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Rheem Comment on FDAS Pool Controls

Additional submitted attachment is included below.



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August 31, 2022

Submitted via: Docket No. 20-FDAS-01

Commissioner J. Andrew McAllister
California Energy Commission
715 P Street
Sacramento, CA 95814

Re: Comments on Flexible Demand Appliance Standards for Pool Controls, Draft Staff Report and Proposed Regulatory Language, Docket No. 20-FDAS-01

Dear Commissioner McAllister,

Rheem Manufacturing Company (Rheem) appreciates the opportunity to provide these comments on the Flexible Demand Appliance Standards for Pool Controls, the draft staff report and the proposed regulatory language.

Rheem is an industry leader in total heating, cooling, refrigeration and water heating solutions and one of the few global brands with product offerings covering residential and commercial heating, cooling, conventional and hybrid storage water heaters, tankless water heaters, solar water heating systems, pool and spa heaters, commercial boilers, residential hydronic and geothermal systems, commercial refrigeration products, indoor air quality accessories, and replacement parts for all categories. Rheem is headquartered in Atlanta, Georgia, and has U.S. based manufacturing facilities in Alabama, Arkansas, California, Connecticut, and North Carolina. The company also operates distribution facilities throughout the US, Canada, and many other countries around the world.

Rheem support CEC's efforts to establish cost-effective and technically feasible appliance standards for various types of equipment including pool controls with the stated objective to avoid and reduce greenhouse gas emissions associated with electricity production. While the proposed addition to Title 20 establishes basic requirements to set a default schedule for the operation of pool equipment and internet connectivity, Rheem believes further work is needed to detail communications protocol requirements and to consider impacts on pool equipment performance. Rheem is an active member of the Pool & Hot Tub Alliance (PHTA) and supports their separately submitted comments and recommendations. Additionally, Rheem offers the following comments for consideration and for development of the regulatory proposal:



INTEGRATED HOME COMFORT

- Rheem agrees with the staff proposal to use data format Transmission Control Protocol/Internet Protocol Suite (TCP/IP) for basic connectivity for pool controls. This allows for Wi-Fi connectivity with minimal added equipment and infrastructure changes and enables rapid market adoption. For the near term this will be sufficient to establish a default schedule and internet connectivity, including clock synchronization. Alternatively, the CEC could simply require the ability to set a default schedule and further require pool control manufacturers to state in the installation manual how to set the operating time range and time zone. However, for the longer term there is a need to better define operating equipment requirements and to adopt a standardized communication protocol that could be utilized with demand response programs.
- The communication protocols established in CTA-2045 and OpenADR should be considered as they provide a standardized approach, however their use for pool controls and related equipment should not be mandatory. Implementation of these protocols will require both hardware and software equipment design changes and take longer time for adoption and be more costly relative to the staff proposal. While a CTA-2045 protocol and associated hardware can provide improvements, without connection to a Utility or an established demand response program the added value beyond the default schedule is not easily realized.
- In section 1690 under the default operating schedule, limiting operation of the pool filter pump to 50 percent outside the 9 am to 3 am hours will likely have a negative impact on pool filtering and equipment performance. The language does not consider pump priming requirements and cases where specific flow rates are needed for solar panel heat transfer, turnover for proper filtering and variable speed equipment installed at the pool pad. Also, limiting the operation of the electric pool heater and especially an electric heat pump pool heater to only 6-hours a day may not achieve consumer setpoint temperatures for the pool. This will be problematic during the shoulder heating seasons and when heating equipment is undersized. Further, this could have unintended consequences to incentivize use of gas-fired pool heating equipment instead of electric heat pump pool heaters.
- Also in section 1690, the proposed language does not specify minimum compliance requirement for connectivity to third parties. It is not clear if a connection to a Utility provider is required for setup and periodic update of operating schedules or if this can be achieved by the user or homeowner.
- Rheem recommends further development of the default schedule along with development of a reference technical standard to address connectivity/communication protocols for pool controls and related equipment.



The development work on JA13 and more recently AHRI 1430 standards for water heaters highlights the need and benefit for such an approach. Specifying connectivity and a communications protocol such as CTA-2045 or OpenADR only without considering the equipment being controlled will lead to problems, including consumers leaving the demand response program. From Rheem's work on demand response for residential water heaters (i.e., JA 13, Energy Star, and AHRI 1430), it has become clear that demand response programs are only successful if product performance and consumer experience is not negatively affected.

- The proposed effective date of one year after adoption by the CEC is not sufficient, especially if CEC accepts recommendations to develop the default schedule and a technical standard. An effective date of three years following adoption by CEC should be considered and would provide a more reasonable timeframe for product design and implementation.

Again, Rheem appreciates the opportunity to comment and looks forward to further development of the regulatory language for pool controls.

Sincerely,

A handwritten signature in black ink that reads "Joe Boros".

Joe Boros
Regulatory Affairs Director
Rheem Manufacturing Company

CC: Karen Meyers, James Phillips

