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Additional submitted attachment is included below.

November 5, 2026

California Energy Commission
Re: Docket Number: 25-BSTD-03
Project Title: 2028 Energy Code Pre-Rulemaking.
1516 Ninth Street
Sacramento, CA 95814

RE: A. O. Smith Comments on the 2028 Title 24, Part 6 Pre-Rulemaking Draft Regulatory Text

A. O. Smith Corporation ("A. O. Smith" or "the Company") appreciates the opportunity to submit comments on the California Energy Commission's ("CEC" or "Commission") October 12, 2026, Pre-Rulemaking Draft Regulatory Text for the 2028 California Energy Code, Title 24, Part 6. The Company supports the Commission's objectives of improving energy efficiency, installation quality, and compliance clarity. The latest draft reflects several constructive changes. However, several material concerns raised in the Company's April 14 and April 22, 2026, comments on the 2028 Codes and Standards Enhancement ("CASE") Reports remain unresolved and should be corrected before the proposal advances to formal rulemaking.

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

A. O. Smith appreciates the constructive changes reflected in the October 12, 2026, Pre-Rulemaking Draft Regulatory Text. In particular, the Company supports provisions that better align the code with federal terminology, clarify commercial heat pump water heater system configurations, and improve the design and operation of multi-unit systems. At the same time, several provisions would unnecessarily limit energy efficient HPWH installations, impose new manufacturer data, testing, and documentation burdens or could require systems to be oversized relative to actual operating conditions.

Provisions Supported by A. O. Smith

A. O. Smith supports harmonizing the definition of a commercial heat pump water heater with the U.S. Department of Energy definition. Consistent terminology will reduce ambiguity and improve coordination among federal efficiency requirements, state code provisions, manufacturers, designers, and enforcement officials.

The Company also supports the proposed definitions for primary storage tanks, return-to-primary configurations, and unitary heat pump water heaters. These definitions provide needed clarity regarding equipment and system arrangements and create a more consistent basis for applying the commercial HPWH requirements.

A. O. Smith further supports the exception allowing waste heat to be used as an indoor heat source. This exception recognizes efficient applications that productively use otherwise wasted thermal energy and avoids unnecessarily limiting beneficial system designs.

The Company supports the JA14 updates requiring reverse-return piping or balancing valves and maintaining common setpoints across multiple units. Proper hydraulic balancing and consistent setpoints can reduce unnecessary electric-resistance element operation, improve equipment loading, and support longer equipment life.

Comments on Specific Code Sections

Section 500.3

The Company has concerns that Section 500.3, as currently drafted, and influenced by the "Nonresidential HPWH Ventilation Clean-Up" CASE Report, would introduce overly prescriptive requirements that are not aligned with ongoing national standards development as well as rely on compliance metrics that are difficult to verify or enforce. Moreover, certain provisions risk creating duplicative or conflicting requirements, limiting design flexibility, and introducing uncertainty for manufacturers, designers, and enforcement officials.

The Company understands and appreciates the need for clear and consistent installation requirements. As such, the Company is working to address these specific issues nationally through an industry consensus development process of a new "Guideline U" as facilitated by the Air-Conditioning Heating Refrigeration Institute ("AHRI"). The Company is concerned that the proposed ventilation requirements will preempt or duplicate the work that is currently underway within the Guideline U development process. Specifically, AHRI is actively convening industry experts to discuss and research how to best address HPWH installation requirements such as airflow, external static pressure, and related performance considerations in a comprehensive and

harmonized manner. Introducing prescriptive ventilation metrics in Title 24 in advance of the conclusion of this work will create conflicting or incompatible requirements, market confusion for manufacturers, designers, and enforcement officials, as well as a lack of alignment between California requirements and nationally recognized standards.

The Company has consistently advocated for the Commission to avoid codifying requirements that are still being actively evaluated through consensus-based processes. Prematurely establishing state-specific criteria could result in the need for future revisions once AHRI's work is finalized, undermining business certainty and increasing compliance costs. Given this, the Company requests that the Commission remove the proposed requirements in section 500.3 until such time that AHRI Guideline U has been published. In the absence of the complete removal of this section, the Company offers the following feedback on details currently included in Section 500.3 that, left unchanged, will negatively impact the continued adoption and installation of HPWHs.

Section 500.3.3.7.3.2.1

The proposed regulatory text's use of air volume normalized by compressor capacity is not an appropriate compliance metric.[1] Compressor capacity is not a parameter that is consistently published, advertised, or standardized across HPWH manufacturers, nor is it readily available to designers, installers, or enforcement officials. As a result, this metric is difficult to verify and enforce, and introduces unnecessary ambiguity into the compliance process. Further, "Compressor capacity … determined using AHRI 540 Table 4 reference conditions for refrigeration with the "High" rating test point." This too is not a metric that is used in the design process by HPWH manufacturers or is readily available to manufacturers. Requiring this inappropriate rating as part of the code will not increase efficiency of the product above and beyond the current minimum room volume requirement by the manufacture and will add unnecessary regulatory burden.

The Commission should avoid metrics that rely on non-published or non-standardized manufacturer data. Any ventilation-related performance requirement should be based on transparent, verifiable parameters that are already available or clearly defined for all market participants, such as a static, specified minimum room volume.

Section 500.3.3.7.3.2.4

Section 500.3.3.7.3.2.3 limits the direction that exhaust air can travel in relation to a ventless surface while Section 500.3.3.7.2.4 mandates that exhaust air be directed 90 degrees away from intake air. When considering a HPWH with a top air intake and exhaust installed in a standard mechanical closet this requirement limits the installation to a single, and inefficient configuration. The only compliant configuration per this section

[1] Pre-Rulemaking Draft Regulatory text for the 2028 Energy Code @ Page 5-5

would be limited to angling the exhaust at the top of a louvered door. This configuration would severely reduce the natural convention on the room and lower the performance of the water heater. Additionally, the case report provides no data to support that having parallel intake and exhaust stream leads to any reduction in efficiency from cold air entrainment. As such the Company requests that this provision is removed.

Section 501.3.5.1

A. O. Smith is opposed to the code iterating on prescriptive design requirements for emerging commercial heat pump water heaters ("CHPWH"). Rather, the code should afford manufactures, and design engineers, the flexibility to determine the optimal configuration for a specific installation. Hence, mandating single pass return-to-primary systems would remove many efficient CHPWH configurations which would limit customer and design choice, which could have the unintended consequence of inhibiting market adoption of CHPWHs in the state. Additionally, the supporting CASE report acknowledges that historical analysis showed that multi-pass systems work efficiently in a single pass configuration compared to a single-pass system, and single-pass systems generally worked more efficiently when installed in a swing tank configuration.[2] The CASE Report further presents new research that shows that single-pass systems can work efficiently with many different refrigerants in a return-to-primary configuration but fails to subsequently justify that multi-pass systems are less efficient for this type of configuration. The efficiency of the system will largely depend on the recirculation losses in the building and ultimately the return water temperature. Single-pass systems are most efficient with a highly stratified tank and cold inlet water temperature. A return-to-primary system is expected to operate with elevated return temperature leading to a smaller differential temperature ("delta T") across the heat pump. This lower delta T will significantly reduce the efficiency of a single pass system compared to a multi-pass system, which is better suited to handle higher inlet water temperatures.

JA 14.5

JA14.5 would require defrost derates for applicable design-day conditions, but design temperatures occur along a continuum, and the draft does not clearly identify which temperatures, test points, or calculation method manufacturers must use. Without a defined method, manufacturers need to generate numerous values across climate conditions, creating substantial new testing and documentation burdens while still producing noncomparable results.

The Commission should delete the requirement unless and until it adopts a specific, reproducible method. If retained, JA14 should identify the required ambient and entering-water conditions, test points, treatment of defrost cycles, calculation interval, interpolation method, and documentation format. A limited set of standardized test points

[2] 2028 Title 24, Part 6 Final CASE Report – Nonresidential Water Heating @ page 38

with an accepted interpolation procedure would be more administrable than an open-ended obligation to provide derates for every potential design condition.

Section JA14.6

JA14.6.1 appears to require manufacturers or system designers either to provide several additional data elements or to apply a 20 percent derate to the U.S. Department of Energy rated capacity. The additional information may include performance at 47°F, manufacturer defrost logic, and average hourly maximum power from the heat pump and electric-resistance elements. Each option presents substantial practical concerns.

Requiring performance at 47°F would create a new capacity test and reporting burden for manufacturers unless the Commission identifies an existing, reproducible test method and accepts equivalent existing data. Requiring manufacturers to publish defrost logic may compel disclosure of proprietary control information without demonstrating that the information is necessary for code compliance. Requiring average hourly maximum power also creates implementation challenges. Although an algorithm to calculate this value is now required under the NEEA program, grandfathered products may not include the information in their manuals, which would likely generate significant questions to manufacturers and inconsistent field calculations.

The alternative 20 percent DOE capacity derate does not resolve these concerns. It could encourage manufacturers to selectively report certain information or accept the default derate based on commercial considerations rather than measured product performance. This structure risks inconsistent reporting and does not provide a technically neutral basis for equipment sizing.

The Commission should permit sizing based on documented project needs and an engineering assessment of load, storage, recovery, climate, and acceptable use of supplemental heat. If a default derate is retained, it should be supported by a transparent technical record and should not substitute for available manufacturer performance data.

Conclusion

A. O. Smith appreciates the constructive changes in the October 12, 2026, Pre-Rulemaking Draft Regulatory Text, including the alignment with federal terminology, the clarified system definitions, and the JA14 hydraulic balancing and setpoint provisions. To help ensure the 2028 code supports efficient commercial HPWH installations, the Company respectfully encourages the Commission to defer the Section 500.3 ventilation requirements until AHRI Guideline U is published, allow flexibility in return-to-primary configurations under Section 501.3.5.1, and refine JA14.5 and JA14.6 to rely on clear, reproducible methods and engineering-based sizing. The Company believes these refinements will preserve the draft's goals while reducing implementation burdens for designers, manufacturers, and enforcement officials.

A. O. Smith appreciates the opportunity to provide comments in response to the 2028 California Energy Code Draft CASE report for Nonresidential Water Heaters. Please feel free to contact me if you have questions and the Company looks forward to working with the Commission moving forward.

Best Regards,



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