December 19, 2024

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Re: PAR 1121 Public Working Group 7

To Heather Farr:

A. O. Smith Corporation ("A. O. Smith" or "Company") appreciates the opportunity to provide comments on the 7th Working Group Meeting ("Working Group") held by South Coast Air Quality Management District's ("SCAQMD") December 4, 2024, pertaining PAR 1111 and 1121: Reduction of NOx Emissions from Natural Gas-Fired Furnaces and Small Water Heaters. The Company's comments are focused specifically on PAR 1121. The Company appreciates the work that SCAQMD staff has invested into the development of this rule and looks forward to publication of these rule. While the Company is supportive of SCAQMD's overarching goals to reduce greenhouse gas ("GHG") emissions in the District, it does have some concerns with the proposed changes to the timing of this rule following feedback on the concepts proposed during the workshop.

I. 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.

II. Overview

On September 20, 2024, after 6 public working group meetings SCAQMD published PAR 1121 draft rule language proposing zero-NOx requirements for small water heaters with compliance dates of 2026

for new construction and 2027 for retrofits.[1] This draft rule language also provided several exceptions and alternate compliance options to address concerns around: mobile homes, emergency replacements, and retrofits that would require construction. Following the publication of this draft rule language SCAQMD staff gathered more diverse stakeholder feedback on the rule and published the Second PAR 1121 Draft Rule language on November 5, 2024.[2] This second draft rule language maintained the same zero-NOx compliance dates as the initial draft rule language but added in additional compliance pathways for multifamily properties and water heaters for installation or use in existing buildings at High-Altitude. The Second Draft also added in more concrete labeling and record keeping requirements for "Rental Companies". The Company is supportive the Second Draft rule language.

In the 7th public working group meeting, following the publication of the second draft rule language staff stated that they were considering delaying the compliance date for zero- NOx water heaters to 2029. Staff highlighted comments received from stakeholders about installation costs in multifamily properties and concerns raised around the availability of these products in the district. The Company understands the concerns surrounding multifamily properties and the costs that would be incurred if a central HVAC or water heating system would need to be replaced. However, 1121 is only regulating small residential sized water heaters, which have cost effective and commercially available products.

III. **Impacts of the rule on Multifamily**

The company acknowledges that Multifamily housing is a more complicated property type to replace gas-fired equipment with electric equipment and has some unique concerns that need to be considered. However, in terms of rule 1121, this property type is limited to properties that utilize in-unit residential water heaters, not larger central domestic hot water plants. This drastically simplifies the cost of a project to be more in-line with a residential retrofit and reduces the need to have large storage tanks and design around an already space limited machine room. In a multifamily building that utilized individual in-unit water heaters there are technology solutions for water heater replacements and their space requirements.

The company does, however, understand that there may be issues with available panel capacity and total electrical service delivered to the building, that may increase the overall installation costs of the project. These costs will not change with an implementation delay of the rule and will need to be addressed in order to make these buildings complaint. SCAQMD staff should ensure that there are adequate compliance pathways to allow both time for the work to be completed to make the building complaint as well as a mechanism for the property owner to spread the cost of the upgrades out and phase in their upgrades without being non-compliant.

[1] https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1121-preliminary-draft-rule-language.pdf

[2] https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1111-and-1121/par-1121-second-preliminary-draft-rule-language.pdf

The SCAQMD jurisdiction also has a unique design in their multifamily buildings in which the water heater is also used as the heat source for a hydronic heating loop. This could add some additional costs to the project if the zero-emission product needs to be upsized to meet the heating demand as well as the water heating load. The Company would encourage SCAQMD Staff to review the impact of these installation as part of their technology review.

A. Installation Costs

On the topic of installation costs, the Company disagrees with the attestation that delaying the rule from 2027 to 2029 will provide a benefit in the installation costs of zero-emissions water heaters. PAR 1121 has been acknowledged by staff as being a leading rule that will drive up the adoption of zero-emission technologies. In the absence of this rule, it is not expected that there will be any noticeable change in the installation costs of these products. There is however risk that a delay in the compliance date of this rule will result in less available rebate funding through the IRA, which has a legislative sunset date of September 20, 2031.[3] It is important to note that the federal IRA fund can, and are expected to, run out ahead of the September 20, 2031, date. Additionally, other rebates that are currently being offered may not be available come a 2029 compliance date. Requiring zero-NOx retrofits after these funds run out will lead to an overall increase in costs to comply with this rule.

B. Operating Costs

Deployment of HPWHs in the region is the most cost-effective approach to achieve the air quality standards when compared to other options. In the SCAQMD region water heating accounts for 63% of total household gas usage while space heating only represents 27%.[4] Given the high gas usage and subsequent NOx emissions, water heating should be prioritized as a cost justified control measure, and not be delayed until 2029. Additionally, HPWH's are a guaranteed bill savings compared to heat pumps for space heating. A minimally complaint gas-fired 40-gallon water heater has a UEF of .58, while an average HPWH has a UEF of 3.75, this means that on average a HPWH is 6.5 times more efficient than a gas water heater. With local utility data, local electric rates are $0.35/kW and gas rates are $1.6/therm or $0.055/kW.[5,6,7] Comparing the cost of electricity to gas yields a ratio of 6.4, given that this ratio is lower than the efficiency ratio for a heat pump to a gas water heater, the consumer will have a reduced energy bill regardless of their energy usage.

C. Product Availability

[3] 42 USC 18795 (a)(1) and 42 USC 18795 (c)(1)
[4] California Energy Commission. *2019 California Residential Appliance Saturation Study (RASS)*, July 2021 at Figure ES-5.
[5] 1 Therm is equal to 29.307kW
[6] https://www.cpuc.ca.gov/RateComparison
[7] https://fred.stlouisfed.org/series/APUS49A72620

Concerns have also been raised regarding the availability of these products, SCAQMD staff analysis shows that the rule would lead to an expected increase in 340,000 zero-emission water heaters annually. With adequate notice of this rule going into effect manufacturers can plan to meet the increased demand on the market. In the case where this demand could not be met, staff would be able to easily identify this deficiency in the technology review ahead of the zero-NOx rule going into effect.

IV. **Conclusion**

The Company is supportive of SCAQMD's goal to reduce NOx emissions in the District and meet their requirements under the Clean Air Act. The Company believes that Staff properly reviewed concerns raised and added adequate exemptions and alternative compliance pathways to address difficult installations. The Company believes that a successful technology review ahead of the 2027 compliance date will facilitate a successful transition to zero-NOx products, ensuring an adequate supply of compliant products, and meet the district's NOx emissions goals while limiting the burden on its residents.

The Company appreciates the opportunity to comment on the SCAQMD's draft rule language pertaining to zero-NOx standards for small water heaters and looks forward to continuing the dialogue and working with the SCAQMD Staff throughout the rulemaking process.

Please do not hesitate to contact me if you have questions.

Respectfully submitted,

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