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Emily Yen
Planning, Rule Development, and Implementation
South Coast Air Quality Management District (SCAQMD)
21865 Copley Drive, Diamond Bar, CA 91765
(Submitted via email to: eyen@aqmd.gov)

Re: Proposed Amended Rule 1146.2. Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters

Dear Ms. Yen:

AHRI appreciates the opportunity to submit comments on SCAQMD's updated Proposed Amended Rule 1146.2 (PAR 1146.2) regarding "Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters" posted to AQMD's docket on February 20, 2024¹.

Background on AHRI

AHRI represents more than 330 manufacturers of heating, ventilation, air conditioning, commercial refrigeration (HVACR) and water heating equipment. It is an internationally recognized advocate for the HVACR and water heating industry and certifies the performance of many of the products manufactured by its members. In North America, the annual economic activity resulting from the HVACR industry is more than \$211 billion. In the United States alone, AHRI member companies, along with distributors, contractors, and technicians employ more than 704,000 people.

Introduction

AHRI and its members have reviewed the updated PAR 1146.2 and understand that its purpose is to obtain further NO_x emission reductions and to implement the 2022 Air Quality Management Plan (AQMP) Control Measure C-CMB-01-Emission Reductions from Replacement with Zero

¹ Proposed Amended Rule 1146.2 (aqmd.gov); <https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1146-1146.1-and-1146.2/par-1146-2-draft-rule-language-february-2024.pdf?sfvrsn=6>.

Emission or Low NOx Appliances – Commercial Water Heating (Control Measure C-CMB-01).

AHRI and its members support many of the changes in the updated PAR 1146.2. However, AHRI and its members have additional concerns and request that SCAQMD consider our comments herein.

General Comments

1. BARCT Assessment

AHRI and its members understand that the purpose of a BARCT assessment is to establish emission limits for specific equipment categories consistent with state law and is defined as: “an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source.”² AHRI and its members have the following comments with regards to several steps in this approach.

a. Equipment Categories

In the Preliminary Draft Staff Report PAR 1146. 2³ (Staff Report), Table 2-1, the “Type 1 High Temperature Unit” refers to “Type 1 units that are high temperature units, which are units used to produce steam or to heat water above 190 degrees Fahrenheit.” AHRI and its members are pleased to see that in the updated PAR 1146.2, SCAQMD has now set the limit at 180 degrees Fahrenheit for water heaters.

While AHRI and its members would prefer the clarity given in the Working Group 4 proposal, which highlighted boilers and process heaters instead of “High Temperature Units,” we support the compromise decision to adopt a limit of 180 degrees rather than 190 degrees. This decision will align the PAR with the American Society of Mechanical Engineers (ASME) thresholds that impact storage water heaters, which is 180°F.⁴ Therefore, while aligning to DOE classifications for boilers and process heaters is preferred, it is more reasonable to define the limit at 180 degrees instead of 190 degrees as it will harmonize with existing standards.

AHRI and its members appreciate that SCAQMD staff “intends to conduct a technology assessment prior to the proposed implementation dates for high temperature units to gather information on changes in technology development

² CA Health and Safety Code Section 40406.

³ <https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1146-1146.1-and-1146.2/par-1146-2-preliminary-draft-staff-report-january-2024.pdf?sfvrsn=19>; <https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1146-1146.1-and-1146.2/par-1146-2-preliminary-draft-staff-report-january-2024.pdf?sfvrsn=19>.

⁴ <https://www.asme.org/codes-standards>.

and availability”⁵ as this endeavor will be instrumental in ensuring that key technologies required to carry out this rule are both commercially available and economically justified. AHRI looks forward to participating in those discussions. Additionally, AHRI and its members support the proposal to bifurcate the instantaneous water heater category. The bifurcation of this product class brings this PAR into alignment with the U.S. Department of Energy (DOE) classification of the residential and commercial sizes of these products. Alignment of state regulations with federal product classifications is paramount to reducing regulatory burden as manufacturers design and build their products based off the DOE classification.

b. Economic Impacts

The BARCT assessment must also look at economic impacts and the Staff Report states that “major components of the cost-effectiveness analysis are capital costs, emission reductions, discount rate, and equipment useful age” and provides equations to explain its reasoning. However, AHRI members have questions and concerns about this approach.

Although AHRI and its members recognize and appreciate that SCAQMD staff make extensive changes in this area in the updated PAR 1146.2, we still have concerns about whether the Cost Effectiveness Analysis provides a proper threshold and whether it provides sufficient transparency in its data sources or cost justifications.

Furthermore, SCAQMD has created a “cost-effectiveness screening threshold” that essentially has no enforcement mechanism (please also see our comments in the “Screening Threshold” section below).

2. Support for Exemptions

AHRI and its members are pleased to see that SCAQMD restored the Low Use Exemption in the updated PAR 1146.2. We believe this is important because the underlying issue allows for the use of emergency backup. For example, during a power outage, gas equipment could run on a generator backup, but it is unlikely any heat pump or electric resistance equipment could. We have not yet, however, had an opportunity to evaluate other updates in this section, such as the change from 9000 therms to 3000 therms. Therefore, AHRI and its members support this but acknowledge that certain aspects of the new proposals may need further consideration or refinement.

Additionally, AHRI is supportive of SCAQMD creating an exemption acknowledging the difficulties surrounding mobile homes. We acknowledge that this conversation stemmed out of the working group meetings for PAR 1111/1121⁶ for furnaces and water heaters and hope that this exemption is carried through in that PAR as well.

⁵ <https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1146-1146.1-and-1146.2/par-1146-2-preliminary-draft-staff-report-january-2024.pdf?sfvrsn=19>; <https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1146-1146.1-and-1146.2/par-1146-2-preliminary-draft-staff-report-january-2024.pdf?sfvrsn=19>.

⁶ Control of Nitrogen Oxides from Residential Type, Natural Gas-Fired Water Heaters.

3. Support for Harmonization with Other Agencies

To avoid adding unnecessary extra burden on manufacturers, AHRI and its members applaud SCAQMD's efforts to align compliance dates with other agencies such as the California Energy Commission (CEC) and the Department of Energy (DOE) in its updated PAR 1146.2 and ask that the agency continue this effort wherever feasible. For example, AHRI appreciates that SCAQMD aligns its phase 1 new construction timelines with CEC Title 24 Energy Code cycles. The 2025 CEC Energy Code is currently under development and is expected to be adopted by January 1, 2025. The code is not expected to take effect until January 1, 2026. The 2025 version of Title 24 will have a large emphasis on heat pump so alignment with the code provides a cohesive effective date for the market to transition over.

SCAQMD should align with state energy code cycles and Department of Energy (DOE) rulemakings. AHRI and its members also recommend keeping the proposed four-year gap between new construction and existing construction compliance dates.

4. Screening Threshold

SCAQMD has created a "cost-effectiveness screening threshold" that essentially has no enforcement mechanism. The staff report states that,

The 2022 AQMP established a cost-effectiveness screening threshold of \$325,000 per ton of NO_x reduced based on 2021 dollars. The 2022 AQMP stated that this screening threshold will be adjusted based on the annual California Consumer Price Index (CPI). PAR 1146.2 currently considers a \$349,000 per ton of NO_x reduced cost-effectiveness screening threshold using 2022 dollar-figures. The 2022 AQMP threshold is neither considered a starting point for control costs, nor an absolute cap.⁷

AHRI and its members also recommend that SCAQMD enforce this limit as a cap. We also recommend that the cost-effectiveness calculations be done without any TECH Clean California incentives.⁸

5. Labeling Requirement

The updated PAR 1146.2 SCAQMD is proposing a labeling requirement under the new Subdivision (j) for the period between the new building compliance date and the existing building compliance date of an equipment category. AHRI and its members do not support this proposal.

⁷ <https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/rule-1146-1146.1-and-1146.2/par-1146-2-preliminary-draft-staff-report-january-2024.pdf?sfvrsn=19>.

⁸ <https://techcleanca.com/>.

This information is already available to building inspectors and managers in several forms. SCAQMD currently operates a compliance database with product listings for all compliant products, the acceptable installation cases can be added to that database with limited impact to manufacturers production lines.⁹

Furthermore, given that a 0 NOx limit would effectively ban gas installation, inspectors can easily verify compliance simply by confirming the fuel source of the appliance without the need for labels.

Lastly, in reference to PAR 1146.2, Subdivision (j)(1) “Labeling and Reporting Requirement,” Table 4, (below) AHRI and its members do not understand the rationale for requiring units shipped prior to all Table 3 compliance dates to be marked "For Installation and Use in Existing Buildings Only." We would expect this marking to be applicable to units supplied or offered for sale on or after the start date and before the end dates in Table 4.

PAR 1146.2, Subdivision (j)(1) Labeling and Reporting Requirement, Table 4 – Labeling Schedule

Unit’s Compliance Schedule	Labeling Requirements	
	Start Date	End Date
Phase I	January 1, 2026	January 1, 2029
Phase II	January 1, 2028	January 1, 2031
Phase III	January 1, 2029	January 1, 2033

For these reasons, we ask SCAQMD to remove this labeling requirement proposal, as it is unnecessary and would be expensive and burdensome for manufacturers.

6. Alternate Compliance Pathways

AHRI supports SCAQMD’s addition of the Section (i) for Alternative Compliance Options. The addition of a section to account for delays caused by utilities will be instrumental in ensuring a smooth transition to 0 NOx without affecting services to a building. However, given that this rule will be phasing out the ability to sell these products into the district, AHRI would recommend that SCAQMD staff review and understand what the availability of ultra-low NOx gas fired products will be in the state that can be used as a temporary unit while a building is awaiting a service upgrade. While there could be options available at the onset of this rule, in 15-25 years, the available stock may be limited when the last of these products are being transitioned.

7. Need for Broader Stakeholder Engagement

While we appreciate SCAQMD’s stakeholder engagement efforts, we urge the agency to

⁹ <https://www.aqmd.gov/home/rules-compliance/rules/support-documents/rule-1146-2-details>

continue to work with key affected sectors of the regulated community including engagement with installers and end users such as building owners to ensure any unknown issues or consequences are identified.

Conclusion

AHRI and its members appreciate SCAQMD's stakeholder engagement efforts towards this goal and have been attending meetings and workshops. AHRI and its members additionally look forward to collaborating with SCAQMD to achieve policy solutions that are practical, economical, and technologically feasible.

Thank you for allowing us to provide comments to SCAQMD on the updated Proposed Amended Rule 1146.2 regarding "Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters."

Please feel free to contact us directly if you have questions or need additional information.

Sincerely,

A handwritten signature in black ink that reads "Stacy Tatman". The signature is written in a cursive, flowing style.

Stacy Tatman, MS, JD
AHRI Senior Director, Regulatory Affairs
Email: statman@ahrinet.org