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May 28, 2021

Ms. Elizabeth Scheehle
Division Chief
California Air Resources Board
1001 I Street
PO Box 2815
Sacramento, CA 95812
(Submitted [electronically](#))

Re: Modified Text and Additional Documents for the Proposed Amendments to the Prohibitions on Use of Certain Hydrofluorocarbons in Stationary Refrigeration, Chillers, Aerosols-Propellants and Foam End-Uses

Dear Ms. Scheehle:

We appreciate the opportunity to provide the following comments to California Air Resources Board (CARB) as it considers regulations on the use of reclaimed R410A for HVAC in 2023 and 2024. We also encourage CARB to reconsider its rule to require a 150 GWP limit for ice rinks in 2024.

Trane Technologies (Trane) is a climate company with well-known brands such as Trane and Thermo King, which are global leaders in stationary and transport air conditioning and transport refrigeration products. Trane Technologies is well known for its global leadership in transitioning away from today's high global warming potential (GWP) refrigerants. Trane began transitioning its global high-performance chiller portfolio in 2015 and Thermo King began transitioning its EU transport refrigeration products in 2014, long before regulations began taking shape.

Trane committed to reduce our customer's emissions by one gigaton (1 billion tons) CO₂e by 2030. Transitioning away from high GWP HFCs with highly efficient products will help us meet this goal.

Trane is a member of the Air Conditioning, Heating and Refrigeration Institute (AHRI) and agrees with its comments on this matter. Additional comments are listed below.

The Ability to use Reclaim in Existing Equipment is Imperative to Avoid Potential Degradation in New Equipment Performance.

We support the proposed use of reclaimed R-410A in the service of existing installed equipment. AHRI 700 is a minimum refrigerant purity standard that allows for a broad range of possible refrigerant quality. Reclaimed refrigerant quality is distinctly different from virgin refrigerant with respect to consistent composition and contaminant profiles, even with the proposed inclusion of fifteen percent (15%) virgin. The quality concerns of reclaimed refrigerant raise the risk of failing the federally mandated minimum efficiency requirements.

The Early Action Credit Should Include the use of Reclaimed R-410A used prior to 2023 since the credit would be unusable until mid-2024 due to CA building codes.

We appreciate the desire to commercialize next generation low GWP refrigerants in the stationary HVAC space prior to 2025, but the CA building codes will not allow this until July 2024, leaving little or no room for actual early action credit. We propose that the credit include the use of reclaimed R-410A in new or existing equipment prior to 2023. As it stands, the mandatory use of reclaim only spans for two and a half years. Furthermore, the industry did not start using R-410A in any significant way until 2010, making supply constrained because the original equipment is still within its expected life span. Adding another year and a half would further bolster the reclaiming industry and allow for more of a ramp up to 2023.

A 150 GWP Limit for Chillers in New Ice Rinks Introduces Safety Risks and Could Increase Emissions Through Efficiency Loss.

The only proven technology that complies with a 150 GWP limit for chillers in new ice rinks involves the use of ammonia, which is not widely used or allowed in ice rinks and HVAC today due to safety concerns. While it might be feasible to implement a CO₂ system, the reduced efficiency due to high ambient temperatures more than offsets any CO₂e emission reduction gains from the lower GWP. As we stated in our prior comments, a 750 GWP would allow for lower GWP, high efficiency systems to be implemented without increasing safety concerns.

Please contact me directly to discuss further.

Sincerely,

Nanette Lockwood

Nanette Lockwood
Sr. Director Climate Policy and Advocacy
Trane Technologies