consumers they serve and can be performed in the upcoming cycle through coordination with the California Public Utilities Commission (CPUC) Energy Division Staff.

Transmission solutions should be thoroughly considered by the CAISO and other state agencies as they represent an important component of a clean-energy portfolio and facilitate diversification of California's existing renewable energy portfolio. Because additional transmission planning studies will be beneficial to Load Serving Entities (LSEs) as they consider generation procurement options, and because of the phase out of the Production Tax Credit (PTC) in the coming years, it is important to conduct additional studies as soon as practicable, rather than waiting for additional information to be provided through the generation procurement process.

ACC seeks to assist the CAISO in advancing future transmission planning efforts of this nature, which can be conducted on an informational basis during the 2018-19 Transmission Planning Process (TPP). Therefore, some of the following subsections ACC provides responses to some of the questions CAISO posed at the conclusion of the ITP and 50% RPS assessment, and also provides thoughts on some of the challenges CAISO has indicated it sees on out-of-state transmission planning, especially those highlighted in the CAISO's Reply Comments on the Proposed Decision in the Integrated Resource Planning (IRP) proceeding. ACC also seeks CAISO feedback on the methods that may be used to provide some of the more granular generation information that the CAISO seeks to support any future out-of-state transmission planning studies, as described below.



ACC Seeks Input on CAISO's Preference for Receiving Generation Data

In Reply comments on the Proposed Decision in the IRP proceeding, the CAISO indicated that the ITP and 50% Out-of-State RPS assessment completes all of the transmission planning work that the CAISO can do without more granular information about the resource locations and quantities for out-of-state generation.

ACC notes that, for in-state resources, more granular generation information is available to the ISO through the interconnection queue. Most out-of-state resources, however, lack an equivalent process to provide that information to the ISO, as they do not have a direct interconnection to the CAISO Balancing Authority but would be expected to deliver to the CAISO on either existing or new transmission.

Generation specific information can also be provided by the signing of Power Purchase Agreements (PPAs). However, PPAs are not required for the CAISO to perform transmission planning analysis for potential in-state policy resources and should not be required to perform transmission planning for any potential policy resource, including out-of-state wind resources. Additionally, it was due to a lack of certainty about transmission (and associated transmission costs), used within the IRP modeling tools that the IRP was prevented from selecting out-of-state wind resources. Therefore, ACC believes that the additional transmission planning can and should inform the generation procurement process and signing of PPAs, rather than waiting to conduct additional analysis and review of transmission cost information until PPAs are signed.

ACC would like to explore how best to help the ISO collect the information it needs to conduct more in-depth evaluations of transmission solutions to out of state resources, other than through the signing of PPAs for these resources. ACC believes that there are a variety of methods that could be utilized to provide this type of information to the CAISO and there are likely a number of general assumptions that could be made to further transmission planning efforts to consider high-quality out-of-state wind resources. Later in these comments, ACC suggests assumptions that could be used to further the CAISO's transmission planning efforts and provide the commercial procurement process with additional, objective information on transmission solutions and their costs.

ACC Response to CAISO Questions Contained in the ITP and 50% RPS Out-of-State Portfolio Assessment

In the final assessment report for the ITP and 50% RPS Out-of-State Portfolio Assessment report, the CAISO posed several questions related to future consideration of out-of-state resources. Below, ACC provides some responses to those questions, aimed at helping the CAISO continue to improve its processes going forward and to assist California in meeting its clean energy goals.



1. How would procurement take place – interregional project, regional project, or as a component of generation procurement – and how would that influence a selection process?

There is no singular or clear path to procurement of out-of-state renewables and associated transmission at this point. No matter how procurement of transmission takes place, an evaluation of transmission solutions as public policy-driven “regional projects” under the CAISO TPP will provide valuable information to load-serving entities, the IRP process, the CAISO, and other stakeholders.

Evaluating Advanced Development transmission projects (and transmission projects which have sufficiently progressed to on permitting to achieve an in-service date in the early 2020s)¹ under Category 2 of the CAISO’s regional public-policy construct will be helpful for transmission procurement that ultimately takes place through the CAISO’s regional tariff and will also be helpful if procurement ends up occurring via an interregional project construct or if transmission is acquired as part of generation procurement. Therefore, the logical next step for the CAISO is to proceed in evaluating the Advanced Development transmission projects as regional policy-driven projects, including an objective assessment of the relative cost and value provided by each of these transmission projects which could be available to deliver PTC-qualified wind to California customers.

CAISO procurement of transmission through the interregional process effectively can't happen unless and until the CAISO determines that the interregional project avoids one or more CAISO regional projects, a necessary first step is evaluating the transmission to out-of-state resources as though they are regional transmission solutions.

Additionally, it is possible that procurement of transmission to out-of-state wind could happen through the generation procurement process. Even if procurement of transmission ultimately occurs as part of the generation procurement process, additional information and study results from the CAISO on transmission as a regional project would be helpful to the generation procurement process. In fact, additional detail on transmission solutions is *critical* to generation procurement processes for out-of-state resources.

ACC points out that the IRP process found that the uncertainty about transmission costs and timing was significant enough that the IRP model was **not allowed** to select out-of-

¹ Subsequent references to “Advanced Development” projects in these comments refer to both those projects classified as such in the RETI 2.0 report and projects which has sufficiently progress on permitting to achieve an in-service date in the early 2020s (to better provide for delivery of wind resources eligible for the federal PTC).



state wind to meet California’s future energy needs. As ACC noted in Opening Comments on the Proposed Reference System Plan in the IRP proceeding, “The 42 MMT Scenario and most other cases do not even permit the RESOLVE model to select the resources that are most cost effective; out of state wind on new transmission was not made available for selection in the reference case. During the IRP workshop on September 25-26, 2017, staff indicated that this decision was based on uncertainty regarding whether new transmission will be built. This assumption prevents the model from selecting out of state wind, even if it is the most cost-effective resource.”² This uncertainty can be addressed through additional regional transmission planning by the CAISO, including studying the costs of the proposed transmission solutions to out-of-state wind.

Therefore, ACC suggests that, regardless of how procurement *ultimately* takes place, CAISO’s study of transmission solutions as regional public-policy driven projects is the appropriate next step and should proceed as expeditiously as possible. The CAISO has the ability to study this type of transmission solution as a Category 2 public policy-driven project under its tariff and will not be required to recommend approval of any transmission lines that are studied via that process.

2. How will the plans of the ISO out of state neighbors work to support or create challenges for the different alternatives?

The CAISO can evaluate this through the interregional coordination process and should continue to incorporate, to the extent possible, the plans of its neighbors, including in-state neighbors, into its own studies that are part of the CAISO TPP. CAISO should coordinate not only with individual planning regions but also with individual transmission owning entities that may have plans for new transmission, or plans to procure renewable resources from similar areas.

Ultimately, the plans of the CAISO's neighbors are likely to be beneficial to the CAISO, as the CAISO’s neighbors may wish to access similar resources and the CAISO can explore situations where its neighbors may share costs of transmission solutions on a voluntary basis. But since the CAISO cannot compel its neighbors to do transmission planning or other analyses, the CAISO should move forward with studying transmission to out-of-state resources on its own. To the extent data and information on neighbors’ plans are available, they should be incorporated into the CAISO’s own study process and evaluations of transmission solutions.

² ACC Opening Comments on Proposed Reference System Plan. 26 Oct 2017.



3. What arrangements with other non-ISO transmission owners for capacity and for development of non-ISO transmission need to be considered and how would those arrangements be developed?

This may depend on the transmission solution being analyzed by the CAISO; however, generally, some of the Advanced Development transmission projects would require transmission capacity on non-ISO transmission owners' systems to reach a CAISO delivery point. These types of arrangements should be considered by the CAISO.

CAISO should work with the developers of these transmission lines and with the owners of transmission capacity from the termination point of the Advanced Development projects to the CAISO's boundaries to understand what capacity is available (or will be available) and to discuss operational agreements that may be necessary. CAISO has transmission capacity on transmission lines owned by other entities outside of CAISO today (e.g. Moenkopi – Eldorado) and this type of going-forward arrangement should be treated similarly to those historical rights.

4. How will successful project sponsors be selected, and how will cost responsibility be assigned?
 - a. Project sponsor selection

The CAISO's tariff already has provisions for selecting a project sponsor and includes a selection process for when there is only one respondent to a competitive transmission solicitation. Ultimately, with the Advanced Development projects that have had a project sponsor working on the project for years, it may be the case that there would only be one *feasible* project sponsor to complete the project in a timely manner.

The CAISO has an existing process in its tariff that should be followed. If the CAISO thinks modifications to its current processes are necessary to address the Advanced Development projects being considered, then those modifications should be discussed via a stakeholder process or as part of the upcoming TPP.

- b. Cost responsibility

Cost responsibility will vary depending on the structure of the procurement (e.g. regional, interregional, or combined with generation procurement). But all of these mechanisms have an associated cost allocation process, some of which are more defined than others.

If the CAISO were to select a transmission project to out-of-state wind as a regional solution, then there is no need to upend the entire CAISO TAC structure.



Rather, the current TAC allocation structure would place transmission to out-of-state resources on the same footing as in-state transmission solutions. If there is a need to change the TAC allocation structure for public policy projects to out-of-state renewable resources, then that same modification may also be necessary for in-state public policy-driven transmission solutions. Opening up a new level of uncertainty about transmission cost allocation does not appear to be necessary or appropriate at this time.

However, if the project is procured through the generation procurement process, cost allocation for the transmission project will be different than it is through the TAC or interregional process. In this instance, it seems more likely that costs would be negotiated via the generation procurement process and would likely only be shared among the LSEs that contract for the generation associated with the transmission line.

5. How will staging and sequencing of transmission and generation resources be managed to ensure effective use of resources and periods of underutilization of capacity?

While this is an important question, it is one which will be best answered, in detail, once additional study work is performed and the picture for which generation and transmission solutions might be procured becomes clearer. No matter which generation and transmission solutions are defined, CAISO should work closely with the CPUC's IRP process and load-serving entities to facilitate studies of which resource/transmission combinations would be most efficient and would maximize use of the transmission facilities.

ACC Response to Uncertainties Raised by CAISO in Recent IRP Comments

The CAISO's comments in the IRP proceeding at the CPUC have highlighted some challenges associated with performing additional transmission planning work to out-of-state wind resources. Below ACC provides some suggestions to address the challenges raised by the CAISO in performing this required transmission planning analysis through coordination with the CPUC Energy Division Staff as part of the 2018-19 TPP.

1. Additional study for out-of-state resources beyond the completed ITP and 50% RPS Out-of-State Portfolio Assessment Special Study is not warranted until more detailed information regarding the size and exact location of perspective generation resources is developed.

ACC notes that the staff recommendation was for the CPUC Energy Division staff to work in coordination with the CAISO. Through this coordination, ACC believes that more detailed information can be developed, which would enable the CAISO to perform a Category 2 policy-driven analysis to out-of-state wind resources.



As the Special Study found there is a severe lack of Available Transmission Capacity (ATC) to access the wind resources studied by both the CAISO in the Special Study and the CPUC in the IRP cases. The CPUC IRP “results suggest that out-of-state wind could represent a significant portfolio cost savings if procured prior to the expiration of the federal PTC.” The lack of ATC, the cost savings driver to procure out-of-state wind resources prior to the expiration of the federal PTC, and typical decade long process to develop and construct multi-state transmission projects, leads ACC to the conclusion that the specific resource locations and sizes should be informed by the Advanced Development projects identified as part of RETI 2.0 and partially studied by the ISO in the ITP and 50% RPS Special Study.

Based on the available data, ACC suggests the following specific locations and sizes for out-of-state wind resources, as a starting point, for the purposes of the TPP Policy Driven Category 2 analysis. These would comprise four different potential resource portfolios that include:

- New Mexico – One scenario studying 1,500 MW and another scenario studying 3,000 MW of wind resources at the common origination area for the SunZia Transmission Project and the Western Spirit Project (near Lincoln County, New Mexico)
- Wyoming – One scenario studying 1,500 MW and another scenario studying 3,000 MW of wind resources, in each case the MW quantity would be split between the common bus of the Gateway Projects (Aeolus substation) and the Gateway Projects and the TWE Project (TWE Northern Terminal)

Note that these locations are similar to the locations provided by the CPUC for the ITP and 50% RPS Special Study. However, the ITP and 50% RPS Special study looked at 2,000 MW at these two locations. ACC suggests that 1,500 MW tranches better match the proposed transmission ratings of these Advanced Development Projects and the development activity occurring.

ACC notes that, based on industry data, over 1,000 MW of non-committed wind resources are in development in New Mexico and over 7,000 MW of wind projects are in development in Wyoming, with over 3,000 in the ‘advanced development.’³ Many of these resources have taken steps to be eligible for the federal PTC. But, in order to achieve the requirements to maintain the full federal PTC and deliver the output to California end users, these generation projects will need to rely on one or more of the Advanced Development transmission projects to be placed in service in the early half of

³ This information came from S&P Global Intelligence and AWEA data.



the 2020s, which limits the “range” of possible transmission solutions which CAISO should be analyzing in subsequent analyses.

2. The CAISO is skeptical of the benefit of additional transmission study in the 2018-2019 TPP, as the ITP and 50% RPS Special Study was based on Commission-provided portfolios.

ACC agrees with the CAISO that the lack of the exact location and size of planning resource areas and has suggested a process and specific inputs to consider in narrowing the range considered by the ISO. However, this lack of specific information should not serve to limit the policy-driven analysis by the CAISO, including considering the costs of each potential transmission solution relative to its expected benefits and potential delivery of renewable and other generation.

ACC encourages the CAISO to complete a consideration of the costs of each potential transmission solution relative to its potential benefits, something which was not accomplished as part of the ITP and 50% RPS Assessment. Therefore, ACC urges the CAISO to continue to enhance its informational transmission studies, even in the absence of exact information on the location and quantity of out-of-state wind resources.

3. Any additional CAISO led study would not provide timely additional import to inform the development of the LSE preferred plans.

ACC agrees that the ITP and 50% RPS Assessment provides the LSEs some basic information about the potential transmission solutions to access out-of-state wind resources. The IRP scenarios which include regional wind likewise provide the LSEs with valuable information.

Through the IRP, the LSEs have been instructed to include a certain amount of supply-side resources within their respective preferred plans and are free to include any eligible resources in their plans, not just the resources identified in the locations and sizes included in the Reference System Plan nor the resources in any additional regional wind alternative portfolio that may be submitted to the CAISO.

The 2018-19 TPP may include policy driven analysis of Category 2 projects to meet the Reference System Plan. That analysis will be informative to the IRP proceeding and LSEs decisions about the exact resources to meet their needs, and a similar level of analysis



for out-of-state resources would also be valuable to the IRP and to LSEs. In a subsequent TPP, the Preferred System Plan (and other procurement activities) could then be used to elevate any necessary Category 2 transmission solutions to Category 1 solutions to meet a policy need, if such a need exists.

4. Concerns with the timeline to receive final inputs for transmission planning and permitting processes that will allow the CAISO to complete the necessary activities in a timely manner.

The ITP and 50% RPS Assessment performed by the CAISO in past TPP cycle should help the CAISO in performing the subsequent TPP analyses for the policy-driven portfolios. It is important to quickly develop final out-of-state resource location, size and timing requirements to ensure the CAISO has sufficient time to perform their analysis, which is why ACC has suggested the resource amounts and locations in previous responses.

5. The CAISO highly recommends additional action is taken to gauge commercial interest from wind developers.

ACC is not clear on whether the ISO would like to gauge wind developers' interest in developing projects in New Mexico and Wyoming or if it seeks to understand the commercial interest of LSEs in procuring wind resources from these locations.

If the CAISO is seeking the level of commercial interest from wind developers, ACC points out that there has been and continues to be a very high level of commercial interest from wind developers in Wyoming and New Mexico. The RETI 2.0 Report estimated over 18,000 MW of available western wind under development, over 10,000 MW of which are located in Wyoming and New Mexico.⁴ It is conceivable that a reasonable share of that total could one day serve California as Portfolio Content Category (PCC) 1 resource. The wind industry views these two locations as high-quality and low-cost resource development areas and continues to actively pursue many projects in these areas.

If the CAISO is seeking to understand the level of commercial interest from LSEs, ACC agrees. ACC is eager to review information on the commercial interest of LSEs and believes that additional information on the potential transmission solutions will inform LSEs as they make commercial decisions with additional transmission planning study work from the CAISO.

⁴ [RETI 2.0 Western Outreach Project Report](#), p. 35.