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California Air Resources Board
1001 I Street
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Submitted via: www.arb.ca.gov/listpub/comm/bclist.php

Re: Lennox Comments on California Air Resources Board Proposed Amendments to the Prohibitions on Use of Certain Hydrofluorocarbons in Stationary Refrigeration, Chillers, Aerosols-Propellants and Foam End-Uses Regulation (Title 17, California Code of Regulations, section 95371 et seq.)

Lennox International Inc. (Lennox) hereby submits comments on the Notice of Proposed Amendments to the, *Prohibitions on Use of Certain Hydrofluorocarbons in Stationary Refrigeration, Chillers, Aerosols-Propellants and Foam End-Uses Regulation*, published by the California Air Resources Board (CARB) on October 20, 2020.

Lennox is a leading provider of climate control solutions for the heating, air-conditioning, and refrigeration equipment markets. Lennox is a publicly-traded company focused on the HVACR industry and has thousands of employees. Lennox manufactures Commercial Refrigeration and Stationary Air Conditioning products that will be impacted by the proposed CARB regulations.

Lennox supports efforts to reduce the global warming potential of refrigerants to improve human health, help to preserve natural resources and protect our environment. This is exemplified by Lennox's tradition of innovation and product efficiency leadership in the HVACR industry. This industry is an important source of American jobs and provides equipment that is vital to the health and wellbeing of consumers and the preservation of food.

Further, Lennox understands California AB32 and SB32 require actions to reduce emissions to drive improvements in air quality in accordance with Federal regulations and that California SB 1383 is an integral part of the overall improvement plan requiring a 40% reduction in HFCs from 2013 levels by 2030. Lennox is generally supportive of these objectives and has been at the forefront of national and international efforts to advance significant emission reductions of hydrofluorocarbons (HFC's) through the use of lower Global Warming Potential (GWP) alternatives. Lennox supports the Kigali amendment to the Montreal Protocol and has advocated for its swift ratification. Lennox encourages CARB to consider the larger benefits provided by a national approach as recommended in these comments.

Comments Regarding Stationary Air Conditioning

While Lennox supports the advancement to reduce GWP limits for Stationary Air Conditioning equipment the proposed CARB is untenable and must be revised as detailed below toward approaches that provide greater benefit on a national basis and support the attainment of the Kigali Amendment phase-down schedule;

1. ***The current CARB regulation of a limit of 750 GWP effective January 1, 2023 as proposed in the regulatory text is untenable due to the lack of the applicable safety codes and standards and must be moved to January 1, 2025 which supports attainment of the Kigali Amendment phase-down schedule.***
2. ***The concepts CARB proposed in the Initial Statement of Reasons (ISOR) which would allow for a delay to 2025 but require manufacturers to offset the emission losses in 2023 – 2024 cannot be supported by current reclaim levels, are overly complex, will significantly increase consumer cost as well as burden to CARB and manufacturers and are not aligned with the CARB objectives of significant long-term emission reductions. Better alternatives exist that are less burdensome, less costly to consumers, and deliver greater long-term environmental benefits.***

1. ***The current CARB regulation of a limit of 750 GWP effective January 1, 2023 as proposed in the regulatory text is untenable and must be moved to January 1, 2025 which support attainment of the Kigali Amendment phase-down schedule.***

As CARB knows the refrigerant candidates that would allow a transition to a 750 GWP limit for stationary air conditioning are classified as A2L and require changes to the California building codes. Due to the fact that the California Building Codes have not adopted the safety standards to allow installation of low GWP products to date, a 2023 effective date for transitioning to a 750 GWP limit is not possible for central air conditioning products. CARB must move the effective date to January 1, 2025 for these products to address the concerns that have prevented adoption of the codes and provide for an orderly transition through the code process. In addition, this will provide the lead time required for manufacturers to develop products needed for the California market with lower GWP alternatives. While current California building codes allow for lower GWP refrigerants for certain products, i.e. small portable room air conditioner, for which 2023 may be appropriate, this is not the case for stationary central air conditioning equipment. The applicable building codes must be in place in order for industry to be prepared for a safe transition.

While Lennox and other manufacturers have publicly supported adoption of updated safety standards into the California building codes, many obstacles including opposition by California constituents have prevented timely adoption to allow for a 2023 transition. Lennox has the capability to design products to meet the lower GWP requirement, but currently there is not an indication there will be a market for these products in 2023.

As background, Lennox demonstrated commitment to the CARB through the joint NRDC and industry letter of September 14, 2018 to support pragmatic, predictable, and cost-effective

measures that allow the CARB to meet the state's HFC emissions reductions target as defined in California Senate Bill 1383 – a 40 percent reduction in 2030 from 2013 levels. This commitment included support for additional regulation prohibiting refrigerants with a GWP in excess of 750 in all new air conditioners of all other types and capacities, excluding those covered by SB 1013, starting January 1, 2023. This commitment was predicated upon the adoption of the appropriate safety and building codes in a timely manner to provide the necessary certainty and lead time to develop lower GWP alternative products. Lennox promoted this position in conflict with other stakeholders who supported later transition dates.

While Lennox continues our efforts toward this commitment as well as to work to adopt the relevant safety standards into building codes, the advancement of the safety standards has been an ongoing obstacle that now makes a 2023 transition highly unlikely. CARB is fully aware of the ongoing issues related to adoption of the needed building codes as outlined in the ISOR that was published with the regulatory proposal.

While Lennox is diligently working to advance the transition to lower GWP alternatives to meet California emission reduction requirements, Lennox continues to support a harmonized approach that will deliver a much more significant emission reduction (10x) if implemented on a national basis versus a single-state initiative. Lennox has consistently advocated that harmonized regulations across North America are more desirable and effective (10x) than a patchwork of individual state-by-state efforts which could lead to inconsistent requirements between regions and the added cost of compliance which will ultimately be borne by consumers.

Lennox supports this direction through the passage and implementation of the AIM Act which has been introduced in the U.S. Senate and House of Representatives providing the U.S. EPA with the authority to regulate hydrofluorocarbons (HFCs). As part of this proposal, the HVAC industry supports a 750 GWP limit in 2025 to accelerate significant emission reductions on a national basis. CARB efforts to support passage and implementation of the AIM act will provide a significantly larger emission reduction that meets the requirements of the 40% reduction in HFC emission as required by California regulations.

Lennox recognizes that to attain the tenants of Kigali Amendment phase-down schedule, phase down in the U.S. must start no later than 2026. Dates after 2026 would require acceleration of the next stepdown which currently would require A3 flammable refrigerants. As the technology to safely apply A3 refrigerants is not apparent, much more research toward safe application or development of other less flammable alternatives that can attain the required GWP limits is required as well as the associated time to insure either path performs as efficiently, reliably and safely as products on the market today.

2. ***The concepts CARB has proposed in the ISOR which would allow for a delay to 2025 but with provision to offset the emission losses in 2023 – 2024 cannot be supported by current reclaim levels, are overly complex, will significantly increase consumer cost as well as burden to CARB and manufacturers and are not aligned with the CARB objectives of significant long term emission reductions***

As indicated in the ISOR CARB is evaluating the feasibility of additional compliance pathways as well as a hybrid of them, from the standpoint of enforcement, implementation, and emissions benefits and may incorporate changes through a 15-day notice. The alternate as outlined in the ISOR states;

> *An additional compliance pathway for AC manufacturers and other regulated entities could include the allowance of a two-year delay or temporary exemption from the 750 GWP requirement for AC manufacturers if the manufacturer is able to offset the CO2 equivalent amount of refrigerant equal to the initial refrigerant charge size through the purchase and use of reclaimed refrigerant in equipment placed on the market in California during the delay. If reclaimed refrigerant is not used in equipment during the delay, then manufacturers would need to offset the initial charge plus the anticipated additional service gas for the lifetime of the exempted equipment within five years. In addition, manufacturers would likely be subject to additional requirements:*
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> - *Manufacturers must show contractual agreements to purchase reclaimed refrigerants for use or distribution with reclaimers or distributors.*
> - *All activities related to the exemption or delay are subject to verification. CARB staff is considering this verification and reporting being done through a third-party audit, reporting on an annual basis to CARB, or annual self-certification to CARB.*
> - *Non-compliance is subject to strict liability penalties equivalent to the California cost of carbon estimates per CO2e offset not met.*

While Lennox appreciates the consideration of an alternative pathway this proposal is equally unworkable as there is an insufficient supply of reclaimed refrigerant to support the proposal, is overly complex, will significantly increase cost to California constituents, will be a significant burden to CARB, manufacturers, distributors and contractors to administer and be difficult to enforce.

In review of U.S. EPA data regarding current reclaim rates of R410A refrigerant and the general population of R410A products there is clearly an insufficient supply of reclaimed refrigerant from California or likely the entire U.S to enable the use of reclaim in new equipment. In addition, the creation of California-specific models that use reclaimed refrigerant would result in a significant cost increase to California consumers due to manufacturing, capital and development cost of a low volume, California specific model.

Central air conditioning systems for the U.S. market are produced in mass and provided across the U.S. to reduce consumer cost. While there are specific DOE efficiency requirements for products sold in the South West region, these products are also sold in other western states as well as across the U.S. During production air conditioning products are processed and charged with the appropriate amount of refrigerant from a bulk tank which is piped throughout the entire facility including multiple assembly lines that are dedicated to a specific range of products. From this piping the products are processed on an individual assembly line using special (and costly) charging equipment (of which there may be multiple charging stations per assembly line) to verify it has been properly evacuated and then meter the proper amount of refrigerant.

To enable, process and track California specific models using reclaimed refrigerant, manufacturers would be required to duplicate the bulk tank, facility piping and charging equipment and would likely need to rearrange their assembly line to facilitate. All this contributes to increased cost which would be passed along to the California consumer. Given that there are a range of product types i.e. split system air conditioner, split system heat pumps and package air conditioners and heat pumps that are likely produced on multiple specific assembly lines and multiple plant location this cost would be significant. For example, Lennox and it affiliate Allied Air Enterprises produce Stationary Air Conditioning products that serve the California market from 5 locations in North America which have multiple assembly lines all of which would be impacted by the proposal as outlined in the ISOR.

The likely result of this proposed approach would be that manufacturers would limit their product offering to the to reduce capital, manufacturing and development cost. These offering would likely be based on DOE minimum energy conservation standards as those are the largest volume sold into the market. This would potentially reduce higher-efficiency options for consumers and thus reduce the environmental benefit of the proposal due to a substantial increase in direct emissions. For example, Lennox manufacturers split system air conditioning and heat pump products that range in efficiency from the SW minimum of 14 SEER up to over 26 SEER. There are incremental steps in our current portfolio of air conditioning products with product families at 14, 16, 18, 20 and up to over 26 SEER. A manufacturer simply could not afford to produce California specific models in each of these families as there would not be an economic return and choice for California consumers would likely be limited to base energy conservation standard products.

Further this approach only seeks to recover emission losses for a two-year period and ignores the significantly larger emission reduction potential of an effective recovery and reclaim program that is sustainable over time and much less burdensome to administer.

As stated in the ISOR, *"AC systems are used in very large numbers and tend to have high refrigerant release rates at end-of-life due to poor refrigerant recovery. The vast majority of buildings in California, including homes, office buildings, retail space, schools and hospitals use AC. As a result, over half a million new ACs are sold to California each year to replace old units and for newly constructed buildings, having a substantial impact on HFC emissions."*, but yet the approach being taken does not address this key issue on an ongoing basis. Lennox strongly recommends that CARB limit the current regulation to equipment and decouple recovery and reclaim in effort to develop a workable and sustainable program for California that would provide significantly more emission reductions as well as establish a template for improved reclaim on a national basis.

The U.S. is well behind many countries in regard to recovery and reclaim of refrigerants. There are many current barriers that inhibit this including;

- Lack of enforcement of existing laws
- Mixing of refrigerants in recovery process
- Cost to reclaim refrigerant particularly when refrigerants are mixed

While the refrigerant reclaim industry has indicated they have adequate capacity to process and supply reclaimed refrigerant, they do not currently have an adequate supply of recovered R410A to enable this due to factors listed above. Again Lennox strongly recommends CARB limit the proposed regulation to a 750 GWP limit effective in 2025 and begin work with manufacturers and other key stakeholders to establish a leading recovery/reclaim program for implementation on a National basis which would yield results far exceeding those in those being contemplated in a narrow 2 year emission offset.

As identified in the ISOR, CARB must consider alternatives that are as effective, less burdensome and more cost effective as outlined below;

Consideration of Alternatives (Gov. Code, § 11346.5, subd. (a)(13)):
Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the Board, or that has otherwise been identified and brought to the attention of the Board, would be more effective in carrying out the purpose for which the action is proposed, would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law.

The recommendations proposed by Lennox within these comments clearly meet these objectives including much more significant long term emission reduction in California and the broader U.S. as well as reducing consumer cost burdens.

Summary

While Lennox supports CARB's intent to reduce emissions, we recommend California proceed with a plan aligned with national and global efforts to streamline the process and maximize the environmental benefits while reducing potential negative consumer, end-user and manufacturer impacts.

Sincerely,

Dave Winningham,
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cc:
John Hurst