



The new degree of comfort.™

November 1, 2021

Ms. Jennifer Elwell  
Bay Area Air Quality Management District  
375 Beale Street  
Suite 600  
San Francisco, CA 94105

**RE: Bay Area Air Quality Management District Draft Amendments to Regulation 9, Rules 4 and 6**

Dear Ms. Elwell,

Rheem Manufacturing Company (Rheem) appreciates the opportunity to submit the following comments regarding the Bay Area Air Quality Management District (BAAQMD) Draft Amendments to Regulation 9, Rules 4 and 6.

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, 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 California as well as in Alabama, Arkansas, Connecticut, and North Carolina.

Rheem is committed to bringing sustainable water heating and HVAC solutions to the market to meet decarbonization goals, energy efficiency standards and also to achieve reduced nitrogen oxide (NOx) emissions. To this end, Rheem's intent is not only to help BAAQMD meet new air pollution reduction targets, but also to provide cost-effective heating and cooling solutions for new construction and replacement applications serving a broad cross-section of residents, homeowners, and businesses. A key part of this is to ensure a smooth transition with new technologies considering installation ease, reliability, and service, while still meeting consumer needs and expectations. While Rheem supports BAAQMD's broader objectives to reduce NOx emissions in the region, we believe several changes should be made to ensure the regulation can bring the NOx emission reductions the Board is seeking.



INTEGRATED HOME COMFORT

First, the range of technologies needed to meet the proposed zero NOx requirements and implementation dates has not been established. For example, while there are residential heat pump water heaters that can be used today to meet these targets in many new homes, there are no known technologies to replace all commercial applications. A more thorough technological assessment should be completed with manufacturers to help put products out that help BAAQMD meet their NOx targets. Such an assessment could include technology availability, respective equipment and installation cost and market availability for key products covered.

Additionally, the scope of the Regulation 9, Rules 4 and 6, is far reaching including residential, commercial, and industrial equipment with up to 2 million Btu/h, impacting multiple product types used for various single family, multi-family and commercial business applications. 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. In particular, large water heating equipment installations, especially those used for commercial applications, will not meet the deadlines used by BAAQMD and could provide significant cost impacts to consumers and businesses where replacements or retrofit products are not available.

Staff should consider and recognize that there are multiple applications and installation challenges that need to be overcome and addressed prior to the compliance date. Key installation challenges already noted include:

- Emergency replacement of failed HVAC and water heating equipment, funding, product availability, ease of installation and contractor timing for service
- Electric wiring and panel upgrades and insufficient power supply with older homes
- Larger installation footprints, provisions for air flow for heat pumps and renovation costs
- Need for high temperature water supply for commercial processes, restaurants, laundry, hospitals, and healthcare facilities.
- Compliance path for large commercial and rooftop HVAC units which have not traditionally been subject to NOx restrictions and have limited replacement options

Rheem supports the Air Pollution Control Officer (APCO) requirement for the interim reports within the draft regulation, (which are to include Accessibility factors, Technology options currently projected to be available, Market availability of such technology, Projected costs of purchase and installation and Incentive program available

to reduce costs). However, we believe this should be completed *prior* to finalizing the proposed rule and more frequently thereafter to provide appropriate planning and a proper development horizon. Typical product development cycles are five years—significantly longer than the two years outlined in the BAAQMD regulation.

Further, Staff should conduct a full technology assessment prior to setting the rule, giving thoughtful consideration to “near” zero emissions and dual fuel solutions, which could include some types of natural gas, to achieve significant NOx reductions, while at the same time preserving energy resilience and emergency back-up for the larger equipment. The assessment should also recognize that not every application can be decarbonized, and that certain ‘off-ramps’ may need to be included.

Rheem commends Staff for their inclusion of hybrid (dual fuel furnace) heat pumps that comply on an average basis, recognizing the readiness and effectiveness of this technology to reduce emissions. Rheem is very interested to understand how compliance will be determined as it has not yet been detailed. Rheem also requests that hybrid (dual fuel) heat pumps for water heating equipment be included. This would apply to installations where a small percentage of the total heating load is provided by a gas fired water heater/boiler for the purposes of emergency back-up and peak loads. Electric heat pumps with storage tanks used to replace gas fired equipment usually require much larger installation footprints and will typically comprise of multiple units. Utilizing gas equipment for some portion of the total load would provide for a simplified installation and lower cost. As with air hybrid heat pumps, compliance for such water heating equipment could be determined on an average basis.

Rheem agrees with the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) comments pertaining to the technical issues identified and the proposal that a single compliance date of January 1, 2040, should be established so the entire supply chain have sufficient time to develop, test and commercialize the products covered by the rule. Rheem would support an earlier compliance date than 2040 with the following changes:

- The rule should be more narrowly tailored for a specific subset of residential equipment types, sizes and applications with known replacement solutions and costs
- Allow for a compliance path for hybrid dual fuel for air and water heating equipment
- The rule should be supported by incentives and funding for adoption and installation of new equipment for replacement applications, especially for affordable housing, and including electric panel upgrades and emergency replacements



- Rule should provide exceptions for commercial and industrial applications, including those requiring high temperature water

Rheem appreciates the BAAQMD's effort in developing this proposal including the industry stakeholder working group meetings used to solicit input. We look forward to collaborating further with staff in the rulemaking process and would be happy to discuss our comments.

If there are questions, please do not hesitate to contact me directly.

Sincerely,

A handwritten signature in black ink that reads "Karen B. Meyers".

Karen Meyers  
Vice President, Government Affairs  
Rheem Manufacturing Company

cc: BAAQMD Board of Directors c/o Marcy Hiratzka, Clerk of the Boards, Executive & Administrative Resources  
Joe Boros  
Allison Skidd

