

**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)

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE
ON THE QUESTIONS ON PROPOSED ANALYTICAL FRAMEWORK
FOR INTEGRATED RESOURCE PLANNING**

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As requested by the California Public Utilities Commission (“Commission”) Staff, the California Energy Storage Alliance (“CESA”)¹ hereby submits these informal written comments on the list of questions in the *Questions on Proposed Analytical Framework for Integrated Resource Planning Presented in Public Workshop on September 26, 2016* (“Workshop Questions”).

¹ 1 Energy Systems Inc., 8minutenergy Renewables, Adara Power, Advanced Microgrid Solutions, AES Energy Storage, Amber Kinetics, Aquion Energy, Bright Energy Storage Technologies, Brookfield, California Environmental Associates, Consolidated Edison Development, Inc., Cumulus Energy Storage, Customized Energy Solutions, Demand Energy, Eagle Crest Energy Company, East Penn Manufacturing Company, Ecoult, Electric Motor Werks, Inc., ElectrIQ Power, ELSYS Inc., Energy Storage Systems Inc., Enphase Energy, GE Energy Storage, Geli, Gordon & Rees, Green Charge Networks, Greensmith Energy, Gridscape Solutions, Gridtential Energy, Inc., Hitachi Chemical Co., Ice Energy, Innovation Core SEI, Inc. (A Sumitomo Electric Company), Invenergy LLC, Johnson Controls, K&L Gates, LG Chem Power, Inc., Lockheed Martin Advanced Energy Storage LLC, LS Power Development, LLC, Mercedes-Benz Research & Development North America, Nature & PeopleFirst, NEC Energy Solutions, Inc., NextEra Energy Resources, NGK Insulators, Ltd., NRG Energy LLC, OutBack Power Technologies, Parker Hannifin Corporation, Powertree Services Inc., Qnovo, Recurrent Energy, RES Americas Inc., Saft America Inc., Samsung SDI, Sharp Electronics Corporation, Skylar Capital Management, SolarCity, Southwest Generation, Sovereign Energy, Stem, SunPower Corporation, Sunrun, Swell Energy, Trina Energy Storage, Tri-Technic, UniEnergy Technologies, Wellhead Electric, Younicos. The views expressed in these Comments are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. The views expressed in these Comments are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. (<http://storagealliance.org>).

I. INTRODUCTION.

CESA appreciates the Commission's work on the Staff Concept Paper as well as the workshop held on September 26, 2016 on the options for implementing the Integrated Resource Planning ("IRP") process. There are still many questions regarding modeling in the IRP process and CESA therefore plans to join the technical advisory group to support these efforts. In these informal written comments, CESA answers selective questions posed by Commission staff, but notes that many of CESA's responses are preliminary and our thinking on this subject is still evolving and in development.

II. RELIABILITY.

Question 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?

Given the pace of deployment of renewable and distributed energy resources in California, CESA believes a LOLP analysis for each IRP may be necessary to reflect the constantly changing market conditions. If a full LOLP analysis for each IRP is deemed unnecessary, it will be important to model high renewable and distributed energy resources scenarios to capture the high-end range of capacity needed to meet the desired reliability target.

Question 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?

Related to Question 1, unless multiple load-serving entities ("LSEs") deviate significantly from the Reference System Plan, a LOLP-based system reliability assessment may not need to be repeated in Box 5 given that this validation can be deferred to Box 2 of the subsequent IRP. This would just be time and resource intensive without providing much additional value or benefit.

Question 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?

CESA recommends that local reliability needs be checked within each two-year IRP cycle. As noted in Question 1, market conditions are dynamic and require periodic needs assessments.

Question 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 over-capacity to an era where flexible gas generators retire due to insufficient revenues)?

CESA believes that intra-hour modeling is needed in Step 3 to shift from a focus on reliability assessments to have sufficient capacity to meet peak load, to a broader focus on reliability and economic assessments to address overgeneration and flexibility/ramping needs as well. Typically, real-world ramping needs exceed the modeled hourly average ramping needs, which overlook the variability challenges involved in dealing with known/predictable load or net load changes as well as uncertainty challenges involved in dealing with randomness that is inherently unpredictable yet correlated with the portfolio and load make-up. The intra-hour assessments will thereby incorporate the operational needs of the grid as part of the grid planning process. The ‘needs’ of the Resource Adequacy (“RA”) portfolio – *i.e.*, the need for greater flexible RA capacity – will also therefore be factored into the Reference System Plan and the Preferred System Plans prepared by the Commission and load-serving entities (“LSEs”), respectively. As a result, the Commission better ensures that the IRPs meet the guiding principles and statutory goals.

III. REFERENCE SYSTEM PLANS & LSE PLANS.

Question 5: What other naming conventions should staff consider for plans currently referred to as “Reference System Plan” and “Preferred System Plan?”

CESA believes that “Reference System Plan” and “Preferred System Plan” are sufficient naming conventions and convey the intended purpose of ‘optimal’ multi-LSE portfolios and LSE-specific portfolios, respectively.

Question 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 system-wide 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?

CESA has no comment at this time.

IV. LSE PLAN EVALUATION.

Question 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?

CESA has no comment at this time.

Question 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?

The Commission should conduct production cost modeling to ensure that the aggregated LSE plans produce resource portfolios that are cost-effective, reduce greenhouse gas emissions, and minimize renewable curtailment. These modeling results will ensure that operating costs are incorporated in the evaluation process, per the guidance outlined in the Staff Concept Paper.

Question 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?

CESA believes that additional modeling or other technical analyses to determine the extent to which each LSE plan contributes to the failure to meet various standards are unnecessary. The LSEs should be required to meet the standards set forth in the Reference System Plan, as has been done in the preceding Long-Term Procurement Plan (“LTPP”) process around reliability standards. In the LTPP, LSEs were required to procure an authorized amount of resources to meet set reliability targets, without an option to deviate from this requirement. Similarly, although the IRP will require the meeting of multiple standards, the LSEs should be required to meet each of these standards and demonstrate reasonableness for any significant deviations from them. Measure the extent of the failure of meeting a standard is therefore unnecessary.

Question 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?

CESA does not have any suggestions on additional modeling to assess LSE plans against the Reference System Plan.

V. CONCLUSION.

CESA appreciates the opportunity to submit these informal written comments on the Workshop Questions and looks forward to working with the Commission. CESA hopes that the comments herein inform a deeper discussion for the December 2016 Staff Proposal.

Respectfully submitted,



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