

January 20, 2017

Mr. Paul Douglas  
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California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102

**Re: Informal Reply Comments of the California Energy Storage Alliance (CESA) Regarding Questions for Parties Following the December 16, 2016 Workshop**

In accordance with the direction provided by Forest Kaser of the California Public Utilities Commission (Commission) on December 27, 2016, CESA respectfully submits these informal reply comments responses to questions provided in his email. Below, CESA provides its responses to parties' informal comments on the modeling being conducted in the Integrated Resource Plan (IRP) proceeding.

**Informal Reply Comments**

1. In the December 16 workshop, staff presented a matrix of candidate Plans and sensitivities on slide 40 of the scenario development presentation. A modified version of that table is presented below that assigns unique alphanumeric label to each combination of candidate plan and sensitivity. Keeping in mind the descriptions of each candidate plan on slide 29, the description of each sensitivity on slide 33, the key questions that The Reference Plan is intended to answer shown on slide 12 and the resource investment questions on slide 13, please respond to the following questions
  - a. Assuming that Energy Division models all four candidate plans, are the quantities of out of state wind and storage resources shown on slide 29 for candidate plans B and C, respectively, reasonable? Why or why not? If not, what quantities would you recommend and why?

CESA appreciates that bulk storage resources will be modeled as one of the four candidate plans in RESOLVE. Like Pathfinder, CESA views the modeling of this candidate plan to be a “low-risk opportunity”<sup>1</sup> to reveal the potential greenhouse gas (GHG) emission and grid flexibility benefits and the potential costs. This modeling may inform the Commission and the load-serving entities on quantifying the potential benefits of bulk storage, which currently does not have clear procurement pathways and undergo long lead times.

However, Energy Division plans to only model 500 MW of bulk energy storage in a candidate plan, which does not reflect the potential projects that would come online if procured in the IRP. CESA agrees with Eagle Crest Company and the Union of Concerned Scientists (UCS) in that the modeling of this candidate

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<sup>1</sup> Pathfinder comments at p. 2.

plan would more accurately reflect a likely future scenario if it included higher quantities of bulk storage, such as 1,300-1,500 MW, which more closely reflect potential projects in the pipeline.<sup>2</sup>

While CESA does not oppose the modeling of out-of-state wind resources from Wyoming and New Mexico, we do not fully understand the purpose of this candidate plan for California's IRP modeling. It is not clear that the Commission can assume its development, or even that a sensitivity with no new transmission investment is a valid assumption. Unlike bulk storage resources, which are currently being developed in California, out-of-state wind resource development is outside the purview of in-state resource procurement and control. For example, transmission investments would require coordination with other state agencies.

- b. Are any proposed combinations of candidate plan and sensitivity redundant, not realistic, or otherwise not useful to run? Please list the specific case labels (e.g., B05, C06) that you think should be omitted and provide an explanation for why it should be omitted.**

As CESA understands it, the goal for the 2017 IRP is to establish an IRP process and move through the process one time to understand what is required. Thereafter, lessons will be learned and be incorporated into a full-fledged, revised, multi-year IRP. Given this purpose, CESA believes that the Commission should not focus on modeling a robust list of sensitivities, and therefore prefers to see few initial modeling results to validate the IRP process.

- c. What futures (a combination of two or more sensitivities to represent some consistent projection of the future), if any, should be run (for examples of futures, see slide 34)? In your response, please 1) provide a name for the future; 2) list, by reference to the numbers in the table below, which sensitivities should be included in the future; and 3) provide an explanation for why that future is plausible and what questions could be answered by studying it.**

CESA supports identifying and modeling “futures” that bookend various outcomes around reliability and GHGs. In particular, CESA supports the “flexibility-challenged” future as proposed by NRG Energy, which is an important future given the limitations of the RESOLVE model to measure intra-hour operational flexibility. CESA also supports the “aggressive GHG reduction” or “GHG free” futures proposed by multiple parties, including NRG, Office of Ratepayer Advocates (ORA), and San Diego Gas and Electric (SDG&E). SDG&E notes that the GHG constraint used in the IRP modeling only takes a single GHG level - *i.e.*, the one provided by the California Air Resources Board (ARB) as the target for the electric sector.<sup>3</sup> CESA agrees with SDG&E that the Commission should also model a higher GHG constraint to determine whether the electric sector can contribute more to California's state-wide environmental goals.

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<sup>2</sup> Eagle Crest comments at p.3; UCS comments at p. 1.

<sup>3</sup> SDG&E comments at p. 3.

Furthermore, CESA adds that another sensitivity on high-cost transmission investments should be considered. CESA is concerned that the assumptions being used for transmission investments and development are being underestimated, and therefore CESA sees value in modeling this sensitivity.

2. During the workshop there was discussion about the scope of costs and benefits to compare when assessing which portfolio is optimal. Two approaches surfaced.
  - Include costs incurred by utilities, LSEs and ratepayers. For example, include customer costs associated with energy efficiency measures, behind-the-meter PV, and transportation electrification.
  - Limit costs to those borne by utilities and LSEs. For example, include administrative and incentive costs associated with energy efficiency, but not customer costs.

**Which approach is most reasonable for developing the 2017 IRP Reference Plan and why?**

CESA has no comment at this time.

3. As part of the email sent to the service list on December 15, staff provided responses to questions from parties following the IRP Modeling Advisory Group Webinar held on November 17. Are there any further questions related to these responses?

CESA is concerned that the RESOLVE model's dispatch simulation cost results have not been benchmarked with other established production cost simulation models, such as PLEXOS. While CESA understands that RESOLVE is being used as a "off-the-shelf" model to conduct the modeling necessary for the IRP, we caution the Commission about determining to use the RESOLVE results for IRP processes beyond 2017.

### Conclusion

CESA appreciates this opportunity to submit informal reply comments. CESA hopes to work collaboratively with the Commission and other stakeholders to improving the IRP modeling to ensure that California reaches its energy and environmental objects.

Respectfully submitted,  
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