

DOCKETED

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Comments from Steffes Re. 2019 Title 24, Part 6

Additional submitted attachment is included below.



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Re: Steffes Comments 2019 Title 24, Part 6, Building Energy Efficiency Standards Rulemaking 17-BSTD-02

Dear Commissioners and staff:

Steffes appreciates this opportunity to file written comments on the California Energy Commission (CEC)'s 45-Day Language for the 2019 Title 24, Part 6, Building Energy Efficiency Standards Rulemaking. We learned a lot during this process and have contributed our comments during PreRulemaking Docket 17-BSTD-01 (TN217703, TN220417, TN220945, and TN221007). We appreciate and support the effort by all stakeholders led by the Commission in forging these new Title 24 standards and we look forward to continuing to provide further support and input.

Our comments pertain to the following items:

1. GHG mitigation
2. Electric water heaters - a versatile and needed tool - to enable renewable energy and GHG goals
3. Rule flexibility to spur and accommodate innovation
4. System flexibility by leveraging storage and advanced inverters
5. Conclusion

GHG Mitigation

On Thursday March 9th a year ago at a GTM conference in San Francisco, Michael Picker, President, CPUC during a "fireside chat" made a statement about "shaping the use of clean electricity".

<http://www.ustream.tv/recorded/100815491>

Later, at 22:10 – 23:50, he spoke about the possibility of fuel switching natural gas water heaters to electric water heaters in order to help meet GHG mitigation goals.

Electric water heaters as a versatile tool

Also in March 2017, Lawrence Berkeley National Laboratory remarked about electric water heaters.

"Final Report on Phase 2 Results - 2025 California DR Potential Study - Charting California's DR Future"

www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442452698

"Water heaters were not explicitly modeled in this study, but could potentially offer shift and shimmy services to the distribution and transmission systems."

~

"Additionally, electrification of this end use (retrofitting existing gas water heaters with electric) could increase the potential for this resource to provide thermal storage for shifting load and/or providing shimmy services, especially in constrained service areas."



Rules flexibility to accommodate innovation

Steffes has a very strong collaborative relationship with NRDC, but we do not agree with our colleagues on certain aspects of their most recent CEC submittal TN #: 222624.

[Natural Resources Defense Council Comments NRDC 45-Day Language Hearing Comments](#)

Specifically, we believe that NRDC is overly detailed in its Appendix: “Proposed Specification for Electric Water Heating with Load Management” and entirely too prescriptive in using the term “embedded” in regards to load management functionality.

System flexibility by leveraging storage and advanced inverters

Gridworks (Formerly known as More Than Smart) published a report in January of 2018:

“Sustaining Solar Beyond Net Metering: How Customer Owned Solar Compensation Can Evolve in Support of Decarbonizing California”

https://gridworks.org/wp-content/uploads/2018/01/Gridworks_SustainingSolar_Online.pdf

In that report, it spoke to a broad range of values and priorities— one was Decarbonization:

“This criterion asks how well an option contributes to high-renewable scenarios critical to achieving decarbonization targets, especially through encouraging co-location of solar with energy storage. Effective options increase grid flexibility, complementing variable renewable resources by responding to changes in renewable output, providing load shift, ramp, voltage, and/or frequency support. Successful decarbonization policy includes incentives for adopting and leveraging emerging inverter and storage capabilities. Principles embedded in this criterion include: DER able to serve grid need; DER contribute to GHG reductions; Leverage new technology to serve customers and leveraging emerging inverter and storage capabilities.”

Conclusion

Steffes, as a grid-interactive electric water heater manufacturer believes that there is great value in leveraging “smart electric water heaters” to accommodate advanced inverter functionalities. Proper coordination of those assets will not only mitigate curtailment stemming from some of those inverter actions but also simultaneously relieves constraints and congestion at the highly variable and localized distribution grid-edge.

In order to sync and optimize that energy storage asset to the advanced inverter, a tank system may “read” or instantaneously react to what would have been curtailed PV energy. A regular DR signal may not come to the water heating system but it will instead react to the inverter which is either sensing grid instabilities or as a consequence of a utility (non OpenADR) command from the evolving Rule 21 smart inverter phase 3 communication protocol (currently SEP 2.0).

As the Commission finalizes this Rulemaking, we suggest leaving room for innovation of one of the most flexible co-located storage options in order to accommodate what may end up being one of the most challenging aspects of the task ahead – buffering volatilities at the very grid-edge as DERs proliferate.

Very truly yours,

/s/

Kelly Murphy