



Pacific Gas and
Electric Company®



July 11, 2019

Ms. Abigail Daken and Ms. Taylor Jantz-Sell
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Subject: ENERGY STAR® Smart Home Energy Management System Version 1.0 Specification Draft 2

Dear Ms. Daken and Ms. Jantz-Sell:

This letter comprises the comments of the Pacific Gas and Electric Company (PG&E), San Diego Gas and Electric (SDG&E), and Southern California Edison (SCE) in response to the United States (U.S.) Environmental Protection Agency (EPA) ENERGY STAR Smart Home Energy Management System Specification Version 1.0 Draft 2. We thank the EPA for the opportunity to participate in this process.

The signatories of this letter, collectively referred to herein as the California Investor Owned Utilities (CA IOUs), represent some of the largest utility companies in the Western U.S., serving over 32 million customers. As energy companies, we understand the potential of appliance efficiency standards to cut costs and reduce consumption while maintaining or increasing consumer utility of the products. We have a responsibility to our customers to advocate for sensible test procedures, specifications, and standards that accurately reflect the climate and conditions of our respective service areas, so as to maximize these positive effects. We encourage EPA to continue evaluating a potential ENERGY STAR program for Smart Home Energy Management Systems (SHEMS) and offer the following comments to improve the Draft 2 methodology to determine the energy savings and eligibility criteria for these products.

General Comments

Customer Privacy and Security

Ensuring the privacy and security of consumers and ratepayers continues to be of great importance to the CA IOUs. We appreciate that EPA has integrated the requirement that manufacturers of SHEMS products report applicable standards for customer privacy, cyber security, and demand response (DR) into this most recent draft specification. Additionally, we continue to advocate for EPA to work with appropriate entities to develop specific privacy standards for SHEMS products, while recognizing that EPA cannot require the implementation of any specific published standards before they are available.

Capturing Energy and Cost Savings

The CA IOUs continue to be concerned that there is no established metric or process for quantifying whether SHEMS products will produce energy and cost savings for consumers. We believe that to accurately determine the energy savings of SHEMS, metrics for on-mode power, idle-state power, and the on-mode hours avoided due to occupancy signals are required. Further, there is no established process to collect such metrics from manufacturers. EPA should continue to work to collect data on these metrics in this and future versions of the specification, and further ensure that the metrics are standardized across participating SHEMS manufacturers.

SHEMS Package Verification

The CA IOUs recommend developing a verification method for the SHEMS program (we also recommend adding verifications procedures for connected thermostats, one of the key components of the SHEMS package, as noted in our earlier comment letters regarding development of that program). At this time, options specific to SHEMS could include revising the program to require that service providers meet some or all of the following requirements:

- maintain production and/or purchase records to verify that sufficient components have been produced or purchased to supply the claimed number of installations;
- maintain materials demonstrating that the package is marketed and sold to consumers with the required components; and
- maintain records containing sensitive information (such as customer privacy data) on-site, with a digital signature to be used in the case of future audit(s) by a third-party auditor that has signed non-disclosure and customer privacy agreement(s).

Supporting DR Capabilities

The CA IOUs are appreciative of the strides EPA has made to integrate open automated DR capabilities into this SHEMS specification. We agree with the suggested definition of “open standards” and offer additional considerations to further improve the representation of open automated DR technology. EPA might consider two additional key factors in promoting the proliferation of open automated DR technology through the SHEMS specification:

- Requiring a specific OpenADR profile.
OpenADR 2.0b provides greater flexibility with a wider array of resource signaling capabilities and device reporting options; however, there is a cost difference between 2.0a and 2.0b, and not all utility implementations of OpenADR support 2.0b. In the case of this specification, the OpenADR 2.0a or 2.0b profile would both be acceptable.
- “Certified” versus “Compliant” OpenADR Virtual End Node (VEN).
Among CA IOUs, any commercial customers must use a VEN that has been Certified by the OpenADR Alliance. Residential customers, however, need only have a VEN that is Compliant (i.e., able to connect to the utility DR automation server, receive and parse an OpenADR signal correctly, and respond to an event). Certification will allow for greater confidence that all products will be able to successfully integrate with a utility Virtual Top Node, which is important on a residential scale. EPA should weigh these benefits against the compliance requirement, which provides the greater opportunity for VEN (and SHEMS) providers to enter the market. EPA should also consider that the residential market has only a few SHEMS manufacturers, making it easier to help ensure all products work with a VTN (despite not completing a Certification process). VTN integration becomes much more challenging, and therefore increases the risk of issues, if such leniency is extended to the commercial and industrial markets.

Detailed Comments and Suggested Edits for Eligibility Criteria

In addition to the overarching comments discussed above, we urge EPA to consider the more specific, suggested edits outlined below, which are largely based on previous comments the CA IOUs have provided:

<i>LINE NUMBER</i>	<i>COMMENTS AND SUGGESTED EDITS</i>
32	While the CA IOUs agree with the intent of this line, but we believe the wording may cause confusion. We recommend amending this line to read “The SHEMS service provider may market separate components of a SHEMS system to allow

	consumers to create a complete package or upgrade their existing system. Manufacturers must clearly mark which products constitute a complete system and which ones are meant to serve as add-on components. In the case of add-on components, manufacturers must clearly note which existing equipment is needed.”
83	The “CT” abbreviation is confusing, as it could be construed to mean either “current transducer” or “connected thermostat.” The CA IOUs recommend abbreviating “connected thermostat” as “CT” and spelling out “current transducer.”
226	The CA IOUs agree that at least one action for each of the hard, soft, and suggested triggers be required. We further support the energy reporting requirement, which should apply to each product within the SHEMS.
240	The CA IOUs agree with the notion that SHEMS should have the capability to send a notification to the user if any occupancy sensors fail. However, we would appreciate an additional explanation of the mechanism to achieve this. Specifically, how would the SHEMS system know that an occupancy sensor has failed?
247	EPA should require SHEMS to be able to connect to at least one water heater controller or connected water heater via an open communication standard to allow the SHEMS to connect to a range of products rather than only the potentially few models that use the same proprietary communications.
257	The CA IOUs support maintaining the required ability to connected to a water heater, and the requirement that service providers support optimization based on electricity prices that are either entered by the user or through integration with the utility.
303	The CA IOUs recommend removing “Home energy sub metering system” from the list of offerings. We see no clear incremental value or energy savings potential of sub-metering over aggregate metering, especially a sub-metering still cannot distinguish between multiple energy-using appliances in a single room.
348	Replace the word “service” with “supply.”
378	The CA IOUs appreciate the addition of language supporting DR reporting capability of SHEMS products. In addition to these improvements, we request that EPA clearly mandate that SHEMS be able to accept DR signals based on open standards at least to the cloud level, as is the case for the EPA’s connected thermostat specification.
445	The CA IOUs disagree with EPA’s proposal to manipulate the product to achieve the lowest possible energy state. For simplicity purposes, we recommend that EPA recommend mandate testing a typical idle mode used for other products (such as EVSE) for five-minute intervals.

In conclusion, we thank EPA for the opportunity to be involved in this process and encourage EPA to carefully consider the recommendations outlined in this letter.

Sincerely,



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