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20-FDAS-01 - Request for Information Flexible Demand Standards

November 1, 2021

California Energy Commission (CEC)
Docket Unit
Re: Docket No. 20-FDAS-01
715 P Street
Sacramento, CA 95814

Re: Docket Number 20-FDAS-01 " Request for Information Flexible Demand Standards

Dear Commissioners,

On behalf of Bradford White Corporation (BWC), thank you for the opportunity to comment on the CEC's Request for Information (RFI) related to appliance flexible demand standards. Our feedback on this RFI can be found below.

BWC is an American-owned, full-line manufacturer of residential, commercial, and industrial products for water heating, space heating, combination heating and water storage. In the State of California, a significant number of individuals, families, and job providers rely on our products for their hot water and space heating needs.

We appreciate the CEC's analytical approach to this rulemaking in considering many factors that will lead to successfully growing the use of residential demand response electric storage water heaters in the state. As previously stated in our letter to the Commission dated February 3, 2021, the market for these products remains in its infancy. Manufacturers are continuing to test and develop new concepts that work to satisfy our customers' expectations and address challenges in several areas. As such, we continue to urge the CEC to allow manufacturers as much intellectual flexibility as possible as we continue to optimize these product offerings.

We also want to reiterate our participation through the Air Conditioning, Heating, and Refrigeration Institute (AHRI) in developing AHRI Standard 1430. When finalized, this standard will include several requirements for demand response electric storage water heaters that the CEC will be able to consider and potentially adopt by reference. For this reason, we respectfully request that CEC allow AHRI to complete its work in this area, which is anticipated in the coming months, before finalizing regulations specific to these products.



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BWC agrees with the Commission's scoping matrix for electric storage water heaters found in Table 2 of the RFI. We do not feel that it is appropriate to include gas-fired product, or electric tankless units in this

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proposal. We also recommend that the CEC not consider commercial water heaters within scope of this rulemaking at this time. As stated earlier, the market for demand response electric storage water heaters is still taking shape and being refined. As such, manufacturers are continuing to learn about new designs, features, and options that can be included into residential product offerings. Extending demand response requirements to commercial products would significantly complicate these efforts and slow the progress that is being made in this area.

Commercial water heater applications are far more complex than their counterparts in the residential sector. The demands for hot water are generally greater and the building stock is far more diverse, contributing to many unique considerations that must be accounted for when designing products for commercial applications. For these reasons, we recommend that the Commission initially apply this rule to only residential electric storage water heaters as defined in Part 430, of Subchapter D, of Title 10, of the Code of Federal Regulations.

BWC also asks the CEC to distinguish expectations between standard electric resistance storage water heaters and electric storage heat pump water heaters. These products often have different designs and controls related to demand response functionality that make this distinction necessary.

For example, Joint Appendix 13 (JA13) to the California Energy Code, while optional, remains the only policy in the state governing demand response functions on residential electric storage water heaters. JA13's scope only covers residential electric storage heat pump water heaters and includes both demand response and time of use requirements. Expanding these same provisions to electric resistance storage water heaters would be problematic as these products commonly do not already have built in controls that are well-suited to easily provide the time of use and/or demand response functionality and would result in significant challenges for manufacturers.

BWC has also identified concerns with the information presented in Table 3 of the RFI – Flexible Demand Approaches and Incremental Costs. Many of the functions and costs identified by the CEC are prerequisites to other features that are also listed in the table. For instance, “scheduling and clock capability” is referenced in the table. However, for a product to have this capability, it must first be a connected appliance, referenced in the same table. It is therefore unclear if the Commission is taking account of such instances where costs would be compounded in Table 3. Additionally, we believe that the cost assumption for scheduling and clock capability is substantially lower than what water heater manufacturers would expect to pay per unit if we were to provide this functionality.

As it relates to Table 5 of the RFI – Product Lifetime, BWC notes that the assumed lifetime of 15 years for electric resistance storage water heaters is optimistic. To be consistent with lifecycle assumptions utilized by the United States Department of Energy, a value of 12-15 years should be utilized. For electric storage heat pump water heaters, it is difficult to ascertain an average lifetime for these products as they have not been deployed in the field in large enough quantities, for a long enough period of time, for sufficient data to be collected that would inform such an assumption of lasting as long as less complex, electric resistance storage water heaters.

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Related to cyber security of demand response electric storage water heaters, BWC encourages the CEC to craft regulations that leave as much flexibility as possible on how to best protect product end users, as well as the products themselves. The needed security features for these products will vary considerably depending on their intended use. For example, a product that is connected to the electric grid through a utility demand response program will require different security features, that are likely provided by different parties, when compared to its counterpart that is connected to a users' application through the Cloud.

For this reason, BWC believes that CEC could greatly benefit from further stakeholder discussions that are focused solely on this topic. These conversations would provide a venue for all interested parties in this area to have detailed discussions about the general capabilities of products and components, as well as the responsibilities of each stakeholder in various installation scenarios.

Finally, BWC strongly discourages the CEC from requiring manufacturers to provide customer consent information describing a water heater's flexible demand capabilities. This includes providing information on packaging materials, websites, or consent functions. We believe that these customer interactions are better suited for controlling entities of the demand response program that the customer is choosing to enroll into.

Thank you again for continuing to include BWC and other stakeholders in this important conversation. Please let me know if you have any questions or would like any additional information.

Respectfully Submitted,

Bradford White Corporation

Eric Truskoski
Senior Director of Government and Regulatory Affairs

Cc: R.B. Carnevale; B. Hill; L. Prader; C. Sanborn; J. Robertson; K. Doyle; B. DeJager; J. Ferrante; B. Wolfer; M. Corbett; B. Ahee

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