

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Develop
an Electricity Integrated Resource Planning
Framework and to Coordinate and Refine
Long-Term Procurement Planning
Requirements.

Rulemaking 16-02-007
(Filed February 11, 2016)

**INFORMAL COMMENTS OF THE CALIFORNIA WIND ENERGY ASSOCIATION
ON ENERGY DIVISION QUESTIONS REGARDING THE PROPOSED ANALYTICAL
FRAMEWORK FOR INTEGRATED RESOURCE PLANNING**

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***On behalf of the California Wind
Energy Association***

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Pursuant to the September 30, 2016, email from Forest Kaser of the California Public Utilities Commission’s (“CPUC” or “Commission”) Energy Division staff, the California Wind Energy Association (“CalWEA”) submits these informal comments on Energy Division’s questions regarding the proposed analytical framework for Integrated Resource Planning (“IRP”). The numbering of the questions match Energy Division’s numbering.

A. QUESTIONS ON RELIABILITY

- 1. How often should Loss of Load Probability (LOLP) modeling be updated? Is a full LOLP analysis needed for each IRP, or can a Planning Reserve Margin (PRM)-like metric be used in some cases? [slide 43,54/69]***

The more relevant and broader question to be answered is where the process for a reliability assessment of the Reference and Preferred plans belongs. CalWEA’s response is in relation to this broader question. CalWEA recommends that the Conceptual Analytic Framework be somewhat reorganized to allow for a more effective and technically feasible implementation of the IRP. CalWEA recommends that, in Box 2, instead of performing LOLP and transmission studies based on stale information on the planned resource picture, the Commission initially account for LOLP and transmission constraint requirements by using the latest available reliability requirements in terms of various Resource Adequacy (system RA, flexible RA and local RA) capacity needs. These RA capacity figures would be identified in Box 2 based on best available information, and become inputs to the first part of Box 3, where, as we explain below, a preliminary Reference System Plan (“RSP”) would be developed. This

recommendation recognizes the fact that, until an RSP is developed, LOLP and transmission constraints cannot be reasonably examined.

In the first part of Box 3, the Commission would use all available data, including the latest RA capacity values collected in Box 2, and, using a deterministic production simulation model, would develop the preliminary RSP. As will be explained below, this part of Box 3 studies will also be used to allocate the long-term RPS integration costs to various LSEs on a cost-causation basis.

Once the preliminary RSP is vetted with the parties, in the second part of Box 3, the Commission (in conjunction with the CAISO) would refine the RSP based on the Commission's determination of an acceptable level of LOLP, transmission constraints and system ramping needs. These studies would be focused on determining whether the preliminary RSP meets the Commission's adopted system reliability indicators and, if not, how the resource plan should be modified to ensure the reliability of the CAISO-controlled system. Given the goals of these studies, the analytical framework for performing them should be stochastic production simulation models that account for relevant transmission-system constraints (e.g., transmission constraints around local capacity areas). These production simulation studies would be complemented by various network-related studies to ensure the adequacy of the solution, mainly when it comes to reactive power needs. The result would be a refined-RSP. One byproduct of this second part of Box 3 will be the requirement for various RA (system, flexible and local) capacities to be used in Box 2 of the next IRP cycle.

In Box 4, the LSEs would develop their Preferred Plans based on the refined-RSP. In order to ensure that the LSE Preferred Plans are aligned with the CPUC's plan and meet system reliability needs, the LSEs must use the modeling principles (basic assumptions, data and models) that were used to develop the refined-RSP and perform their studies in conjunction with the CAISO.

The major advantage of this modified IRP study framework is that it recognizes that system reliability needs will be influenced by the future resource mix, which will not be known until at least an initial Reference System Plan is developed. In other words, attempting to generate reliability needs in Box 2 prior to developing the Reference System Plan would produce results that are likely to change anyway. Second, generating the preliminary Reference System Plan will use a relatively simple deterministic production simulation model that will be relatively

transparent and the results will be more intuitive to follow. While the refined RSP will be based on more complex – and more accurate -- studies, the results can be compared, and explained in the context of, the preliminary RSP.

If insufficient time is available to complete these steps for the initial IRP cycle, the preliminary RSP could be fed to the LSEs for their studies while the Commission and CAISO work on the refined RSP and refined capacity requirements in parallel. This is likely to be an acceptable short-cut given the lack of any indication, at present, that pressing capacity needs exist.¹ Any needs that are found can be addressed in the next IRP cycle.

- 2. Does LOLP-based system reliability assessment also need to be repeated in Box 5 in order to validate all Load Serving Entity (LSE)-preferred IRPs together, or can this validation be deferred until Box 2 of the subsequent IRP two-year planning cycle? [slide 43,54/69]***

Repeating complete and formal reliability assessments (LOLP and transmission constraint-related) at Box 5 could be disruptive to the entire process. However, limited verification studies, mainly related to transmission constraint issues, could be performed as part of Box 5. The scope of such verification studies would mainly depend on the deviation of the LSE Preferred Plan(s) from the CPUC-developed refined-RSP.

- 3. How often should local reliability needs be checked? What vintage of CAISO TPP analysis should be used, considering a potential one-year lag in the demand forecast associated with the CAISO TPP analysis? [slide 43,54,59-61/69]***

Local reliability needs could be checked in every two-year cycle as part of Box 3 studies, and potentially re-verified as part of Box 5, and confirmed in the IOU-specific plans, unless CAISO believes such checks are not warranted. To make this process work smoothly, it is critical that CAISO and the Commission work together to synchronize CAISO's annual TPP and Box 3 and Box 5 of the IRP.

- 4. How important is it for the system reliability assessment to be able to evaluate intrahour and chronological commitment and dispatch of resources (considering the possibility that the generation fleet may be moving from an era of significant***

¹ See R. 13-12-010, Administrative Law Judge's Ruling Discontinuing Phase 1B And Setting Forth Issues For Phase 1B (3-25-15). "There is not sufficient evidence at this time to determine whether or not there is a need for additional flexible or system capacity through 2024."

over-capacity to an era where flexible gas generators retire due to insufficient revenues)? [slide 43,47,49,50,54/69]

The factors identified in Question 4 should potentially be modeled in the second part of Box 3 (in our proposed revised framework) based on the capabilities of the available models only to the extent that they do not disrupt the flow of the IRP due to unavailability of models and time required to conduct the studies. However, preliminary studies should be used to clearly identify those factors that could have a meaningful impact on the Preferred Plan and eliminate others from future studies.

B. QUESTIONS ON REFERENCE SYSTEM PLAN & LSE PLANS

5. What other naming conventions should staff consider for plans currently referred to as “Reference System Plan” and “Preferred System Plan?” [slide 43/69]

At the outset, we note some confusion in the terms referenced above and those used in the slides. Slide 43 refers to “Preferred LSE Plan” rather than “Preferred System Plan.” Slide 56 uses the terms “Preferred LSE Plans” and “Base System Plan.” Slide 69 includes no such terms.

“Reference System Plan” is an appropriate term for the plan that the Commission determines best meets the objectives of “Guiding Principle #1,” however that principle is finally word-smithed. (In whatever words, essentially the goal is to achieve the state’s policy goals -- most fundamentally, ensuring system reliability and achieving GHG-reduction targets -- at least-cost.) The Reference System Plan should be segmented by the CPUC into “Component Reference Plans” (or “Component Plans”) for each LSE, which will constitute the CPUC’s guidance on the aspects of the Reference System Plan that should be reflected within an LSE-specific plan. LSE-specific proposed plans would then be the LSE’s proposed “Preferred Plan.” In our responses below, we use these terms in this way.

6. What is a tractable technical approach for CPUC to provide guidance to LSEs regarding how LSEs should reflect the resources selected as a part of the Reference System Plan to fulfill systemwide needs within LSE-preferred plans? For example, should CPUC require that LSEs submit at least one portfolio that includes a load-based share of any new system resources that appear in the Reference System Plan? [slides 43,49/69]

If the Commission’s Reference System Plan and Component Plans for each LSE achieve the objectives of Guiding Principle #1, they will represent the least-total-cost plan for achieving the state’s policy goals. If the Commission works to ensure that LSEs will be responsible for

paying any additional costs caused by straying from their respective Component Reference Plans, then the Commission need not mandate that LSEs' Preferred Plans include a load-share-based share of any new system resources in the Reference System Plan.

By ensuring that LSEs will be responsible for paying the integration costs associated with their resource portfolios (whether associated with long-term storage procurements or otherwise – see Question #7), the Commission's Reference System Plan and Component Plans can serve as strong "advice" to the LSEs without dictating their actions. Further, these plans should serve as a "safe harbor" for cost recovery for those investor-owned utilities ("IOUs") that choose to adopt their respective Component Plan as their Preferred Plan and procure accordingly.

If, on the other hand, the Commission is unwilling to, or for some reason it is not possible to, ensure that cost-causers will pay for their actions, then CalWEA at present sees no alternative but for the Commission to require that all LSE Plans and subsequent procurement conform to their respective Component Reference Plans if the objectives of Guiding Principle #1 are to be achieved. While CalWEA is, at this time, indifferent to these two options, we anticipate that the LSEs will demand flexibility and we believe that, with a firm Commission commitment, it is possible to hold all LSEs to account for any costs that they impose on other LSEs and their customers. Therefore, in these comments, we discuss only the option that provides flexibility and cost-accountability.

Costs can be assigned to cost-causers in one of several ways:

- **Directly, via the CAISO** – For example, when the CAISO curtails resources to maintain system reliability due to overgeneration conditions, it curtails all generating resources uniformly. Therefore, the generators that are contributing to the overgeneration problem by producing during these periods will suffer the most curtailment. Thus, LSEs that have procured a portfolio of resources (both demand- and supply-side) that contribute disproportionately to overgeneration will suffer the resulting consequence. Similarly, the costs of the new Flexible Ramping Product market (which addresses the CAISO's need to maintain power balance in real time) will be allocated by CAISO to generators that deviate from their schedules.
- **Directly, via the CPUC** – With guidance from the CAISO, the Commission determines, in its Resource Adequacy ("RA") proceeding, the amount of flexible resource capacity that is needed to ensure that the system has sufficient flexible capacity to meet operational needs. However, until flexible RA needs and costs are allocated to each LSE based on its individual contribution to net load ramp, flexible capacity costs will not be aligned with cost causation. The Commission has so far

failed to accomplish cost-causation-based allocation,² despite the fact that cost-causation data is available from the CAISO. This must be remedied.

- **Indirectly, via the CPUC** – In addition to portfolio balance, system costs can be reduced through the practices of LSEs. One example would be using contractual economic curtailment rights to avoid overgeneration conditions. It may be in the economic self-interest of LSEs with the largest portfolios (i.e., the investor-owned utilities, which are in the best position individually to influence system balance) to voluntarily use their economic curtailment rights in a way that minimizes overall costs such that no Commission intervention is warranted. However, to the extent that Commission action is necessary to ensure that such practices are used appropriately by the IOUs and other LSEs, the Commission should take such action, and also ensure that overall costs are appropriately allocated. CalWEA believes that further discussion on this issue, and any similar issues, is warranted.

C. QUESTIONS ON LSE PLAN EVALUATION

7. *For Community Choice Aggregators (CCAs), what methodology and/or metrics should CPUC use to determine whether a CCA-proposed alternative to a renewable integration solution identified in the Reference System Plan meets the statutory criteria for CPUC approval? [slides 43,49,66/69; see also PUC 454.51(d)]*

This question, while itself fairly narrow, sidesteps some related complexities that should be brought into this discussion.

- a. Integration solutions may not require long-term procurements

First, we note that slide 66 does not fully capture PUC 454.51(d). The slide states that “CCAs are permitted to submit proposals to self-supply their portion of renewable integration needs identified by CPUC, subject to [three stated] conditions,” but leaves out the statutory language stating that those conditions pertain only to long-term procurement commitments if the commission finds that long-term need is best met by such commitments. Thus, before we get to the question of CCA-proposed alternatives to a renewable integration solution, it is important to recognize that 454.51(d) requires the Commission to determine what maximum reasonable amount of zero carbon-emitting storage resources must be procured with a long-term commitment to achieve a least-cost portfolio that achieves statewide GHG limits.³

² See Decision 16-06-045 in R. 14-10-010 (June 23, 2016).

³ The Commission must determine whether a long-term procurement commitment is needed to achieve the objectives of PUC 454.51(a) – “a diverse and balanced portfolio of resources needed to ensure a reliable electricity supply that provides optimal integration of renewable energy in a cost-effective manner” while relying on zero carbon-emitting resources “to the maximum extent reasonable” and be

If the Commission does not, in developing its Reference System Plan, find that a long-term procurement commitment to storage is needed to achieve the goals of 454.51(a), any other means of CCAs satisfying their integration needs would not -- by this provision of statute -- be subject to those conditions, which include equivalency, efficiency and bundled-customer indifference.⁴ In other words, if the CPUC's Reference System Plan finds that a certain combination of renewable resources, combined with existing and anticipated system resources (carbon-emitting and non-carbon-emitting, e.g., existing large hydro, existing pumped storage, and distributed storage pursuant to the Commission's storage mandate), best meets the goals of 454.51(a), then no long-term procurement commitment to storage would be needed, and CCAs would not need to propose or justify any alternatives to renewable energy integration solutions. Rather, they (as well as ESPs and IOUs) would be free to use integration solutions that stray from their respective Component Reference Plans as long as (as discussed above) the LSE is required to pay for any resulting costs that it imposes on the system via CAISO service payments, flexible-RA allocations, etc.

Regarding bundled-customer indifference, if, as discussed in response to Question 6, above, the Commission ensures that LSEs are held to account for any integration costs that they impose on the system, then there will be no RA costs that need to be otherwise allocated pursuant to PUC 365.1(c)(2).

b. Determinations regarding proposed CCA alternatives to long-term procurements

Should the Commission determine that a long-term procurement commitment to storage is needed, CCAs either should procure their share of storage resources (with the share determined based on causation not load-share) or pay for their share to be procured by other entities. Each LSE must pay for its fair share of storage because storage will be a system

designed to achieve any statewide GHG limits. All retail sellers already have long-term procurement requirements pursuant to PUC 399.13(b), which requires each retail seller, beginning January 1, 2021, to meet at least 65 percent of its RPS procurement in each compliance period from contracts of 10 years or more, or equivalent ownership agreements. Presumably, therefore, the long-term commitment referred to under 454.51(d) would apply to "zero carbon-emitting resources" other than renewable generation, i.e., storage resources. Thus, the Commission must determine what the maximum reasonable amount of zero carbon-emitting storage resources must be procured with a long-term commitment to achieve a least-cost portfolio that achieves statewide GHG limits.

⁴ If the CCA, nevertheless, chooses to satisfy its short-term integration needs with long-term resources, it would be free to do so.

resource controlled by the CAISO to best manage system integration needs and thus all LSEs will benefit from the presence of such resources.

However, once educated about their fair share of potential storage costs, CCAs (and other LSEs) should be provided an opportunity to lower their share of the cost (potentially to zero), by changing the resource mix in their Preferred Plans to reduce the need for integration (e.g., storage) resources. Conceivably, such course-corrections could obviate the need for storage (at least within that IRP cycle). Should the actual procurement practices of a CCA (or other LSEs) diverge from its adopted plan and contribute to the later identification of needed long-term storage procurements, then the analysis of their resource portfolios in later IRP cycles should show that the CCA (or ESP) should be allocated a higher share of storage costs (or storage obligations if a CCA chooses to self-supply).

While PUC 454.51(c) requires these costs to be allocated to CCAs and ESPs on a fully non-bypassable basis, to ensure indifference to bundled IOU customers, the Commission must allocate these costs on a cost-causation basis, or allocate the integration-resource obligation on a need-causation basis if the CCA chooses to self-supply. This will also provide all LSEs with an incentive to minimize total costs, consistent with the Commission's Reference System Plan. In this way, the Commission's Reference Plan and Component Plans can serve as strong "advice" to the LSEs without dictating their actions.

In addition, the Commission should consider whether CCAs (and ESPs) should be required to post collateral to cover their share of any long-term costs, in the event that the CCA or ESP disbands, as discussed further below.

8. Should CPUC conduct any additional modeling of the aggregated LSE Plans as part of the evaluation process? If so, what type of analysis is needed? [slides 43,47,49,50,57/69]

The aggregated proposed Preferred Plans of the LSEs should be modeled in the same way that the Reference System Plan and Component Plans were modeled to provide an additional "heads up" about any costs that LSEs are likely to incur (and, for IOUs, would not be subject to cost recovery) if they move forward with any proposed plans that stray dramatically from the Component Reference Plans that the Commission has prepared for them. Alternatively, if the individual and aggregated plans meet or exceed the objectives of the Reference System Plan in a

different way, that can be determined as well.⁵ In addition, the analysis of the aggregated plans can better determine the overall GHG-related impacts of the aggregated plans. In view of the Commission's results, LSEs should have the opportunity to adjust their final plans.

All LSE plans should be modeled on an individual basis, with no exceptions for size, unless groups of CCAs or ESPs wish to submit a single plan, in which case that group should be evaluated as one. While an individual LSE may be small, collectively CCAs represent a significant and growing share of procurement.

9. If the aggregate of LSE plans fails to meet reliability, GHG, or other standards, should CPUC perform additional modeling or other technical analysis? For example, should CPUC conduct modeling to try to determine the extent to which each LSE plan contributes to the failure? If so, what type of modeling could be used and how should it be performed? [slides 43,47,49,50,57/69]

The Commission's RA requirements should ensure that LSE plans will meet reliability standards and, as noted in response to Questions 6 and 7, above, the Commission should require that LSE Preferred Plans make up for any GHG-reduction shortfalls by purchasing GHG allowances. Those shortfalls should be determined when evaluating the proposed Preferred Plans in aggregate.

10. Regardless of whether or not the aggregated LSE plans fail to meet any specified standards, should CPUC conduct any additional modeling to assess whether a specific LSE's plan is appropriate in the context of the Reference System Plan (or to validate an LSE rationale for a significant deviations from the System Plan)? If so, what type of modeling should be used? [slides 43,47,49,50,57/69]

Yes; see response to Question 8.

⁵ For any LSEs that exceed their RPS requirements, the LSE should provide for any associated integration requirements.

Respectfully submitted,

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