



**AIR POLLUTION CONTROL DISTRICT
LOUISVILLE, KENTUCKY**

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U.S. EPA
EPA Docket Center
Air and Radiation Docket
Mail Code 28221T
1200 Pennsylvania Avenue NW
Washington, DC 20460

Re: Docket ID No. EPA-HQ-OAR-2021-0044

To Whom It May Concern:

The Louisville Metro Air Pollution Control District (LMAPCD) offers the following comments on the U.S. EPA Action, *Phasedown of Hydrofluorocarbons: Establishing the Allowance Allocation and Trading Program Under the American Innovation and Manufacturing Act*, 86 Fed. Reg. 27,150 (May 19, 2021). LMAPCD is one of the oldest air pollution control agencies in the country, employing more than 50 air quality professionals implementing local air pollution control regulations and portions of the Clean Air Act (CAA) covering over 400 permitted sources affecting the citizens of the largest city in the Commonwealth of Kentucky.

HFCs, as described by EPA, “were intentionally developed as replacements for ozone-depleting substances in the refrigeration, air conditioning, aerosols, fire suppression, and foam blowing sectors. They have global warming potentials (GWPs) (a measure of the relative climate impact of a greenhouse gas (GHG)) that can be hundreds to thousands of times greater than carbon dioxide (CO₂). HFC use is growing worldwide due to the phaseout of ozone-depleting substances and increasing use of refrigeration and air-conditioning equipment globally.”¹ LMAPCD supports EPA’s efforts to regulate GHGs, including GHG emissions in the form of hydrofluorocarbons (HFCs), through a robust national program. As noted in the Fourth National Climate Assessment, “the prevailing evidence strongly suggests that climate change alone introduces a climate penalty (an increase in air pollution resulting from climate change) for ozone over most of the United States from warmer temperatures and increases in natural emissions. This climate penalty will partially counteract the continued reductions in emissions of ozone precursors from human activities.”² Since 1980, ambient concentrations of ozone have dropped more than thirty percent

¹ See <https://www.epa.gov/climate-hfcs-reduction>

² USGCRP, 2018: *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S.

while Americans have enjoyed improved public health and a better protected environment as a result of the Ozone National Ambient Air Quality Standard (NAAQS).³ Preserving these reductions, which have taken place at the state and local level through the NAAQS, demands a program aimed at reducing GHG emissions nationally, including those from HFCs, to mitigate this looming penalty. For this same reason, LMAPCD also supports the comments submitted by the National Association of Clean Air Agencies (NACAA) Climate Change Committee. LMAPCD is a member agency of NACAA and shares many of the same concerns. Like NACAA, we support federal pollution reduction programs that serve as a floor beyond which state or local programs can act to meet the needs of their communities and protect public health and the environment within their jurisdictions. Several states, for example, have implemented programs that prohibit the sale and use of certain HFC-emitting refrigerants similar to EPA's Significant New Alternatives Policy (SNAP) program.⁴ But a state's individual efforts may be limited by the efforts (or lack thereof) of its neighboring states. Because this limitation may be even greater at a local level, LMAPCD recommends that EPA take further action and implement additional SNAP regulations that require the replacement of HFCs that may have previously been substituted for ozone-depleting substances.⁵ Ozone-depleting substances are exclusively regulated by U.S. EPA under Title VI of the Clean Air Act.⁶ To avoid confusion, EPA should clarify the extent it may preempt further state or local regulation of HFCs under the preemption clause in the American Innovation and Manufacturing (AIM) Act, which was enacted by Congress on December 27, 2020, and directs EPA to address the environmental impact of HFCs by phasing down production and consumption, maximizing reclamation and minimizing releases from equipment, and facilitating the transition to next-generation technologies through sector-based restrictions, or Title VI of the Clean Air Act.

Recently, a series of online articles highlighted local emissions HFC-23, the regulated substance under this proposal with the greatest "exchange value", as a byproduct from the production of HCFC-22 at a facility in an area of west Louisville commonly known as "Rubbertown."⁷ Rubbertown is the largest Environmental Justice (EJ) community in Louisville, with a dozen Title V facilities, including the Chemours Company FC, LLC, which manufactures HCFC-22 and emits HFC-23,⁸ as well as another six synthetic minor

Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018, available at <https://nca2018.globalchange.gov/chapter/13/>.

³ See <https://www.epa.gov/air-trends/air-quality-national-summary>

⁴ See <https://www.epa.gov/snap/overview-snap>.

⁵ See <https://www.epa.gov/clean-air-act-overview/1990-clean-air-act-amendment-summary-title-vi#:~:text=The%20law%20requires%20a%20complete,Protocol%2C%20revised%20in%20June%201990.&text=The%20law%20also%20requires%20EPA,the%20use%20of%20unsafe%20substitutes>.

⁶ See, generally, <https://www.epa.gov/clean-air-act-overview/1990-clean-air-act-amendment-summary-title-vi#:~:text=The%20law%20requires%20a%20complete,Protocol%2C%20revised%20in%20June%201990.&text=The%20law%20also%20requires%20EPA,the%20use%20of%20unsafe%20substitutes>.

⁷ See, e.g., Phill McKenna and James Bruggers, *A Single Chemical Plant in Louisville Emits a Super-Pollutant That Does More Climate Damage Than Every Car in the City*, Inside Climate News, (Mar. 9, 2021), <https://insideclimatenews.org/news/09032021/a-single-chemical-plant-in-louisville-emits-a-super-pollutant-that-does-more-climate-damage-than-every-car-in-the-city/>.

⁸ LMAPCD Operating Permit No. O-0062-18-V, available at <https://louisvilleky.gov/document/20190104-permit-o-0062-18-vpdf>.

sources, plus other smaller sources.⁹ Sixty-four percent of the population within a 3-mile radius of the Chemours facility is black or African American.¹⁰ As one of only two HFC-emitting facilities in an urban area in the U.S., it is also “an outlier” with regards to the number of other Toxic Release Inventory (TRI) facilities within one mile,¹¹ and is surrounded by “noticeably higher risks from air toxics than the applicable national averages” and “lower percentage of White individuals, higher percentages of Black or African American individuals, lower median household incomes, and higher percentages in poverty.”¹² Chemours’ Louisville HFC-23 emissions in 2019 (3,707,770 metric tons of CO₂ equivalent(mtCO₂e)) were the largest of any facility subject to this rulemaking by more than a factor of four over the next highest (843,010 mtCO₂e) and by an order of magnitude over the average of all eight other facilities (174,569.75 mtCO₂e),¹³ and make up almost half of the emissions of fluorinated GHGs from fluorinated gas production nationwide by;¹⁴ accounting for more global warming potential (GWP) than all the passenger cars in Louisville.¹⁵

Consistent with the AIM Act, the proposal contains a specific section regulating emissions of HFC-23: 40 C.F.R. §84.27, Controlling Emissions of HFC-23. Proposed 40 C.F.R. §84.27(a) states that “[n]o later than October 1, 2022, as compared to the amount of chemical intentionally produced on a facility line, no more than 0.1 percent of HFC-23 created on the line may be emitted.” This is in contrast to the rest of the proposal, which appears to specifically cover production of regulated substances whether *intentional* or *unintentional*.¹⁶ For example, the preamble to this proposal states “EPA understands that currently, some HFC-23 is unintentionally created as a byproduct in chemical production processes and vented to the atmosphere. EPA proposes that allowances created through the AIM Act cannot be expended for HFC-23 that is vented. An entity that creates HFC-23 would need to capture the HFC-23 and could either (1) expend production and consumption allowances to sell that HFC-23 for consumptive uses or (2) destroy the captured HFC-23 using a technology approved by the Administrator.”¹⁷

This language seems to propose specifically regulating *unintentionally* created HFC-23. However, further confusion stems from other language in Section VI. F. of the preamble. For instance, the statement that “there are emissions of HFC-23 at fewer than four facilities in the country that produce other HFCs controlled by the AIM Act”, and associated footnote 54 that states “There are also reported emissions from other sources including from the production of HCFC-22 regulated under CAA Title VI. If EPA were to

⁹ LMAPCD, *Map of Rubbertown Facilities*, (November 2018), available at <https://louisvilleky.gov/document/rubbertownlettersizemapdf>; and LMAPCD, *Title V Operating Permits*, <https://louisvilleky.gov/government/air-pollution-control-district/title-v-operating-permits>.

¹⁰ U.S. EPA, *Draft Regulatory Impact Analysis for Phasing Down Production and Consumption of Hydrofluorocarbons (HFCs)*, (April 2021), available at <https://www.regulations.gov/document/EPA-HQ-OAR-2021-0044-0046>.

¹¹ *Id.* at p. 117, table 6-9.

¹² *Id.* at pp. 120-21.

¹³ *Id.* at table 6-2 and figure 6-1.

¹⁴ Compare U.S. EPA, *Fluorinated Greenhouse Gas Emissions and Supplies Reported to the GHGRP, Fluorinated GHG Emissions from Fluorinated Gas Production*, <https://www.epa.gov/ghgreporting/fluorinated-greenhouse-gas-emissions-and-supplies-reported-ghgrp#production>; with U.S. EPA, *GHG Facility Details for Chemours Louisville Works*, <https://ghgdata.epa.gov/ghgp/service/facilityDetail/2019?id=1004133&ds=E&et=&popup=true>.

¹⁵ McKenna & Bruggers, *supra* note 1.

¹⁶ Proposed 40 C.F.R. §84.5(a) *Production*. (1) states “Effective January 1, 2022, no person may produce regulated substances, intentionally or unintentionally, in excess of the quantity of unexpended production allowances....”

¹⁷ 86 Fed. Reg. at 27,178 (footnote omitted).

finalize under the alternative interpretation proposed, EPA intends to take separate action to address HFC-23 byproduct emissions from HCFC production.”¹⁸ Similarly, the Draft Regulatory Impact Assessment states “EPA proposes that no later than October 1, 2022, as compared to the amount of chemical intentionally produced on a facility line, no more than 0.1% of HFC-23 created as a byproduct on the line may be emitted.”¹⁹ Finally, it appears that the inputs for calculation of production and consumption baselines in the proposed rulemaking entirely exclude HFC-23, further adding to the confusion,²⁰ and the Draft Regulatory Impact Assessment fails to analyze the MMTEVe emissions reduced or production abated for HFC-23 entirely, even in the aggregate.²¹

Respectfully, EPA must clarify the intent of proposed 40 C.F.R. §84.27 and explain the impact this provision will have on emissions of HFC-23 that are unintentionally created as a by-product of HCFC-22 production. At a minimum, LMAPCD requests that EPA provide additional definitions or guidance on the meaning of the phrase “amount of chemical intentionally produced.” Specifically, which chemicals are being referred to: all chemicals produced on the line, all regulated substances, or only specifically HFC-23? Additionally, what is meant by “intentionally produced”? Does knowing production equate to intention, or is the chemical spoken of only intentionally produced if it is the primary desired product? If HFC-23 is produced as a byproduct of production of HCFC-22, but some portion of it is already captured and used for some other purpose prior to this rulemaking does this mean it is intentionally produced? Further, how is the amount of chemical intentionally produced to be measured, by weight, volume, CO₂e, or some other measure?

This apparent confusion notwithstanding, Chemours has already committed to capture at least 99% of HFC-23 emissions at its Louisville facility by the end of 2022,²² so a reduction based on emissions of HFC-23 produced as an unintentional by-product of HCFC-22, rather than by comparison to chemical production, is feasible. But more importantly, a standard based on emissions, rather than chemical production, will increase transparency and allow the public an opportunity to track and evaluate EPA’s HFC reduction efforts, including those who live in communities near facilities that emit HFCs. EPA has included environmental justice as part of this proposal. “Environmental Justice” is defined as “the fair treatment *and meaningful involvement* of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”²³ Looking back to the requirement in 40 C.F.R. §84.27(a) if this requirement is indeed based on the amount of HCFC-22 produced on a given line, that information is generally considered confidential business information (CBI). LMAPCD encourages EPA to find other ways to inform the public of the impact of the requirement and whether that requirement is being met. Without fuller information it would be

¹⁸ *Id.*

¹⁹ U.S. EPA, *supra* note 10, at p. 36.

²⁰ 86 Fed. Reg. at 27,166, Table 4 lists 2011-2013 average HFC production at 331 MMTEVe, which appears to match the numbers for 2011 to 2013 production minus destruction minus transformation in the table labeled “Net Supply of AIM-Listed HFCs (Excluding HFC-23) Reported to GHGRP in Years 2011-2019” (emphasis added) at <https://www.epa.gov/ghgreporting/fluorinated-greenhouse-gas-emissions-and-supplies-reported-ghgrp#aim>.

²¹ U.S. EPA, *supra* note 10, at Chapter 4, tables 4-2 & 4-3.

²² Chemours, *Chemours Announces Project to Reduce HFC-23 Emissions*, (Mar. 8, 2021), <https://www.chemours.com/en/news-media-center/all-news/press-releases/2021/chemours-announces-project-to-reduce-hfc-23-emissions>.

²³ U.S. EPA, *Environmental Justice*, <https://www.epa.gov/environmentaljustice> (emphasis added).

hard to say communities have been meaningfully involved. LMAPCD therefore encourages U.S. EPA to delete the phrase “as compared to the amount of chemical intentionally produced on a facility line,” from the proposed language at 40 C.F.R. §84.27(a) and adopt an emissions, rather than a chemical production, based standard.

As noted by EPA, “elevated concentrations of GHGs including HFCs have been warming the planet, leading to changes in the Earth's climate including changes in the frequency and intensity of heat waves, precipitation, and extreme weather events, rising seas, and retreating snow and ice. The changes taking place in the atmosphere as a result of the well-documented buildup of GHGs due to human activities are changing the climate at a pace and in a way that threatens human health, society, and the natural environment.”²⁴ Many communities, west Louisville included, are more vulnerable to flooding and extreme heat, due in part to the urban heat island effect and lack of tree canopy, and have poorer health outcomes due to a variety of societal and environmental factors, including exposure to disparate emissions of air toxics pollution. LMAPCD points out that, as with other facilities covered by this proposed rule (see preamble at section III), Chemours’ Louisville facility is located in an environmental justice community (as defined by EPA), so any additional emissions from onsite destruction of HFC-23 locally would be unwelcome. Since each of the technologies proposed to be approved for destruction of regulated substances involves some form of oxidation or combustion,²⁵ LMAPCD suggests that additional analysis be conducted regarding potential localized harm from the byproducts of required destruction of HFC-23,²⁶ as well as of potential substitutes and feedstocks for those substitutes,²⁷ and that care should be taken to avoid any additional burden in EJ communities. This could take the form of additional requirements for location of destruction equipment, required control of byproducts of combustion or oxidation, additional credits for capture and beneficial reuse, or prioritization of lowest emissions technologies for destruction.

Finally, Chemours has also publicly committed to a project that will capture emissions of HCFC-22 for re-use by the end of 2024.²⁸ LMAPCD encourages EPA to adopt Chemours’ commitment for this pollutant in in any subsequent rulemaking it may undertake to implement its mandate under the AIM Act.

²⁴ *Phasedown of Hydrofluorocarbons: Establishing the Allowance Allocation and Trading Program Under the American Innovation and Manufacturing Act*, 86 Fed. Reg. 27,150, 27156. Available at <https://www.federalregister.gov/documents/2021/05/19/2021-09545/phasedown-of-hydrofluorocarbons-establishing-the-allowance-allocation-and-trading-program-under-the>

²⁵ Proposed 40 C.F.R. §84.29.

²⁶ The Draft Regulatory Impact Analysis, *supra* note 4, simply states “with the exception of HFC-23, this rule does not require destruction of HFCs. As a result, this rule is not expected to affect local emissions at off-site destruction facilities. Additionally, these facilities are subject to other environmental statutes such as the Resource Conservation and Recovery Act, the Emergency Planning and Community Right-to-Know Act, and the CAA.”

²⁷ U.S. EPA, *supra* note 10, Section 6.6 & tables 6-22 & 6-23 omit any analysis related to HFC-23.

²⁸ <https://insideclimatenews.org/news/05042021/chemours-louisville-super-polluting-chemical-plant-greenhouse-gas-emissions/>

Thank you again for the opportunity to comment on this important rulemaking. If you have any questions please contact myself or Regulatory Coordinator Byron Gary at Byron.Gary@LouisvilleKy.gov, (502) 574-7253.

Regards,

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