



November 10, 2017

***Via Email***

Pamela Gupta  
California Air Resources Board  
1001 "I" Street  
P.O. Box 2815  
Sacramento, CA 95812

Glenn Gallagher  
California Air Resources Board  
1001 "I" Street  
P.O. Box 2815  
Sacramento, CA 95812

**RE: Proposal for reducing high-global warming potential (GWP) refrigerant emissions from stationary refrigeration and air-conditioning equipment and adopt into state regulations, with appropriate modifications, the U.S. Environmental Protection Agency's (U.S. EPA) Significant New Alternatives Policy (SNAP) Rule provisions as they relate to prohibitions on certain HFCs.**

Dear Ms. Gupta and Mr. Gallagher,

Dynatemp International, Inc. ("Dynatemp") is a privately held supplier of refrigerants, refrigerant recovery services and cooling components founded in 1983. Dynatemp has locations in nearby Arizona, North Carolina and Pennsylvania serving an HVAC/R wholesale customer base of 550+ companies representing over 4,100 HVAC/R wholesale locations nationwide. Dynatemp offers the HVAC/R market a portfolio of refrigerant products, services and market intelligence that is designed to increase long-term profitability, customer loyalty and environmental stewardship. Dynatemp is a member of the Alliance for Responsible Atmospheric Policy (ARAP) and is a contributing ARAP board member. In 2013, the Alliance committed to "support policies and take actions in order to reduce HFC emissions 80% by 2050."

We have recently learned of the California Air Resources Board ("CARB") intent to consider amendments to the regulation, clarify language, remove outdated elements and consider additional elements to which add enhancements to the rules for Assembly Bill No. 32 "Global Warming Solutions Act of 2006" and also SB 1383. It is Dynatemp's view that **no state regulation should supersede the proposed Kigali Amendment or U.S. EPA's SNAP authority, regardless of the recent SNAP rules decision and the use of incentives will be the only reliable way to change reclamation behavior.**



Dynatemp greatly appreciates the opportunity to offer comment on Senate Bill 1383 which requires HFC Reductions. This bill reduces by 40 percent the annual HFC emissions below 2013 levels by calendar year 2030. In addition, Dynatemp would like to offer comments on the Short-Lived Climate Pollutant (SLCP) Strategy adopted in March 2017 which includes four measures to reduce HFCs in California. As noted during the presentation these measures are as follows; the use(s) of an incentive program for new low-GWP refrigeration, a California specific HFC phasedown schedule, prohibitions on refrigerants greater than 150 GWP in new refrigeration equipment; and greater than 750 GWP in new air conditioning equipment, and a sales restriction on refrigerants greater than 2500 GWP and four years later a restriction on greater than 1500 GWP.

This letter is organized by general comments, California's adoption of U.S. EPA's SNAP provisions and the short-lived climate pollutants (SLCP) strategy. We respectfully ask that these comments be considered by CARB in their totality.

### **General Comments**

The HVAC and refrigeration industry continue to develop plans for a phasedown of HFC's in the United States. Although the Kigali Amendment of the Montreal Protocol has yet to be ratified by the Senate, if ratified, it would require an HFC phasedown to begin in 2019.

We agree with the assessment presented recently at the AtmoSphere America Conference by CARB in San Diego that low-GWP products could produce an "energy penalties" concern and that better energy efficiency data is needed for California based climate zones. Dynatemp supports the pursuit of additional information but forewarns that perfect information should not be the basis for final decision making. A regulatory framework which fully integrates comments and makes compromise possible is the best approach for proposing regulations. The pursuit should not be viewed or conducted as a research study. We fundamentally believe that without the HVACR industry in total support, any regulation will have a difficult time achieving its intent.

Dynatemp understands that CARB is required under California statute SB 1383 to reduce HFCs by 40% below 2013 baseline levels by 2030. To that end, in March of 2017, the agency approved its SLCP Strategy for reducing emissions of SLCPs (which include HFCs) in California. The SLCP Strategy anticipated that California could rely on federal rules to meet a large portion of SB 1383's HFC reduction goals – an assumption undermined by the recent court ruling overturning EPA authority to delist SNAP approved HFCs. Under the EPA rules, high GWP refrigerants including 404A, R134a, R407C, and R410A were to be removed from EPA's SNAP list for use in certain new products from as early as January 1<sup>st</sup>, 2021.

Dynatemp can appreciate that California cannot meet its HFC reduction goals by relying solely on the global phasedown and that additional measures are needed. It is

CARB's position that acting would provide regulatory certainty and protect emission reductions. Dynatemp is in favor of CARB relying on Federal SNAP regulations when/if Rule 20 remanding would be reversed.

### **California Adoption of U.S. EPA SNAP Provisions**

There is tremendous energy and momentum already building for a full ratification of the Kigali Amendment in Washington D.C. The Alliance for Responsible Atmospheric Policy (ARAP) supports and is working in conjunction with the industry to further this objective. Specifically, ARAP has identified the following focused areas on HFC reductions:

- Work with the Administration and other nations in support of the Montreal Protocol process and ratification of the Kigali amendment;
- Support appropriate U.S. funding for the domestic activity under Title VI of the Clean Air Act and US leadership in implementation of the Montreal Protocol;
- Continue to pursue codes and standards research and modifications to ensure inclusion of new low-GWP technologies in relevant domestic and international codes and standards;
- Pursue effective refrigerant management policies and programs.

CARB's proposed plan is to adopt all provisions from the EPA SNAP rules 20 and 21 – which delist high-GWP HFCs – by reference for stationary refrigeration and air conditioning. These systems would include; supermarket systems (new and retrofit), remote condensing units (new and retrofit), stand-alone (self-contained) refrigeration, refrigerated vending machines, retail food (refrigerated food processing and dispensing equipment), cold storage, and chillers.

We have concerns on the confusion which may ensue if any state adopts their own SNAP provisions. A concern of note would be the clarifications necessary on authority. At a minimum, the federal EPA has the authority to approve and SNAP approve new refrigerants. EPA's authority to delist SNAP refrigerants has yet to be determined through the courts. Would this adoption expand, curtail or give the same authorities to CARB?

The fact remains that without a Kigali amendment, there will be little reason for the entire industry to shift towards adopting a timely HFC phasedown in individual states, particularly if left up to those states to develop their own rules. The variability and customization necessary to manufacture, distribute and communicate these product changes will be highly complicated and economically burdensome, never mind almost impossible to hit within the time frames specified. From your presentation, there are existing efforts to phasedown HFC's internationally from European Union F-Gas Regulations, Canada, and Australia. These "pressures" from other countries will do more to influence federal policy than California's leadership stance.

Dynatemp believes the better approach for California to take would be to continue its involvement in the appeal of the U.S. Circuit Court of Appeals ruling and also

encourage the EPA to use its available authority under the Toxic Substances Control Act (TSCA). There are many legal scholars and law firms that have identified ways in which the U.S. EPA can use the Toxic Substances Control Act (TSCA) to assist in phasing down HFC use at the federal level. This approach was recommended in the D.C. Circuit Court Appeals ruling, particularly to ban certain refrigerants. It would allow for a drawdown of the substances without a ban and would keep the point of regulation at the chemical manufacturer and not at the equipment manufacturer.

### **Short Lived Climate Pollutants (SLCP)'s Strategy**

As we learned during the public workshop, the SLCP is part of the six-pronged California Climate Strategy to reduce SLCP's through SB 1383. This strategy was adopted by the board on March 23<sup>rd</sup>, 2017 and it introduces prohibitions on high-GWP refrigerants in new equipment, restrictions on the sales of very-high GWP refrigerants and places amendments to the existing Refrigerant Management Program.

The following measures were recommended;

- **Stationary Air-Conditioning Measures.** In 2021: Refrigerants with a GWP of 750 or greater prohibited in new air-conditioning systems containing 2 or more pounds of refrigerant.
- In 2020: No production, import, sales, distribution, or entry into commerce of refrigerants with a GWP of 2500 or greater.
- In 2024: No production, import, sales, distribution, or entry into commerce of refrigerants with a GWP of 1500 or greater.

The specifics of the proposed ways to reduce HFC's is troubling to us because of the complexity. To use the popular analogy, "it puts the cart before the horse." We do not believe that mandating a certain year in which stationary air conditioning must be converted from high-GWP refrigerant to low-GWP refrigerant is an appropriate course. Nor is mandating a phasedown of very-high GWP products to lower products or making complicated reduction decisions related to climate zones effective. It was noted from the in-person attendees the challenges outlined with the effective dates. The constant theme was that the dates would be too aggressive for manufactures to prepare for such a switch in the United States. The delay is directly related to two specific areas:

1. **Technology feasibility.** Although low-GWP refrigerant is already available, OEM's simply do not have the products ready to be mass-produced. This presents a notable gap in technology in the research and development product life-cycle. It is my reading that OEM's are willing to move to next generation of products but need to catch up their engineers to better prepare for mass production.

2. **Codes and standards on flammability.** The pursuit of a low-GWP refrigerant is noble. However, a switch toward low-GWP refrigerant will bring flammability concerns to the forefront of the HVAC/R industry. CARB, ASHRAE, AHRI and a handful of others has seen refrigerant flammability in different installed product applications tests. The AHRTI Flammable Refrigerant Research Program is to produce publicly available technical results which support codes and standards on A2L and A3 flammable refrigerants. These tests don't estimate completing testing until 2021-2022 at the earliest. The flammability concern is one which will require codes and standards to be developed first prior to the mandate to move to lower GWP products. The proposed codes are either silent or underwhelming in its ability to educate, train, and inform the installing community of this possibility. Unlike other applications, codes and standards must pre-date implementation of a regulation. There are other concerns related to lack of codes and standards. One such concern is the existing gap of qualified HVACR technicians to service future systems with new technologies. The average age of a service technician in the US is 55 years old and the market is currently short 50,000 technicians. What could CARB do about recruiting and training the next technicians to service new technology?

In addition to these two cited examples from the OEM equipment manufacturers, Dynatemp would like to introduce a third barrier which is consumer satisfaction. In the sales ban proposed, after 2021 a homeowner's newly installed (between 2018-2021) R-410A heat pump system would not have the necessary refrigerant available in state to service it. By proposing sales bans, this will effectively reduce the lifespan of equipment that typically has a service life up to 20+ years. The date of the ban matters in terms of servicing the installed base of equipment, whether that is residential or commercial products. At a minimum, the year in which any sales ban is introduced should take into account the last year of install products and add what the average age of the equipment is. Put simply, if equipment lasts 20 years, the sales ban of refrigerant should factor in this information.

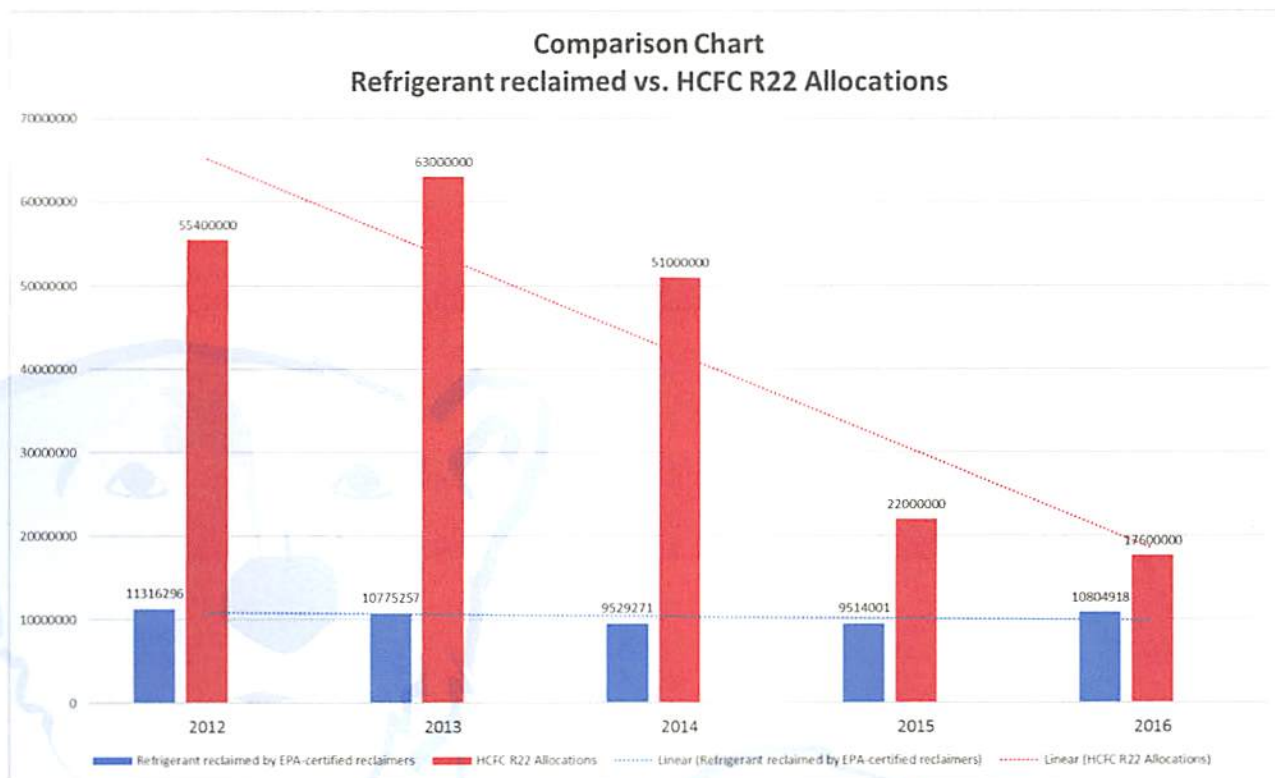
Instead of the sales ban approach outlined, **Dynatemp favors an orderly phasedown of HFCs and transition to cleaner technologies through the use of incentive programs and regulatory enforcement.** In a compromise, OEM's could be required to use low-GWP refrigerant in new equipment given a timeline that is feasible with regards to both R&D limitations while also limiting economic impairment. Additionally, an HFC Bank could be utilized to ensure that a certain percentage of "reclaimed" HFC refrigerant is used to charge HVAC/R systems during routine service and repair.

During the CARB presentation it was mentioned of two existing incentives. Both incentives are limited to forces outside of market conditions or CARB's control. Greenhouse Gas Reduction Funds (GGRF) and utility incentive programs. The utility companies stated that coming up with a baseline for comparison for the savings is challenging. We'd recommend on working with utility companies to encourage them to develop in parallel ways to develop baseline measures to provide incentives for not just Co2 trans critical systems but also stationary air conditioning systems.



In the presentation, CARB demonstrated the ways in which refrigerants are lost. Not surprisingly, at the end of equipment life refrigerant is lost during the replacement process. Based on our knowledge and experience, a large percentage of contractor's lack either care, skillset, or the economic incentive to properly perform this function. This is, undoubtedly, a large contributor of refrigerant into the atmosphere. In fact, you can confirm this dramatic difference by rationally reviewing the amount of ODS refrigerant reclaimed year over year<sup>1</sup> and then compare it against the HCFC R-22 allocation rule. In theory, these reclaim numbers should be going up almost as dramatically as the mandated allocations go down. Instead, a modest increase in ODS refrigerant reclaimed by EPA-certified reclaimers has occurred. See Figure 1.

Figure 1



Because of this, end of life refrigerant loss should be weighted higher than annual leakage from equipment simply because of reclaimer refrigerants current numbers for HCFC'S. Enforcement policies matter and codes/standards will affect the reclaim numbers. Without reliable and consistent enforcement, the only available mechanism to ensure reclamation is incentives. And those incentives should be tied directly to the purity of the reclaimed refrigerant because it is estimated that 35% of reclaimed refrigerant is contaminated.

### Other Unintended Consequences

<sup>1</sup> EPA website. epa.gov

CARB acknowledged that no regulation is effective without enforcement options at its disposal. CARB proposes the following enforcement approaches; record keeping, reporting, auditing, labeling. Dynatemp encourages CARB to continue reviewing best ways to enforce regulations. Unfortunately, this was very limited in the presentation and we believe that any regulation will need to be enforced to have any effect on the HFC reduction goals.

Another issue with the sales ban is there was no clear way for the agency to harmonize sales bans with OEM's federal requirements. Standards and dates take 3 or more years in some states to set up. Also, based on contractor and wholesaler experience, it is likely that there will be refrigerants stockpiled and sales from across state lines into California that would be un-accounted for. It was mentioned during the meeting to encourage providing the agency sales data of reclaimers in California. To what degree Dynatemp has this information, we would be willing to share with CARB should this be formalized. Due to anti-trust, all refrigerant sales data would be anonymized.

### **Conclusion**

It is our belief that all options presented by CARB will significantly increase complexity for rulemaking implementation and will not allow for an orderly transition from HFC to the next generation refrigerants. The state of California should not be opportunistic and take advantage of the recent DC Circuit Court ruling which stripped some of the EPA authority to phase-down HFC's. Dynatemp prefers a reserved regulatory environment which defers to global preferences first. However, if some version of a sales prohibition does in fact become part of the rule-making, Dynatemp favors requiring contractors to use reclaimed refrigerant or HFC credits (either banked or purchased) and is highly supportive of the use of incentives to switch to the next generation of refrigerants. Fundamentally, a market based phasedown will perform better than one in which regulations dictate.

As a national supplier of refrigerants, refrigerant recovery services and products, contributing our voice to issues which directly affect our business is paramount and we deeply appreciate the ability to comment. Dynatemp International, Inc. fills a niche within the refrigerant industry in which large manufacturers cannot and as such, we bring a different perspective to discussions on codes, pending legislations, or other government regulatory actions. Please consider our comments during the rulemaking process. Should you have any questions or concerns about these comments, I can be reached directly at [bkivlan@dynatempintl.com](mailto:bkivlan@dynatempintl.com) or 717-713-2727.

Sincerely,



H. Brad Kivlan, IV  
CEO