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September 24, 2018

Chairwoman Mary Nichols
Air Resources Board
1001 I Street
Sacramento, California 95814
Via online submission

RE: Comments by Honeywell International Inc. on Notice of Public Hearing to Consider Proposed Amendments to the LEV III Greenhouse Gas Emission Regulations

Dear Chairwoman Nichols,

We write in response to the California Air Resources Board's (ARB) Notice of Public Hearing to Consider Proposed Amendments to the LEV III Greenhouse Gas Emission Regulations. Honeywell International Inc. ("Honeywell") appreciates the opportunity to provide input. The gram-per-mile credit offered in both the existing federal and ARB vehicle greenhouse gas (GHG) emissions regulations to automakers who adopt low-global-warming-potential (GWP)-refrigerant alternatives has been a significant and cost-effective enabler of the transition away from high-GWP hydrofluorocarbon (HFC) refrigerants.

Honeywell is a global leader in providing energy efficient technologies and innovations that can help the world solve its energy and environmental challenges. Our Fluorine Products business is a recognized leading innovator in the development of environmentally preferable fluorocarbons for use as refrigerants, foam blowing agents, solvents, aerosol propellants, and other uses. Since the 1990s, we have helped businesses replace ozone-depleting substances in these applications with alternatives that have less impact on the stratospheric ozone layer and global climate change.

We support ARB's efforts to maintain a strong national program and its proposal to clarify that the "deemed to comply" provision of its regulations, as it pertains to mobile air conditioner refrigerant leakage credits ("MAC refrigerant credits"), applies to the current U.S. Environmental Protection Agency (EPA) standards. Doing so would provide certainty for automakers and suppliers serving the California market if EPA significantly changes the federal standards or eliminates the availability of MAC refrigerant credits.

As finalized in US EPA's 2017 and Later Model Year Light-Duty Vehicle GHG Emissions and Corporate Average Fuel Economy Standards,¹ the MAC refrigerant credit program offers regulatory credits that recognize the environmental benefits of eliminating direct emissions of GHGs by incentivizing the use of low-GWP refrigerants such as HFO-1234yf in mobile air conditioning (MAC) systems.² This program is an important part of the U.S. effort to transition away from high-GWP HFC refrigerants and toward the elimination of direct GHG emissions from MAC systems.

¹ 77 Fed. Reg. 62624 (Oct. 15, 2012).

² 40 CFR § 86.1867-12(b).

The transition to HFC alternatives in MAC systems is already underway in the U.S. because of the MAC refrigerant program and a separate EPA rule promulgated under the “Significant New Alternatives Policy” (SNAP) program that requires a phase-out of HFC refrigerants in MAC systems by MY21. Because the SNAP rule has recently been rendered uncertain by litigation³, it is particularly important to keep the MAC program in place. By the end of 2018, there will be about 20 million vehicles on the road in the U.S. using HFO-1234yf, yielding an emissions reduction of nearly 1 million metric tons CO₂e per year. But without regulatory certainty, the transition of California’s fleet to low-GWP MAC solutions could stop or even backslide, increasing greenhouse gas emissions in California and threatening to derail ARB’s Short-Lived Climate Pollutant (SLCP) mandate to reduce HFC emissions 40% from 2013 levels by 2030. Without addressing HFC emissions from MAC, California could miss its SLCP target by as much as 23%.

The following demonstrates how effective the MAC credit system (along with the MY21 US EPA SNAP phase out date) has been in motivating automakers to end the use of HFC-134a in new vehicle production:

- The US EPA has approved HFO-1234yf, HFC-152a, and CO₂ (R-744) for MAC systems, which are all eligible for the MAC credit.
- All Tier 1 suppliers of MAC system hardware to the auto industry currently offer cost-competitive MAC systems to accommodate HFO-1234yf. The U.S.-based car companies, including Ford, GM, and Fiat Chrysler (FCA), have already converted more than 80% of their production to HFO-1234yf.
- Ford, General Motors, and FCA are already selling more than 55 models using HFO-1234yf including in high-volume models such as the Ford F-150 pickup, Focus, Fusion, the Jeep Wrangler, Grand Cherokee, Ram pickup trucks, Chevy Malibu, Equinox and Silverado pickup truck. Virtually all FCA and GM models were converted to HFO-1234yf for MY17. In total, 10 million new MY18 cars using HFO-1234yf will be sold to owners in the U.S., representing about 60% of the total market.
- Production capacity was significantly expanded for HFO-1234yf in the last few years around the world. In 2017, Honeywell started up its new world-scale production facility in Louisiana, and another producer has announced plans to start up another world-scale plant in Texas later this year.
- There is no measurable difference in energy efficiency between MAC systems using HFO-1234yf and systems using HFC-134a. To the contrary, auto manufacturers that have tested and used HFO-1234yf in their vehicles have found that systems designed for the properties of HFO-1234yf are at least as efficient as those using HFC-134a, and in some cases systems HFO-1234yf systems were found to be more efficient.

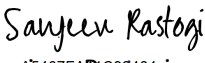
Despite these positive developments, we are concerned that the elimination of the MAC credits could slow the transition to environmentally preferable refrigerants and perhaps even result in backsliding. We thus strongly support CARB’s proposal to clarify that, at least with respect to MAC refrigerant credits, the “deemed to comply” provision applies to today’s federal standards. Continuing the availability of MAC refrigerant credits will help ensure a continued transition to low-GWP refrigerant alternatives that will yield significant greenhouse reductions—reductions that are necessary to meet California’s greenhouse gas goals and its SLCP reduction target in particular.

We appreciate the opportunity to comment on this important issue. If you have any questions regarding these comment, or if you would like further information regarding MAC credits or low-GWP refrigerants, please contact Amy Chiang at amy.chiang@honeywell.com.

³ See *Mexichem Fluor, Inc. v. EPA*, 866 F.3d 451 (D.C. Cir. 2017).

Sincerely,

DocuSigned by:


Sanjeev Rastogi

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Vice President & General Manager

Fluorine Products

Honeywell Performance Materials & Technologies