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South Coast Air Quality Management District
Governing Board Members
21865 Copley Drive
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Submitted via: e-mail

Re: South Coast Air Quality Management District Rule 1111

Lennox International Inc. (Lennox) is one of two American-based manufacturers who compete in the residential furnace market subject to Rule 1111. Lennox is a leading provider of climate control solutions for the heating, air-conditioning and refrigeration equipment markets (HVACR). Lennox has a long history of innovation leadership since our founding over 120 years ago in Marshalltown, Iowa. We manufacture some of the most efficient and environmentally friendly products available while maintaining the levels of product safety and reliability required by the HVACR market.

Lennox supports South Coast Air Quality Management District's ("SCAQMD") Rule 1111 and commends SCAQMD Staff and Stationary Source Committee's direction on February 15, 2019 to maintain Rule 1111 as currently amended ending the mitigation period for non-weatherized gas furnaces on October 1, 2019.

A. Background and Status

The establishment of the 14 ng/jl limit for furnaces covered by Rule 1111 was finalized in November 2009. If SCAQMD intends to move forward with the significant improvement in furnace NOx emissions, regulatory certainty is paramount and Rule 1111 must be maintained in its current form. Further Amendment of Rule 1111 will cause significant uncertainty in the market and perpetuate a never ending cycle of resistance to low emission furnace technology by manufacturers, distributors and installers.

Lennox introduced the first commercially available SCAQMD Rule 1111 compliant furnaces in November 2017. Following this initial introduction Lennox has launched a complete range of compliant products that range from non-condensing furnaces to premium high efficiency condensing furnaces in configurations that cover over 95% of SCAQMD consumer applications. In addition, Lennox is in process of introducing weatherized furnaces in accordance within the current regulatory framework. But at this juncture continued Lennox support of Rule 1111 will be driven by regulatory certainty and economic viability of the compliant furnace products.

Lennox has spent millions of dollars in research and development investments and production capability to commercialize a technically feasible product and has paid millions in mitigation fees to comply with SCAQMD Rule 1111 regulations. During the recent Rule 1111 Amendment process Lennox consistently indicated that compliant manufacturers were being placed at a disadvantage in the market and although Lennox has upheld its commitment to bring these products to the market this has been validated by the poor results of the Clean Air Rebate

Program to date. Lennox has produced over 1600 compliant units for the SCAQMD and SJVAPCD markets and currently has hundreds of units in inventory available for sale.

Lennox's effort to bring compliant products to market has been an extraordinary task, and we continue to overcome challenges presented by a natural disaster, regulatory uncertainty and barriers of bringing new technology to the market. Consumer safety is a cornerstone of our business and has been maintained with this and any Lennox product launch. As with the introduction of any new technology, a learning curve and opportunities for continuous improvement are part of the process. The launch of the Lennox Rule 1111 compliant furnaces were no exception to this and issues relating to sound and flame sensing have been identified for improvement. Each opportunity to date has been diligently assessed to determine root cause using the latest engineering analytical tools, validated through test to confirm, and followed by sound Engineering practice to identify appropriate corrective actions which are then again validated using both analytics and test methodologies. The sound issue was identified and corrected in early production and the flame sense issue, specific to one model, has identified root cause and corrective action is in process. The launch process has also identified needs for more inclusive training to ensure installers, dealers and distributors are prepared to handle the unique installation requirements with additional training and field support. While the Lennox products install much in the same manner as their predecessor products, there are unique attributes that require understanding and additional training specific to the product.

On July 19, 2019 our Marshalltown, Iowa facility was hit by a tornado, and while all 400 people working inside took shelter and were not injured, the factory incurred significant damage and was out of production for a significant period of time. The recovery effort to rebuild our Marshalltown facility has proceeded well with full employment currently back to work. Production of the Lennox Rule 1111 compliant products is planned to restart in March 2019 with corrective actions implemented.

B. Lennox Recommendation and Discussion of Key Issues

In review of the SCAQMD staff update provided at the February 15, 2019 Stationary Source Committee meeting, Lennox strongly supports SCAQMD and Station Source Committee direction to:

- Proceed with Rule 1111 without further Amendment.
- Reject consideration of a "sell through" which effectively extends the mitigation period.
- Expand the Clean Air Rebate Program to include Residential New Construction Builders.
- Continue to monitor the effectiveness of the Clean Air Rebate program.

During recent SCAQMD meetings regarding Rule 1111 there was significant debate regarding market coverage, consumer choice and industry capacity. While Lennox cannot state the position of the industry, we can demonstrate market coverage of our products and can point to data readily available to SCAQMD from which data driven assessments can be made. Further the capability of any manufacturer to meet the needs of an intended market is driven by regulatory certainty and economic viability. Rule 1111 compliant products are not driven by

consumer demand, they are required by regulation and for continued manufacturer support regulatory certainty must be maintained. No manufacturer can meet the SCAQMD market needs if the rules of the game are constantly changing. The following details some of the key issues.

Market Coverage

Lennox offers a portfolio of products that cover well over 95% of the SCAQMD furnace applications. While there has been debate over market coverage and consumer choice, there is an ample breadth of products that are commercially available today that cover nearly all SCAQMD applications.

The current Lennox portfolio (40 ng/jl) includes 12 product families and hundreds of models in a variety of brands ranging from our Non-condensing (80% AFUE), 1 stage furnaces with PSC blower motors to premium Condensing (98% AFUE), variable capacity furnaces with variable speed blower motors. These include upflow/horizontal and downflow air delivery configurations, a wide range of input capacities and the ability to convert to propane fuel. It is important to point out that 4 of these families will be eliminated from the market when the Department of Energy's furnace fan regulation (FER) becomes effective on July 3, 2019.

The Lennox compliant portfolio (14 ng/jl) includes 4 product families with 56 models available, covering a similar range of product applications with certain low volume exceptions. Our compliant (14 ng/jl) portfolio does not currently cover downflow or the large heating input (over 110 Kbtu/h) capacities. To confirm market coverage Lennox conducted a review of our recent 2017 and 2018 sales into SCAQMD and SJVAPCD districts. The results indicate that the Lennox portfolio covers 98% of our current sales applications with only 2% of sales being downflow and 0.05% large heating input applications. And while there is an extensive range of products currently available to the SCAQMD market the data indicates that over 80% of the products sold fall into a narrow band of upflow/horizontal non-condensing furnaces ranging in capacity input from 40,000 to 100,000 Btu/h.

Industry Capacity

It has been stated that no individual manufacturer can cover the volume required by the SCAQMD market, and Lennox agrees that competition at some level is necessary for consumer choice. The HVAC industry produces well over 3 million furnace annually with recent AHRI data indicating shipments of 3.4 million furnaces in 2018. The volume needs of the SCAQMD market are well within the production capability of major OEM's in the furnace market. What is not possible is to meet the needs of the market when the regulatory environment for furnaces is uncertain. Lennox is a publicly held business and cannot continue to invest in products that are not market viable due to regulatory uncertainty.

Amending Rule 1111 to add a "Sell Through" provision

Lennox strongly opposes consideration of even a narrowly constructed extension of the mitigation period through a "sell through" provision as it will effectively extend the mitigation period and further delay the implementation of compliant products. A "sell through" period

would require a Rule 1111 Amendment and take months resulting in significant market uncertainty.

A “sell through” will also allow for “channel loading” of higher emission products at the end of the mitigation period. Further manufacturer attempts to extend the mitigation period through a “sell through” provision are merely further efforts to delay and avoid the Rule 1111 emission requirements. To further extend the mitigation period as we are nearing the end of the extended mitigation period is not justified and unwarranted. Any further extension will be a critical disincentive for further development and deployment of compliant products in the near term, promoting business as usual for higher emission non-compliant products.

Clean Air Rebate Program

Lennox supports the SCAQMD recommendation to make builders eligible for the Clean Air Rebate Program. The businesses that support new construction builders also support the replacement markets and incenting builders will likely help to move products into the much larger replacement market.

Lennox also recommends SCAQMD continue to monitor the progress of the Rebate Program for effectiveness and modify plan as needed to encourage aggressive market uptake of compliant furnaces.

C. Summary

In summary Lennox supports the work of SCAQMD to move forward with Rule 1111 without further Amendment. The signal sent by SCAQMD Staff and the Stationary Source Committee on February 15, 2019 was a critical factor to establish regulatory certainty required by compliant manufacturers to continue to invest and drive the furnace market toward low emission products. Lennox request that the Governing Board confirm this direction as any indication of further Amendment to Rule 1111 will continue to drive uncertainty and perpetuate resistance of the market to move to low emission products. Lennox has upheld its commitment to support Rule 1111 with its resulting significant reduction in NOx emission to help SCAMQD achieve its air quality objectives. Continued Lennox support will be driven by regulatory certainty and economic viability of Rule 1111 compliant products. Thank you for your consideration of these comments and if there are further questions please contact me directly for further discussion.

Sincerely,



Dave Winningham,
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