



April 28, 2017

Ryan Fogle
U.S. Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Subject: ENERGY STAR® Draft Version 1.1 Specification, Version 2.0 Specification, and Test Method for Uninterruptible Power Supply (UPS)

Dear Mr. Fogle:

This letter comprises the comments of the Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SoCalGas), San Diego Gas and Electric (SDG&E), and Southern California Edison (SCE) in response to the proposed revisions in the Draft Versions 1.1 and 2.0 ENERGY STAR Uninterruptible Power Supply (UPS) Specification launched on March 30, 2017.

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 United States, serving over 35 million customers. As energy companies, we understand the potential of the ENERGY STAR program to cut costs and reduce energy 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 to maximize the positive effects of these efforts.

We believe that a voluntary ENERGY STAR UPS specification is integral for facilitating widespread energy efficiency. We encourage the U.S. Environmental Protection Agency (EPA) to continue developing an ENERGY STAR specification that differentiates the most efficient products; EPA estimates that the current revision will reduce the number of qualified models from 100% to 21%. In support of these efforts, we offer the following comments for consideration.

1) We strongly support EPA updating the ENERGY STAR UPS specification in accordance with U.S. Department of Energy's (DOE) recently finalized test procedure and standards for this product.

Starting June 12, 2017, federal laws require that UPS representations be made in accordance with the recently finalized DOE test procedure.¹ We commend EPA for proposing to align the ENERGY STAR test procedure with the DOE test procedure where applicable. We also support EPA determining Version 2.0 eligibility requirements in accordance with the energy conservation standards determined by DOE in the pre-publication *Federal Register* final rule issued on December 28, 2016, since DOE analyses determined these levels to yield the most savings that can be achieved while remaining cost-effective, technically feasible, and with minor impact to manufacturers. We believe that aligning eligibility criteria

¹ 81 FR 89806 (December 12, 2016)

and test methods with DOE final rules, published or pre-published, will reduce manufacturer confusion about efficiency representations, thereby leading to clarity across all UPS market actors.

2) We highly encourage EPA to consider the lower loading assumptions for voltage and frequency dependent (VFD) UPSs suggested by the National Resource Defense Council (NRDC), and suggest EPA require testing and listing of efficiency at 0%, 5% and 10% loads.

In previous comments to DOE regarding energy conservation standards for UPSs, we agreed that an average load value of 25% for VFD UPSs seemed reasonable. However, the proposed proportion of time spent at the specified reference test load (Table 1 of Version 2.0) suggests an average load value of above 50% with the 25% load assumption receiving a weight of only 0.2. We believe the actual loading of UPSs to be significantly lower than proposed by EPA since consumers are likely to purchase VFD UPSs along with a computer, which has an average load well below 25% of the rated power of a typical VFD UPS.

Through a review of web retailers offering UPSs, we found that most VFD UPSs are advertised as backup systems specifically for computers, and that the most popular, or retailer-suggested models are typically rated for 500-1000 VA. For example, the “UPS selector” offered on Dell.com² suggests a 500 VA UPS if the consumer selects usage for one computer system with 0% additional load. If the user selects one computer system with the maximum allowable input of 200% additional load, the selector suggests a 1000-1500 VA UPS. In both cases, the average load is significantly lower than EPA assumptions when considering the typical power draw of a desktop computer.

Given the above findings, we believe the suggestion by NRDC for load weights at 0%, 5%, and 10% to be more representative than the weights proposed in the ENERGY STAR specification. In addition, since more-efficient UPS technologies, such as transformerless UPSs, have higher efficiency gains at smaller loads, the values proposed by NRDC would lead to better differentiation of efficient products. Should EPA maintain the current proposed loading assumptions, EPA should still require testing at 0%, 5%, and 10% loads to collect useful data for future revisions.

3) In response to EPA solicitation for feedback on the possible inclusion of ‘connected’ criteria for UPS, we generally believe that UPSs have a unique potential for demand response programs.

While EPA has proposed to remove the metering incentive in Version 2.0, EPA should allow manufacturers the option for listing any applicable communications protocols for potential future demand response functionality. UPSs can offer a unique benefit in demand response applications due to 1) their energy storage capabilities and 2) the potentially large amount of load that can be controlled. While we acknowledge that several manufacturers have expressed concerns for UPSs as a demand response tool, primarily due to the need for reliable backup power when grid integrity is compromised, EPA should consider the following uses for demand response when considering the usefulness of UPS for potential demand response programs:

- Large voltage and frequency independent (VFI) UPSs may be designed so that only part of battery may be used for demand response, thereby allowing some portion of the UPS to remain available in the event of a power outage.
- Partial usage or activation of the UPS may serve as notification for consumers that a power outage is impending. The consumer may opt to power down the computer system to conserve energy if the computing task is not crucial. The consumer may also opt to power down devices not connected to the UPS to conserve energy and avoid a power outage.

² <http://www.dellups.com/ups-selector>

While we generally believe that UPSs have the potential for effective demand response applications, we caution EPA from providing an efficiency allowance for this functionality since the power requirements for connectivity are typically on the order of 1 Watt, while UPSs operate at vastly higher powers. Should EPA include connected criteria in Version 2.0, EPA should refer to the California IOU comments submitted to EPA on October 14, 2016 pertaining to the connected criteria for Electric Vehicle Supply Equipment (EVSE).³

In conclusion, we wish to reiterate our support to EPA for revising the ENERGY STAR specification for UPSs and we encourage EPA to carefully consider our comments.

Sincerely,



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³ Posted on ENERGY STAR website on October 5, 2016 as “CA IOU Comments”, Comment #2 within document. (https://www.energystar.gov/products/spec/electric_vehicle_supply_equipment_pd)