

DOCKETED	
Docket Number:	24-BSTD-01
Project Title:	2025 Energy Code Rulemaking
TN #:	256324
Document Title:	A.O. Smith Comments - A O Smith Comments to Section 1702 of the 2025 Title 24, 45-Day Express Terms
Description:	N/A
Filer:	System
Organization:	A.O. Smith
Submitter Role:	Public
Submission Date:	5/13/2024 12:56:49 PM
Docketed Date:	5/13/2024

*Comment Received From: A.O. Smith
Submitted On: 5/13/2024
Docket Number: 24-BSTD-01*

A O Smith Comments to Section 1702 of the 2025 Title 24, 45-Day Express Terms

Additional submitted attachment is included below.



May 13, 2023

California Energy Commission
Re: Docket #: 22-BSTD-01
Project Title: 2025 Energy Code Pre-Rulemaking
1516 Ninth Street
Sacramento, CA 95814

RE: A. O. Smith Comments to Section 170.2 of the 2025 Title 24, 45-Day Express Terms

A. O. Smith Corporation (“A. O. Smith” or “Company”) appreciates the opportunity to submit comments on the 2025 Building Energy Efficiency Standards, Title 24 Parts 1 and 6, Express Terms, 45-day Language (“Express terms”), Published on 3, 28, 2024. The company worked with the Codes and Standards Enforcement (CASE) team during the pre-rulemaking phase and appreciate the work the team has done to incorporate our feedback into the Express terms. Throughout the process the Company has raised concerns surrounding the updates to the System Design Requirements put forth in the report. While some of the Company’s concerns have been addressed, the Express terms still include proposed requirements that remain problematic that may undermine California’s stated goal of installing six million new heat pumps by 2030.

About A. O. Smith

A. O. Smith Corporation, with global headquarters in Milwaukee, Wisconsin since 1874, applies technology and energy-efficient solutions to products manufactured and marketed worldwide with operations in the U.S., Canada, China, India, Mexico, the Netherlands, and the UK. Listed on the New York Stock Exchange (NYSE: AOS), the company is one of the world’s largest manufacturers of residential and commercial water heating equipment and boilers, as well as a leading manufacturer of water treatment and air purification products. Along with its wholly owned subsidiaries, A. O. Smith is the largest manufacturer and seller of residential and commercial water heating equipment, high efficiency residential and commercial boilers, and pool heaters in North America.

Overview

On February 17, 2023, the CASE team presented proposed modifications to the California Title 24 requirements for Multifamily Domestic Hot Water. Inclusive of the proposals was a proposed modification to the prescriptive pathway for commercial heat pump water heaters (“CHPWH”) systems that would require that single pass HPWH system design not utilize hot water return to primary. In addition, the CASE team added an alternative compliance pathway for CHPWHs which would allow a CHPWH to be installed so long as it meets the Northwest Energy Efficiency Alliance (“NEEA”) Advanced Water Heating Specification (“AWHS”) Tier 3. As drafted, those proposals would present an uneven playing field as CO2 based CHPWH systems would be significantly advantaged over non-CO2 based CHPWHs. The Company raised concerns with this overly prescriptive requirement to the CASE team

during the pre-rulemaking comment period. In August 2023, the CASE team published their final CASE report, in which the CASE team did amend the NEEA AWHs requirement from tier 3 to tier 2 under the alternative compliance pathway. In the August 2023 CASE Report, however, the CASE team maintained the prescriptive requirement that disallows single pass return to primary designs. The Company remains concerned that this approach will arbitrarily restrict CHPWH options for building owners without proper technical justification, which in turn codifies a specific system design that reinforces an uneven playing field.

Section 170.2(d).2: Prescriptive System Design for CHPWHs

Section 170.2 is written to provide prescriptive requirements for multifamily buildings and the underlying analysis supporting those proposed requirements was performed solely by using multifamily building stocks. However, Section 140.5(d) further references the requirements of section 170.2(d) such that Hotel/Motel occupancies will also need to meet the same service water heating requirements. However, neither the docket, nor the CASE report, presents any analysis supporting the economic justification for these changes under the Hotel/Model occupancies. The Company finds this troubling and respectfully requests that CEC perform and publish an economic analysis that justifies the inclusion of Hotel/Motel occupancies within the scope of requirements as proposed under Section 170.2(d).

Additionally, this section does not provide a compliance pathway for integrated systems (also referred to as “unitary”). Currently the prescriptive requirements would require an integrated CHPWH to comply with the same requirements as a split system. Based off of the code language this effectively bans integrated products because all integrated CHPWHs would best be categorized as multi-pass systems per AWHs V8.0. The Company however feels that this is an inappropriate classification given the difference in operation between split systems and integrated systems. These products are highly efficient and capable of reaching COPs up to 4.2 and are being readily adopted in the marketplace. The Company would request that CEC provide a compliance pathway for integrated products which are quickly growing in popularity due to their cost, ease of installation and high efficiency.

Finally, and notwithstanding the foregoing, the Company remains concerned that the prescriptive requirements of CHPWH’s as presented in the Express terms are premature and do not allow for new technology to be introduced into the marketplace under this pathway. As the CEC knows, the baseline system design in the prescriptive pathway is a single-pass system with a swing tank design utilizing CO2 as a refrigerant. While this is an efficient design, and suitable for certain installations, there are many other non-CO2 based efficient designs in use in the field today and should be afforded the same opportunity to compete to meet the needs of building owners. By setting the baseline requirement for CHWPHs to a single more expensive type of system design, CEC is potentially incentivizing designers to use the significantly cheaper prescriptive pathway of utilizing high efficiency gas-fired water heaters. The Company observes that when the analysis was performed, the CASE Team only compared products that were either solely multi-pass systems or solely single-pass systems. However, since that initial analysis was completed, additional products have entered the market which are designed to work in *either* a single-pass or multi-pass configuration. These products are extremely flexible and allow the building designer to use the most efficient configuration for the specific building type and desired specification from an architect or specifying engineering firm. Given the potential rapid growth in this market sector, the Company would recommend the CEC continue to allow for multi-pass systems with a swing tank in the prescriptive pathway, and further direct the CASE team to review in

totality the CHPWH market and reassess if the restrictions on return to primary systems are appropriate. Lastly, and consistent with the state's goal to install six million new heat pumps and HPWHs, the building code should not arbitrarily hinder the adoption of any CHPWH.

Section 170.2(d).2: Alternative Compliance Pathway

The Company is supportive of the alternate compliance pathway of meeting the requirements of NEEA tier 2. The Company does have some reservations regarding the implementation of this compliance pathway and does not want it to become a moving target for compliance. The AWHS and NEEA's Qualified Product's List ("QPL") provide a meaningful tool to compare CPHWHs in lieu of the U.S. Department of Energy ("DOE") publishing an updated test procedure for these products. The issue, however, is that the AWHS is not published under an industry-consensus standards certification body that publishes updates on a standardized cadence like other Standards Development Organizations ("SDOs") such as ASHRAE and AHRI. Further the maintenance and administration of the QPL of a previous specification version is under no obligation to be maintained after a new revision of the AWHS is published. Unless maintenance of the referenced specification and QPL is agreed to, this alternate pathway faces one of two outcomes:

First, if CEC adopts a static version of the AWHS and associated QPL, as is currently proposed in the Express terms, this closes the door on new products becoming eligible for compliance under this pathway. To further highlight this problem, the analysis for this alternative compliance pathway was based around NEEA AWHS V8.0. Between the time the analysis was performed, and the Express terms published, NEEA has published a proposed new V8.1 and the V8.0 QPL will no longer be supported. Hence, if V8.1 is adopted by NEEA and the Express terms maintain a reference to V8.0, the net effect will be that only 4 products would be listed on the QPL and only 3 products would qualify for the alternative compliance pathway under the proposed Express terms.

Second, the other option would be that Title 24 reference the most recent versions of the AWHS and QPL. Of course, this too raises an administration and compliance problem as building owners and manufacturers would have to navigate an uncertain business environment when attempting to specify CHPWHs for their projects. This results in business uncertainty as the AWHS and QPL could increase stringency without approval or analysis by CEC or the CASE team, which in turn translates to a situation where manufacturers are required to design to a moving target, which inserts confusion into the marketplace and further hinder adoption of CHPWHs.

As a result, the Company strongly recommends that CEC engage with NEEA to proffer an agreement such that the current version (i.e., V8.0) of the AWHS and QPL referenced in Title 24 remain maintained in perpetuity as long as the code references them. This would allow for a stable baseline and would not preempt NEEA from further developing new versions of the AWHS and QPL.

Conclusion

A. O. Smith appreciates the opportunity to provide comments in response to the 2025 Building Energy Efficiency Standards, Title 24 Parts 1 and 6, Express Terms, 45-day Language. Please feel free to contact me if you have questions and the Company stands ready to work with the Commission moving forward.

Best Regards,

A handwritten signature in black ink, appearing to read 'Kyle Bergeron', with a long horizontal flourish extending to the right.

Kyle Bergeron
Manager, Government and Regulatory Affairs
A. O. Smith Corporation
Global Headquarters
11270 West Park Place
(414) 389 7297
Kyle.bergeron@aosmith.com