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Docket Number:	15-RETI-02
Project Title:	Renewable Energy Transmission Initiative 2.0
TN #:	211286
Document Title:	Nancy Rader Comments: Comments Following the April 18, 2016, RETI 2.0 Plenary Group Meeting
Description:	N/A
Filer:	System
Organization:	Cal WEA
Submitter Role:	Public
Submission Date:	4/28/2016 4:56:46 PM
Docketed Date:	4/28/2016

Comment Received From: Nancy Rader
Submitted On: 4/28/2016
Docket Number: 15-RETI-02

Comments Following the April 18, 2016, RETI 2.0 Plenary Group Meeting

Additional submitted attachment is included below.

April 28, 2016

California Energy Commission
Docket Unit, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

RE: **Docket No. 15-RETI-02** -- Comments of the California Wind Energy Association following the April 18, 2016, Renewable Energy Transmission Initiative 2.0 Plenary Group Meeting

The California Wind Energy Association ("CalWEA") offers the following comments following the April 18, 2016, Renewable Energy Transmission Initiative 2.0 ("RETI 2.0") Plenary Group Meeting. We respond to the two questions posed at that meeting by RETI 2.0 Project Director Brian Turner, and provide feedback on the presentations made on a variety of different studies, specifically the Low Carbon Grid Study ("LCGS").

1. **Are there reasons why resources in some areas of California may exceed existing capacity for energy-only resources, and by how much?** (See Turner slide 8)

Yes, some areas of the state will certainly contain more renewable resources than can be accommodated with available energy-only transmission service without creating congestion. This is why the CPUC's RPS Calculator now includes the capability to evaluate whether or not it would be cost-effective to build more transmission to access additional renewable energy in a certain area. If the net value of the renewable resources in an area exceeds the cost of transmission to access those resources (either to provide additional energy-only service or full capacity deliverability service), the RPS Calculator will select those resources to the extent that they are cost-effective.

The CPUC is in the process of generating a number of RPS portfolios based on several reasonably plausible future scenarios. As CalWEA discussed in our 9/24/15 comments in this process, the CAISO's least-regrets transmission plan should be based on the transmission upgrades (if any) that are common to most or all such scenarios.

2. **Which WECC paths or interties are most impacted? Which western expansion options provide most optionality or serve multiple goals?** (Turner slide 9)

RETI 2.0 should consider the extent to which WECC paths will not be impacted at all considering planned (and potential) coal retirements and renewable energy additions in the WECC that could be accessed either through dynamic transfer arrangements with the CAISO, or potentially in the future through an expanded CAISO.

A map and a table accompany the above question on Mr. Turner's slide 9 that are apparently drawn from a WECC reliability study presented at a January RETI 2.0 workshop.[1] The slide shows considerable transmission congestion resulting from a WECC case study called "PC-22: High Renewables." However, another case study – "PC-21: Coal Retirement" -- was conducted by WECC along with PC-22 but was not presented at the January RETI 2.0 workshop.[2] Very interestingly, PC-21 shows that little or no congestion occurs with coal-plant retirements and significant renewable energy additions across the WECC footprint. (See PC-21 slide reproduced below.) Specifically, the following can be gleaned from PC-21:[3]

- The retirement of over 6,000 MW of coal units that are already scheduled to occur by 2024 will enable approximately 3,500 MW of wind energy and 1,800 MW of solar to be accessed through dynamic transfer (DT) arrangements with the CAISO (or via an expanded CAISO) without any transmission upgrades.[4]

- The retirement of 16,000 MW of coal capacity (about half that now operating) would enable 9,600 MW of wind and 4,800 MW of solar to be dynamically scheduled with very modest transmission upgrades.[5]

[1] This WECC presentation, which was made to RETI 2.0 at the 1/21/16 workshop, is available at: http://docketpublic.energy.ca.gov/PublicDocuments/15-RETI-02/TN208294_20160121T121356_WECC_Reliability_Planning.pdf.

[2] An October 2015 WECC presentation that reports on all three of the case studies that were conducted at that time can be found here: http://westernenergyboard.org/wp-content/uploads/2015/10/10-29-15_CREPC-SPSC-WIRAB_woertz_WECC_reliability_study_requests.pdf.

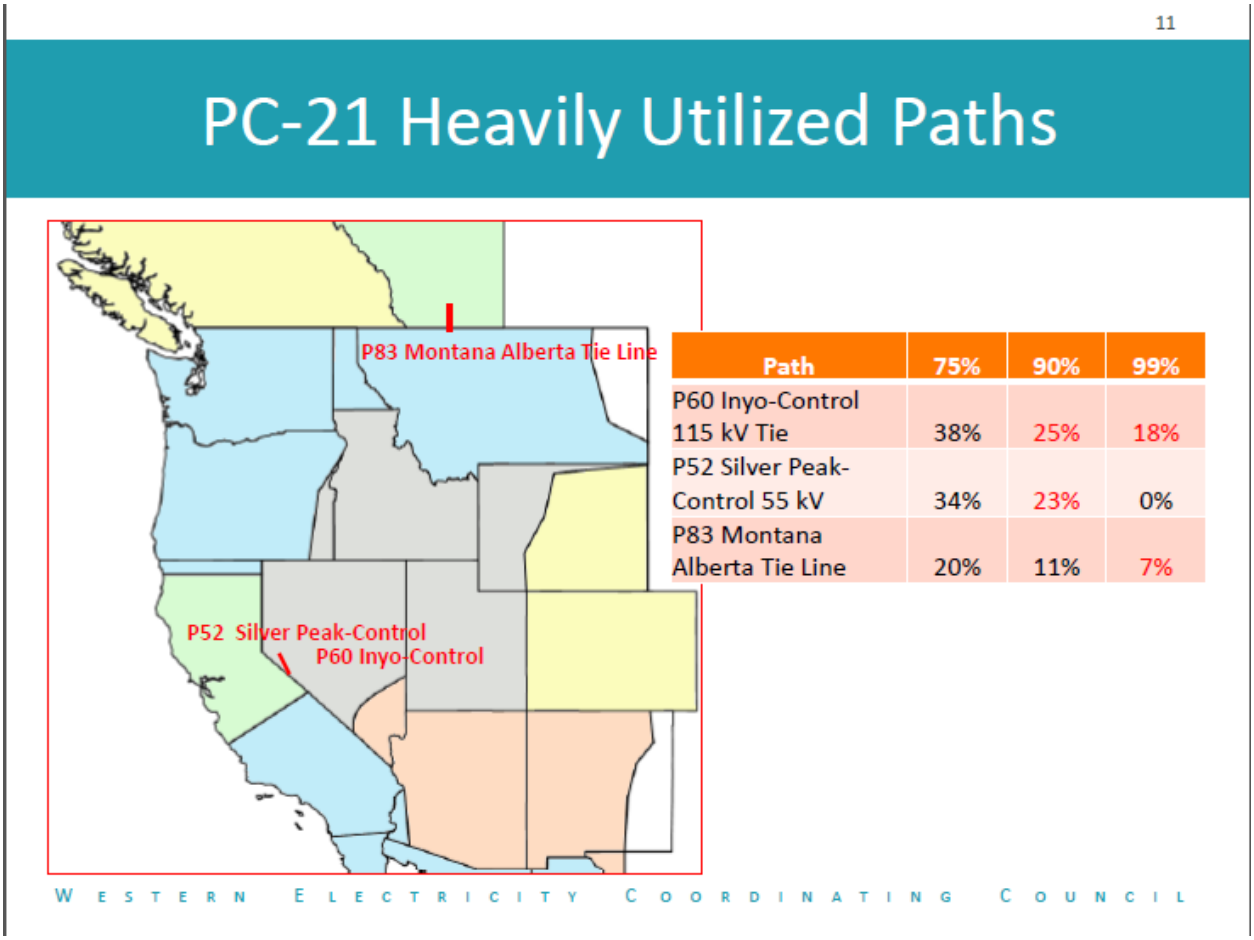
[3] The following MW figures were calculated from the TWh figures in the WECC slides. The figures assume the following capacity factors: 45% for wind, 25% for solar, and 85% for coal.

[4] This result can be inferred by scaling down the assumed 16,626 MW of coal retirements in PC-21 by the amount of announced coal retirements (which total 6,157 MW by 2024). Because congestion was found to be very limited under PC-21 assumptions, it is reasonable to assume that scaling down the assumptions by 63% would produce no congestion. This transmission capacity can be utilized for the purpose dynamic scheduling resources into the CAISO.

[5] Slide 11 from the October 2015 WECC presentation shows that just three transmission paths become constrained under PC-21; CalWEA believes these paths can be relatively easily and cheaply upgraded.

By contrast, PC-22 assumes the retirement of 6,000 MW of coal and a significant amount of gas-plant reductions, which would enable almost 17,000 MW of wind and 15,000 MW of solar but would require a significant number of transmission upgrades (as reflected in the map on Mr. Turner's slide 9). Note that this case produces less CO_2 reduction than PC-21.

None of these WECC cases were necessarily optimal cases; they were constructed in a certain way for whatever reasons that are not explained on the slides. CalWEA previously recommended that RETI focus on cost-effective pathways for developing out-of-state renewable energy resources, and associated transmission, to meet the 50% RPS goal, and how that might change if the CAISO footprint expands in the future. The WECC case study 21 (PC-21) should be considered by RETI 2.0 (as well as in ongoing efforts at the CPUC) and, ideally, the state should develop an optimal case study that considers WECC coal plant retirements and the ability to dynamically schedule renewables into the CAISO, or directly interconnect these renewables in an expanded CAISO.



Source: WECC (see footnote 2).

3. Any Scenarios of Interest Identified through the RETI Process Should Be Consistently Evaluated with Other Scenarios

At the 4/18/16 workshop, a panel presented findings from a variety of different studies that provided interesting insights. However, the portfolios produced from these studies are not necessarily directly comparable. For example, the LCGS model outputs cannot be directly compared to the RPS Calculator's outputs (including The Nature Conservancy's RPS Calculator-based outputs) because they were produced with different models, different assumptions and different resource portfolios. Even the LCGS's geothermal and regional wind "sensitivities" are not comparable because they are based on widely differing assumptions (e.g., different levels of storage and other resources on the system). Moreover, as Mr. Caldwell stated at the workshop, it has not been the goal of the LCGS to produce optimal scenarios.

If portfolios have not been produced on an "apples to apples" basis, we cannot know which is optimal in terms of meeting greenhouse gas and renewable energy targets at least cost while maintaining system reliability. Such optimization is the goal of the CPUC's newly launched Integrated Resources Planning effort, which was required by SB 350.

To be reasonably plausible, the RPS portfolios ultimately used in LTPP and TPP should be based on most of the same fundamental assumptions and produced by the same model so that they are directly comparable (i.e., so that the reasons for their differences are well understood). To produce different reasonably plausible portfolios, reasonably plausible changes should be made to certain of the fundamental assumptions (e.g., higher EV assumptions, lower load assumptions, tougher land-use assumptions, etc.). Each of the portfolios should be optimized for cost and reliability under those different assumptions. From this range of optimal reasonably possible portfolios, a "least regrets" transmission plan can be developed to facilitate most or all of these optimal futures. A least-regrets plan developed in this way will provide the flexibility needed to accommodate the actual circumstances that may arise, vs. planning for a single outcome that provides no such flexibility.

Therefore, the RETI 2.0 process should recommend that any scenarios found to be of interest through the RETI 2.0 process be tested by the same model used to evaluate other CPUC scenarios of interest in the LTPP and TPP processes (whether the model used is that used for the LCGS, RPS Calculator, or something else) using all of the same assumptions except those being tested.

Sincerely,

Nancy Rader
Executive Director