



August 31, 2012

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765-4178

Re: AHRI Comments on the Draft 2012 Air Quality Management Plan

Dear Sir/Ma'am:

These comments are submitted by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) in response to the South Coast Air Quality Management District's (AQMD) issuance of the draft 2012 Air Quality Management Plan (AQMP).

AHRI is the trade association representing manufacturers of heating, cooling, water heating, and commercial refrigeration equipment. More than 300 members strong, AHRI is an internationally recognized advocate for the industry, and develops standards for and certifies the performance of many of the products manufactured by our members. In North America, the annual output of the HVACR industry is worth more than \$20 billion. In the United States alone, our members employ approximately 130,000 people, and support some 800,000 dealers, contractors and technicians. The membership of the AHRI Furnace Section includes all the major manufacturers of commercial space heating equipment being sold in the district today.

In general, we recognize the AQMD staff's dedication to do what it can within its authority to improve the air quality in the district. We ask that staff consider the following comments regarding one of the control measures proposed in the draft 2012 AQMP:

CMB-03: Reductions from Commercial Space Heating [NOx]

The estimated NOx reduction of 0.18 tons per day (TPD) is not sufficiently validated. We recommend that at this stage of AQMP development the potential NOx reduction for this measure be noted as "To be determined."

Page IV-A-64 of Draft 2012 Appendix IV-A states "staff estimates that 45 to 60% of all commercial, light manufacturing, warehouse, office, school and government building floorspace is heated by commercial forced air units." This estimate was based on national estimates that were developed by the U.S. Department of Energy (DOE). The estimates of the current daily NOx emissions from commercial space heating equipment and the potential reductions in this control measure should have been based on information that reflects the commercial space heating inventory and the percentage of commercial buildings heated by commercial gas furnaces within the district. The

characteristics of the district respective to population and the high saturation of gas-fired equipment are so above average that national average values should not be used.

Another concern with the draft AQMP analysis for this measure is that it fails to account for the energy savings that will be achieved by the implementation of the California Energy Commission's (CEC) *2013 Building Energy Efficiency Standards* (California Code of Regulations, Title 24). In particular, the improved building envelope requirements of the 2013 Title 24 regulations will reduce building heating loads, thereby lowering the amount of gas consumed to heat the building. This reduction in gas consumption directly reduces the NOx emissions and must be factored in any estimates of NOx reductions from this control measure. Furthermore, this factor of the analysis would be conservative since California's building efficiency standards are updated on a three-year cycle, so it is highly likely that there will be at least one more revision to the Title 24 standard before the AQMP's proposed 2018 implementation period.

The projected implementation date for this measure is 2018. In view of the complexities in developing gas-fired equipment with reduced NOx emissions and the current ongoing project to reduce NOx emissions from residential gas furnaces, we recommend that this 2018 implementation date not be changed to any earlier date as the associated rule is developed. The manufacturers of commercial gas central furnaces are the same companies who manufacture residential gas furnaces. Those manufacturers are already working towards redesigns that would allow equipment to satisfy the requirements of Rule 1111. Technical feasibility studies are ongoing but it has not yet been confirmed that the 14 ng/J NOx emission limit for gas-fired furnaces less than 175,000 Btu/h is practical in the field. Recognizing that manufacturers are being required to provide furnaces that are compliant with Rule 1111 by 2014, 2015 or 2016, depending on the particular furnace category, the proposed adoption date associated with CMB-03 within the 2012 draft AQMP is nominally only 2 to 3 years later. Past experience with rules on redesigning gas fired equipment to reduce NOx emissions suggests that even a 2 to 3 year lead time may not be enough. However, that experience clearly shows that it cannot be anything shorter.

The adoption schedule in the draft 2012 AQMP does not allow adequate time for manufacturers to shift their focus from furnaces less than 175,000 Btu/h to furnaces greater than or equal to 175,000 and less than 2,000,000 Btu/h. In our opinion, manufacturers should not be required to work on developing new designs for residential and commercial furnaces simultaneously. It cannot be assumed that the emission reduction technologies are easily transferrable from residential to commercial products. Manufacturers would have to undergo extensive research to ensure that no adverse impact is placed on product safety while meeting the AQMD's reduction requirements. Hence, we recommend that the adoption dates be postponed so that manufacturers have sufficient lead times to comply with the requirements of the 2012 AQMP; Phase I (technical assessment) should be moved to 2015 and Phase II should be moved to 2017. The implementation period may need to be adjusted as well to accommodate the postponement of the adoption dates.

Chapter 3 and Appendix IV-A of the draft 2012 AQMP do not provide any reference to the NOx inventory of 2.2 TPD for commercial space heating equipment. How was this baseline estimate deduced for the district? We believe that the reduction levels specified

in CMB-03 need to be investigated further. The draft 2012 AQMP does not explain how the proposed reduction of 0.18 TPD by 2023 was achieved. Furthermore, the total reduction of 0.6 TPD was calculated based on national estimates and not the inventory available in the district. We feel that the AQMD will have a better understanding of the reduction levels upon the completion of the technical assessment. Hence, we recommend that at this stage of the AQMP development, the potential NO_x reduction for both these reduction levels be replaced with the phrase “To be Determined.”

AHRI appreciates the opportunity to provide these comments. If you have any questions regarding this submission, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'AR' with a stylized flourish underneath.

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