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October 17, 2024

Via Email: pcampbell@aqmd.gov, jvinh@aqmd.gov

Mr. Peter Campbell
Ms. Jennifer Vinh
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765

RE: Proposed Amended Rule 1111 Reduction of NOx Emissions From Natural Gas-Fired Furnaces Proposed and Amended Rule 1121 – Reduction of NOx Emissions From Small Natural Gas-Fired Water Heaters

Dear Mr. Campbell and Ms. Vinh,

Rheem Manufacturing Company (Rheem) appreciates the opportunity to submit the following comments in response to the South Coast Air Quality Management District's (SCAQMD) Proposed Amended Rule 1111 Reduction of NOx Emissions from Natural Gas-Fired Furnaces Proposed and Amended Rule 1121 – Reduction of NOx Emissions from Small Natural Gas-Fired Water Heaters (Proposed Rules).

Rheem is an industry leader in total heating, cooling, refrigeration and water heating solutions and one of the few global brands with product offerings covering residential and commercial heating, cooling, conventional and hybrid storage water heaters (HPWH), tankless water heaters, solar water heating systems, pool and spa heaters, commercial boilers, residential hydronic and geothermal systems, commercial refrigeration products, indoor air quality accessories, and replacement parts for all categories. Rheem is headquartered in Atlanta, Georgia, and has U.S. based manufacturing facilities in Alabama, Arkansas, California, Connecticut, and North Carolina. The company also operates distribution facilities throughout the US, Canada, and many other countries around the world. Rheem manufactures commercial boilers and pool heating equipment at the Raypak facility in Oxnard, CA, which are affected by SCAQMD rules.

Rheem appreciates SCAQMD staff's efforts to update the subject Rules and specifically to include and consider stakeholder input. Rheem would like to express, and reiterate our concerns around the compliance dates, the expanded scope for commercial furnaces, and the new labeling and reporting requirements.



INTEGRATED HOME COMFORT

Purpose and Applicability

Under the current and proposed rules 1111 and 1121, propane gas-fired furnaces and water heaters are not covered. Rheem understands that a field-convertible natural/propane gas-fired product would be covered, tested, and certified under the natural gas-fired configuration.

Rheem notes that mobile (manufactured) home furnaces and water heaters are typically field-convertible natural/propane gas-fired products, with unique design features¹ specifically required for mobile installation, and are not approved for non-mobile home applications. Given this practice, Rheem is not concerned about circumvention of the rule for non-mobile home product propane to natural gas conversions.

Definitions

Rheem recommends the “mobile home” definitions align with the California Energy Commission’s (CEC) definition² of “mobile home” and Federal Department of Housing and Urban Development’s (HUD) definition³ of “manufactured home” as much as possible. However, it should be recognized that ANSI Z21.10.1, the safety standard required for the water heaters covered by Rule 1121, has a slightly different definition and uses the term “manufactured home (mobile home)” to capture the different types of structures while excluding recreational vehicles. This standard prescriptively requires the term “manufactured home (mobile home)” to be used for certain markings. For consistency, Rheem recommends this term be used interchangeably with “Mobile Home” in this rule for product labeling.

Rheem recommends the following definition:

MOBILE HOME means a structure, transportable in one or more sections, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air-conditioning, and electrical systems contained in the structure.

Rheem recommends the following minor modification to the “new building” definition as the 2025 Title 24 will publish around the same time as the Governing Board meeting currently scheduled for December.

“NEW BUILDING means a building that is newly constructed, or a building with a major alteration which changes the occupancy classification of a building, which means a change in the formal designation of the primary purpose of the building pursuant to 2022 Title 24

¹ Direct inlet air venting through the floor and exhaust venting through the ceiling.

² CEC definition of “mobile home”:

[https://govt.westlaw.com/calregs/Document/I1F4EF800995D11EC8315E3DE9BEF651C?viewType=FullText&origin=attributionContext=documenttoc&transitionType=CategoryPageItem&contextData=\(sc.Default\)](https://govt.westlaw.com/calregs/Document/I1F4EF800995D11EC8315E3DE9BEF651C?viewType=FullText&origin=attributionContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default))

³ HUD definition of “manufactured home”: <https://www.ecfr.gov/current/title-24/subtitle-B/chapter-XX/part-3280/subpart-A/section-3280.2>.

California Building Code Part 2 Chapter 3 for occupancy classification and use, or any subsequent version of the Building Code.”

Scope

Rheem is concerned about the broad scope of Rule 1111 and the inclusion of commercial furnaces 175,000 to 2 million Btu/h. Rheem recognizes that a very small subset of products included already have zero-NOx replacement solutions and that with sufficient development time and incentives this offering will grow. However, there is also a significant portion of the products and applications covered by the regulation that cannot easily or cost-effectively be transitioned within the proposed timeframe, especially in emergency replacement situations. Large space heating installations, which have not historically been subject to ultra-low NOx rules, will require a broad portfolio of heat pumps with cold climate capability that may not be ready to meet the proposed effective dates and could result in significant cost impacts to consumers and businesses where replacements or retrofit products are not available.

Requirements

The 2025 version of California’s Title 24 essentially requires electric heat pump space and water heating in new construction. This is done through “electric ready” construction requirements⁴ and energy modelling with an electric heat pump space and water heater baseline. For water heating, all new construction will have to have all the building components for effective electric heat pump water heater installation and operation, which removes installation advantages for gas-fired and electric resistance water heaters. By the proposed new construction compliance date, any installation using an electric resistance or gas-fired water heater will need to make other efficiency improvements to comply with Title 24. Given the number of constraints the builder must navigate to install a non-electric heat pump water heater, Rheem expects very few new constructions to use a gas-fired water heater. Within rule 1121, Rheem recommends that the new construction non-mobile home water heater date be removed and that the rule only retain the January 1, 2027, date for new construction and existing buildings. This change would simplify the requirements for most residential structures within South Coast’s jurisdiction, minimize distribution complications, and ease labeling confusion. Further, this change would align with the Bay Area AQMD’s zero NOx date for all installations (*i.e.*, January 1, 2027).

Rheem recommends that products required for the alternate compliance options be explicitly referred to within section (d)(2) of rule 1121. These products will need to be sold into distribution to serve the needs of the rental market. Rheem recommends the following language, “On and after the applicable Table 2 compliance dates, no person or entity shall install a Water Heater for use in the South Coast AQMD that exceeds the Table 2 NOx emission limits, unless intended for use in an alternate compliance option as described in (f) or meeting exemptions in (h).” Also, it should be recognized that certain retailers and wholesalers within

⁴ For water heating, 240V/30A wiring, drain, and minimum room volume to install a large storage water heater.

the South Coast jurisdiction could offer for sale water heaters specifically for installation outside the jurisdiction not subject to this rule.

Rheem strongly encourages Staff to implement a compliance regime for rules 1111 and 1121 based on date of equipment manufacture, rather than installation, to make planning and inventory management straightforward for manufacturers, distributors, and contractors.

Certification

The proposed 1121 only requires certification to section (d)(1), which includes the Table 1 emission limits (*e.g.*, ultra-low NOx) and not the Table 2 emission limits (*e.g.*, zero NOx). Therefore, natural gas-fired water heaters that are compliant with the Table 2 emission limits do not need to be certified. Rheem supports this as the current test method cannot be used to confirm a water heater has zero emissions due to measurement accuracy, equipment tolerances and no correction for emissions that are already present in the ambient air.

Exemptions

Rheem recommends that Staff reconsider its exclusion of dual-fuel systems as a compliance pathway for the requirements in rule 1111. Dual-fuel systems provide an ideal pathway to lower NOx emissions and a way to reach an average NOx emissions of less than 14ng/J. Not only would a dual-fuel pathway limit NOx emissions but it also would help bridge the cost and availability gaps that exist in switching to heat pumps with cold climate capability.

SCAQMD should include a definition of dual-fuel systems in the proposed rule with control requirements to ensure the weighted average NOx emissions are below the requirements. Dual-fuel systems also should be considered as an option in the environmental analysis, especially given the impact to low- and medium-income consumers.

Alternate Compliance Options

Rheem recommends a minor clarification to section (f)(1) of rule 1121, "~~If a Water Heater an Existing Building~~ requires a short-term replacement due to sudden Water Heater failure [...]." The building or consumer needs a replacement water heater, not the existing water heater.

The proposed section (f) does not require rental units to be certified. Rheem understands this is intended as South Coast may not maintain their existing database.

Rheem recommends that the section (f)(1) alternate compliance option extend the rental period to 24 months. The "construction" option in (f)(2) could arguably be applied for most "electrical upgrade" installations due to broad provisions and uncertain enforcement around expanding the space or relocating equipment. Further, Rheem is concerned that there are several issues the consumer or installer will need to handle for each of these installations, including but not limited to, permitting and performing at least 2 installations, and applying for

rebates/incentives. Finally, as up to 5 million homes will need to be upgraded, Rheem is concerned about the availability of electricians to perform the electrical upgrades.

Emergency Replacements

Staff should consider and recognize that there are multiple applications and installation challenges that need to be overcome and addressed prior to the Rule 1111 compliance dates. A key installation challenge is emergency replacement where the electric service, equipment footprint, or product availability prevents immediate compliance and affordability. The proposed alternate compliance option to obtain a rental furnace for no more than six months is an expensive and impractical option, particularly for commercial applications where equipment is removed and installed by crane and where footprint modifications are costly and require advanced planning. Staff should consider a mitigation fee or other exemption pathway to prevent dire outcomes for businesses.

Labeling

Consistent with the prior recommendation to align the new construction and existing building compliance date for non-mobile home water heaters, Rheem recommends that South Coast remove or revise the labeling requirements in rules 1111 and 1121. With natural gas-fired water heaters and furnaces still expected to be distributed to other air districts after January 1, 2027, and for rental purposes, having label language that identifies specific prohibitions in South Coast and Bay Area could be helpful, but should not be prescribed in this rule. For example, manufacturers may choose to denote “Not for installation in the South Coast and Bay Area AQMD(s) after January 1, 2027” for products distributed in California.

Rheem recommends a mobile home specific label be applied to mobile home products and recommends the following: “Not for installation in South Coast AQMD after January 1, 2026, for newly constructed manufactured (mobile) homes or after January 1, 2030, for existing manufactured (mobile) homes. Excludes master-metered mobile home parks.”

Finally, Rheem requests South Coast clarify that the rental label is to be applied by the rental company and, when applied, should not cover any other label on the product.

Reporting

Rheem does not support the reporting requirements at section (g)(4). Manufacturers of furnaces and water heaters, who primarily serve the market through wholesalers and distributors, have limited knowledge and data on the exact location where their products are installed. Products shipped to distributors or retailers within South Coast may not be installed in the South Coast jurisdiction, while products shipped outside, but near, South Coast could easily be brought in without the manufacturer’s knowledge. Further, rental units, for use when the alternate compliance options of section (f) are needed, will need to be available within the South Coast jurisdiction for installers to purchase. Reporting requirements are better left to



point-of-sale entities, therefore, Rheem recommends this section be removed or amended to address point-of-sale entities.

Conclusion

Rheem remains committed to bringing sustainable water heating and HVAC solutions to the market to achieve decarbonization goals and to provide cost-effective heating and cooling solutions for new construction and replacement applications serving a broad cross-section of residents, homeowners, and businesses.

Thank you for the opportunity to provide these comments. If there are questions, please contact me directly.

Sincerely,

James Phillips
Senior Regulatory Affairs Manager
Rheem Manufacturing Company

cc: Karen Meyers, Allison Skidd, Joe Boros

