

Helen Walter-Terrinoni
18-2-9



Chemours
1007 Market Street
Wilmington, DE 19899

March 22, 2018

Mary Nichols
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: The Chemours Company (Chemours) comments on the HFC Reduction Measures Rulemaking

Dear Ms. Nichols,

Chemours appreciates the opportunity to provide comments regarding the California Air Resources Board (CARB) adoption of U.S. Environmental Protection Agency's (U.S. EPA) Significant New Alternatives Policy (SNAP) Rule provisions as they relate to prohibitions on certain hydrofluorocarbons (HFCs) in foams, stationary end uses. This is part of a number of regulations that CARB has stated that it will introduce to meet the statutory requirement in Senate Bill 1383 requiring CARB to reduce HFC emissions to 60% of 2013 levels by 2030. Chemours is a global leader in the production and sales of numerous products that could be affected by these draft regulations, and the regulations could have significant impact on Chemours fluorochemical business, as well as on our customers.

Chemours comments are focused on principles for consideration and the adoption of the US EPA SNAP Rules and will comment on other potential measures in the coming months in an effort to be helpful in CARB's analysis of the impact of additional measures to meet California's SLCP commitment as required by statute.

Proposed HFC Mitigation Strategies

The nature of the regulatory approach taken to avoid future emissions will impact how successfully we achieve these goals. Coordinated efforts provide a much more effective model especially if they include viable, cost effective options that deliver significant reductions in direct and indirect GHGs through superior energy efficiency.

Chemours recommends consideration of the following principles as CARB considers further action in adoption of the EPA SNAP rules and other measures to reduce HFC based GHG emissions while maintaining some of its long-term key principles such as maintaining technology and chemical neutrality and not sacrificing indirect GHG emissions due to less energy efficient solutions. The recommended actions and comments below seek to balance near term opportunity to address short-lived climate pollutants (SLCP) while not causing additional long-term issues by sacrificing energy efficiency.

Chemours considered the following needs related to CARB's adoption of SNAP rules.

- CARB must meet its statutory requirement reducing emissions by 40% by 2030 and has determined that it can only meet its goal with a combination of implementation of the SNAP Rules, Montreal Protocol Phasedown and additional measures.
- Previously identified controls (e.g. SNAP Rules and Montreal Protocol phasedown) will be needed or even more stringent measures will be required further reducing HFC use in other sectors. This could potentially shift the burden from sectors regulated under SNAP to sectors that may be less prepared for the transition. For example, faster conversion could be required for the air conditioning sector before safety standard development and code adoption for mildly flammable refrigerants is complete.

- There are a number of fluorochemical users who have invested heavily anticipating regulatory requirements that are extremely frustrated with the pendulum swing of regulations potentially stranding their investments

Therefore, Chemours supports CARBs proposed actions in this rule-making, provided there has been sufficient consideration of stakeholder feedback, some of which may be provided in this comment period, and further recommends that as CARB moves forward with the adoption of SNAP rules and Section 608 that they be as closely aligned to the existing SNAP rules and Section 608 as possible to avoid any further disruption to regulated and potentially regulated industry business and supply chain planning.

Chemours further recommends that any new measures and appropriate modifications made to the SNAP rules and Section 608 include an evaluation with the diverse stakeholders participating in these supply chains to insure that any new measures can be successfully met and will not significantly shift the burden to other industries. To minimize disruption, only narrow subsectors with strong technical justifications should be considered for modification as they were in the analysis completed by the Association of Home Appliance Manufacturers.

Chemours again recommends that CARB discuss the incentives to be offered under the “Clean Car Program” with the auto industry and other interested stakeholders to insure that the incentives will be useful to the auto industry and support continued conversion to low GWP refrigerants. Alternately, Chemours recommends that CARB include the MY2021 requirement for low GWP light duty MVAC refrigerants for new vehicles sold in California in their rulemaking as CARB notes that emissions from auto air conditioning systems represents 60% of the emissions left unregulated in the CARB proposal.

Chemours asks CARB to encourage the use of reclaimed refrigerant to reduce emissions. Chemours also encourages CARB to consider the recordkeeping recommendations submitted by CPI

The following recommendations offer thoughts around removing barriers to transitions to low-GWP solutions and ways to minimize multiple impacts to California businesses all while supporting California’s Clean Energy and Pollution Reduction Act of 2015 (Senate Bill 350 (SB 350)) which requires a doubling of energy efficiency savings by January 1, 2030.

Stationary Refrigeration and Air Conditioning

- Chemours concurs with CARB that the replacement of hydrochlorofluorocarbon (HCFC)-22 with higher GWP products will create a need for an additional transition and is less effective than replacements with more energy efficient solutions that have a 1,500 GWP or lower. Taking the latter action would provide clear direction to industry to drive conversion to <1,500 GWP (when options are available) but it does not negatively impact early converters to low-GWP or Zero ODP alternatives, and encourages lower GWP solutions rather than options that may only be interim solutions.
- Chemours recommends that there be an exclusion for very low temperature refrigeration (e.g. <-50C refrigeration) or other high-value, low-volume specialty-use applications without at least two available solutions especially if the only alternative is a flammable refrigerant limited in use due to the charge size required for that application. Chemours understands that CARB intends to develop those limits after additional research and stakeholder meetings and also after considering EPA SNAP-approved alternatives.
- Chemours recommends a clear definition of “new equipment” (EPA definition) to include not only new store installations, but any equipment installation in an existing store that increases the system capacity (i.e. greater number of cases, addition of a compressor, increase in compressor capacity, higher refrigerant charge size in the system, etc.) If a change is made to a store that meets this definition of “new equipment”, the system should then be converted to a lower GWP alternative.

- Any incentives should be used for transition to all potential alternative products, including fluorinated gases that will provide both direct benefits in GWP reduction and indirect benefits through maintaining or improving energy efficiency especially in the high ambient temperatures experienced in much of California. This will support rather than create additional challenges to meet the aggressive SB 350 goals regarding energy consumption.
- Chemours recommends that CARB continue to enhance its Refrigerant Management Program and consider extending it to non-fluorinated solutions. This will eliminate inadvertent long-duration leaks and venting of anthropogenic CO₂, which has a very long atmospheric lifetime. This could also reduce indirect emissions of CO₂ from under-charged systems that are less energy efficient (as well as being unable to provide sufficient cooling compared to a properly charged unit).
- Finally, Chemours notes that there are lower GWP products available for refrigeration that can provide improvements in energy efficiency. Transition to the lower GWP products now can support SB 350 and other state energy conservation goals like those at the California Energy Commission rather than waiting for longer term very, very low-GWP products to become available.

Mobile Air Conditioning

- High-GWP Emissions from transportation are largely from mobile vehicle air-conditioning (MVAC). As MVAC credit programs are implemented under California and EPA light-duty vehicle GHG emission standards, and as the MVAC leakage standards are implemented under their heavy-duty vehicle GHG emission standards, the share of F-gas emissions from the transportation sector will decline. However, we believe that California has an opportunity to encourage transition to low-GWP solutions in MVAC in medium and heavy-duty vehicles with a mechanism similar to that utilized in the light-duty vehicle GHG emissions standards.
- In addition, CARB should:
 - Require refresher training for California service technicians so they become familiar with handling mildly flammable refrigerants like HFO-1234yf
 - Create incentives to encourage conversion in the Mobile Air Conditioning space especially for medium and heavy duty vehicles

Conclusion

Chemours agrees with CARB that achieving success will require integrated planning, coordination, and collaboration among agencies, users and producers of alternatives, and other stakeholders. Chemours has additional recommendations regarding the current direction as noted above and will provide more recommendations in the coming months. We look forward to continuing to work with CARB and other stakeholders in this important effort.

Sincerely,

Helen Walter-Terrinoni

Helen Walter-Terrinoni
The Chemours Company