

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

Order Instituting Investigation pursuant to Senate Bill 380 to determine the feasibility of minimizing or eliminating the use of the Aliso Canyon natural gas storage facility located in the County of Los Angeles while still maintaining energy and electric reliability for the region.

Investigation 17-02-002  
(Filed February 9, 2017)

**INFORMAL COMMENTS OF THE  
CENTER FOR ENERGY EFFICIENCY AND RENEWABLE TECHNOLOGIES  
ON THE NOVEMBER 17, 2020 PHASE 3 TECHNICAL WORKSHOP**

December 4, 2020

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For the: Center for Energy Efficiency and  
Renewable Technologies

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The Center for Energy Efficiency and Renewable Technologies (CEERT) respectfully submit these Informal Comments on the November 17, 2020 Phase 3 Technical Workshop (November 17<sup>th</sup> Workshop). These Informal Comments are submitted pursuant to instructions from the Energy Division and Administrative Law Judge (ALJ) Zhang’s Ruling, dated November 18, 2020.

**CEERT’S THOUGHTS ON THE NOVEMBER 17<sup>TH</sup> WORKSHOP**

The November 17<sup>th</sup> Workshop was informative and represents a very important step forward in this proceeding after almost three years of effort with little tangible results. CEERT has one process suggestion and a few technical questions and/or clarifications based on a review of the workshop.

CEERT appreciates the fact that the analytical task here is complex and involves seamless integration of two entirely separate modeling platforms and data bases that are not normally used simultaneously before the Commission. The knowledge and experience gap between “gas practitioners” and “electric practitioners” in CPUC staff, intervenors and the utilities themselves is deep and wide. For example, CEERT has deep multi-year, multi-task experience with the use of the PLEXOS production cost

model of the CA electrical grid including the impact of the entire WECC interconnection on the forward commitment and dispatch of the CA generation fleet including especially the temporal and spacial aspects of EG gas consumption in Southern California at issue here. On the other hand, we have never heard of and have no familiarity with its complement on the gas side called “GPCM.” It was good to hear that the GPCM model indeed takes account of the impact of infrastructure investment decisions on burner tip gas prices but we have no idea how that is accomplished and how fixed/variable rate design for cost recovery impacts the calculation of cost effectiveness of proposed infrastructure investments.

PLEXOS deals with that thorny question by not even pretending to deal with fixed costs, leaving that issue for others to deal with exogenously. Does GPCM do the same? If so, how does FTI plan to deal with that question? Is the true electrical analog of GPCM a “capacity expansion” model like RESOLVE rather than PLEXOS? If so, how does that model deal with variable costs on an existing system?

The other issue with the modeling platforms is the calibration of PLEXOS and GPCM with CPUC modeling done in Track 2 of this proceeding. CEERT applauds FTI’s thankless and tireless effort to reconcile load and resource data bases in its PLEXOS model with loads and resources in the CPUC RESOLVE/SERVIM IRP models. CEERT has no comment on this effort other than to emphasize that the same level of care will need to be taken in characterization of specific future investment alternatives that will be exogenous inputs to PLEXOS in the cost effectiveness calculation. However, there is a larger issue as well here.

The CPUC 's RESOLVE/SERVM platform is simply not capable of the spacial and temporal granularity required much less the appropriate chronological commitment and dispatch algorithm needed for this analysis. RESOLVE/SERVM is notorious for underestimating gas dispatch and thus GHG emissions, plus cannot deal at all with e.g., stacked dispatch of multiple 4 hour batteries or storage state of charge management for multi day events (analogous to recovery of line pack on the gas side). The CPUC has scheduled a workshop in December to explore these issues<sup>1</sup>. CEERT is not optimistic about the outcome here.

PLEXOS is capable of dealing with these complex but critical issues but it too must be tuned to be consistent with the real world CAISO market design for unit commitment and dispatch, locational capacity needs and ancillary service requirements. The CAISO also runs a PLEXOS platform to conduct its own modeling of these issues. Relevant to the specific issue here, recent CAISO work shows roughly 10% overall higher near term capacity requirements and gas dispatch using its PLEXOS model vs the CPUC's analysis of identical load and resources run through SERVM.<sup>2</sup> Much of this state-wide difference shows up as significantly higher gas dispatch on the SoCalGas system. CEERT believes that it is possible that the identified "shortfall" in gas supply on a winter peak day in the FTI base case may be significantly understated as a result. FTI should contact the CAISO and tune its version of PLEXOS with the CAISO version and rerun the base case to confirm this shortfall figure before proceeding much further with the alternatives analysis.

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<sup>1</sup> Public Workshop Notice: R.20-05-003 – IRP Modeling Advisory Group (MAG) Webinar, December 9,2030

<sup>2</sup> See "Assessment of the CPUC-Selected 38 MMT Integrated Resource Plan Portfolio", CAISO, filed in CPUC R.20-05-003, October 23, 2020

Two other issues in the form of questions arose after listening again to the FTI November 17 presentation. First, it is not clear what non gas generation alternatives to existing gas generation served by Aliso Canyon will be considered and how FTI plans on dealing with the availability and locational requirements on both the gas and electric side. Second, it is not clear what gas demand mitigation measures will be explored other than “building decarbonization” which is only mentioned in passing as a topic, and how the increased electricity demand created by this fuel switching will impact net gas demand. As another example, current industrial gas demand appears to be a given even though clear alternatives exist for natural gas substitutes for the dominant industrial uses of Enhanced Oil Recovery and refinery cogeneration and hydrogen production.

CEERT does not believe that the answer to all of the above issues is to have FTI go back, work on the answers to CEERT’s and other party issues and hold another workshop before proceeding with the alternatives analysis. The process has gone on long enough and the lack of familiarity of the parties with the nuances of the various modeling platforms too deep. On the other hand, the uncertainty is too large to wait until the analysis is complete and a draft report has been issued. At that point, things will have progressed too far to make changes without material impacts on overall budget and schedule. CEERT believes it much better to have FTI make a good faith attempt to deal with parties’ issues from these informal comments, run its models, and conduct a “preliminary results” public workshop like the November 17<sup>th</sup> webinar before wrapping up the modeling and writing a draft report. That would improve stakeholder buy in of

results and allow for the possibility of further minor modeling to answer pressing questions that arise from party comments on preliminary results.

### **CONCLUSIONS**

CEERT respectfully requests that FTI consider CEERT's technical comments above, and that a "preliminary results" workshop be added to the project schedule in the spring before the draft report is written. The issuance of the draft report would then be moved back in the schedule to accommodate potential changes or additions to the alternatives analysis in the Draft Report itself. If the Commission accepts this process change, it should be up to FTI to recommend precise dates or durations between process steps.

Respectfully submitted,

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