6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 82

[EPA-HQ-OAR-2021-0253; FRL-8506-01-OAR]

RIN 2060-AV29

Protection of Stratospheric Ozone: Standards Related to the Manufacture of Class II Ozone-Depleting Substances for Feedstock; Notice of Proposed Rulemaking

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency is proposing to require the control, capture, and/or destruction of a hydrofluorocarbon that would otherwise be emitted from manufacture of hydrochlorofluorocarbons. In this proposed rule, EPA is proposing to require companies to control, capture, and destroy HFC-23 byproduct generated at plants that manufacture class II ozone-depleting substances regulated under current Clean Air Act regulations, such as HCFC-22. HFC-23 is a very potent greenhouse gas that is generated as a byproduct during the manufacture of certain class II ozone-depleting substances, including HCFC-22. Under the Clean Air Act and the implementing regulations, the production and consumption of class II ozone-depleting substances, including HCFC-22, are restricted with limited exceptions. One such exception is production for use in transformation, or as a feedstock, which is allowed indefinitely. The Agency is proposing to limit emissions of HFC-23 from plants manufacturing HCFCs. The HFC-23 must be captured and employed for a commercial use or destroyed using a technology approved by the Environmental Protection Agency, thereby ensuring it is not directly emitted.

DATES: Comments on this notice of proposed rulemaking must be received on or before **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].** Any party requesting a public hearing must notify the contact listed below under **FOR FURTHER INFORMATION CONTACT** by 5 p.m. Eastern Daylight Time on **[INSERT DATE 5 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. If requested, the Environmental Protection Agency (EPA) will hold a virtual public hearing on or before **[INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].** The date, time, and other relevant information for the virtual public hearing will be available at https://www.epa.gov/ozone-layer-protection.

ADDRESSES: You may send comments, identified by Docket ID No. EPA-HQ-OAR-2021-0253, by any of the following methods:

- Federal eRulemaking Portal: https://www.regulations.gov (our preferred method). Follow the online instructions for submitting comments.
- Mail: U.S. Environmental Protection Agency, EPA Docket Center, Air and Radiation Docket, Mail Code 28221T, 1200 Pennsylvania Avenue NW, Washington, DC 20460.
- Hand Delivery or Courier (by scheduled appointment only): EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue, NW, Washington, DC 20004. The Docket Center's hours of operations are 8:30 a.m. – 4:30 p.m., Monday – Friday (except Federal Holidays).

Instructions: All submissions received must include the Docket ID No. for this rulemaking. Comments received may be posted without change to https://www.regulations.gov, including

any personal information provided. Out of an abundance of caution for members of the public and our staff, the EPA Docket Center and Reading Room are closed to the public, with limited exceptions, to reduce the risk of transmitting COVID-19. Our Docket Center staff will continue to provide remote customer service via email, phone, and webform. We encourage the public to submit comments via https://www.regulations.gov or email, as there may be a delay in processing mail and faxes. Hand deliveries and couriers may be received by scheduled appointment only. For further information on EPA Docket Center services and the current status, please visit us online at https://www.epa.gov/dockets.

You may find the following suggestions helpful for preparing your comments: direct your comments to specific sections of this proposed rulemaking and note where your comments may apply to future separate actions where possible; explain your views as clearly as possible; describe any assumptions that you used; provide any technical information or data you used that support your views; provide specific examples to illustrate your concerns; offer alternatives; and, make sure to submit your comments by the comment period deadline. Please provide any published studies or raw data supporting your position. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (e.g., on the web, cloud, or other file sharing system).

EPA recognizes that given the nature of this proposed rulemaking, potentially affected entities may wish to submit Confidential Business Information (CBI). CBI should not be submitted through https://www.regulations.gov. For submission of confidential comments or

data, please work with the person listed in the **FOR FURTHER INFORMATION CONTACT** section if submitting a comment containing CBI. For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit https://www.epa.gov/dockets/commenting-epa-dockets.

FOR FURTHER INFORMATION CONTACT:

Kirsten Cappel, U.S. Environmental Protection Agency, Stratospheric Protection Division, telephone number: 202-343-9556; or email address: cappel.kirsten@epa.gov. You may also visit our website at https://www.epa.gov/ozone-layer-protection for further information.

SUPPLEMENTARY INFORMATION:

Throughout this document, whenever "we," "us," or "our" is used, we mean EPA. Acronyms that are used in this rulemaking that may be helpful include:

AIM Act – American Innovation and Manufacturing Act
CAA – Clean Air Act
CBI – Confidential Business Information
CO_2 – Carbon Dioxide
DRE – Destruction and Removal Efficiency
EPA – Environmental Protection Agency
FR – *Federal Register*
GHG – Greenhouse Gas
GHGRP – Greenhouse Gas Reporting Program
GWP – Global Warming Potential
HCFC – Hydrochlorofluorocarbon
HFC – Hydrofluorocarbon
IPCC – Intergovernmental Panel on Climate Change
$MMTCO_2$ eq – Million metric tons carbon dioxide equivalent
Montreal Protocol – Montreal Protocol on Substances that Deplete the Ozone Layer
ODS – Ozone-depleting substance
Parties to the Montreal Protocol or Party – Nations and regional economic integration organizations that have consented to be bound by the Montreal Protocol on Substances that Deplete the Ozone Layer

I. General Information

A. Does this Proposed Action Apply to Me?

You may be potentially affected by this action if you manufacture class II ozone-depleting substances (ODS) listed at 40 CFR part 82, subpart A, Appendix B, and hydrofluorocarbon-23 (HFC-23) is also generated as a byproduct at your plant. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed under "**FOR FURTHER INFORMATION CONTACT."**

B. What Action is the Agency Proposing?

The Environmental Protection Agency (EPA) is proposing to require the control, capture, and/or destruction of byproduct HFC-23 that would otherwise be emitted from plants that manufacture class II ODS (i.e., hydrochlorofluorocarbons (HCFCs)), including HCFC-22. Under the Clean Air Act (CAA) and EPA's regulations at 40 CFR part 82, controls are in place that restrict the production and consumption of HCFCs to implement the phaseout of these chemicals. There are limited exceptions to these restrictions for the manufacture of HCFCs that are not considered to be production under the CAA. One of the exceptions allows manufacture of HCFCs for use in a process in which the HCFC is used and entirely consumed, except for trace quantities, in the manufacture of other chemicals. The process is known as transformation and the controlled substances used and consumed are called feedstocks. Under this proposed action, any plant that manufactures HCFCs for transformation would need to control, capture, and/or destroy HFC-23 byproduct generated. More specifically, EPA is proposing that no later than October 1, 2022, as compared to the amount of HCFCs intentionally manufactured on a facility

line, no more than 0.1 percent of HFC-23 generated on the line may be emitted. Rather, such HFC-23 byproduct must be captured and employed for a commercial purpose or destroyed using a technology approved by EPA.

This proposed rule is narrow in scope and is expected only to affect those plants that continue to manufacture HCFCs under an exception to the HCFC phaseout under the CAA and its implementing regulations. Based on data from EPA's Greenhouse Gas Reporting Program (GHGRP), we are aware of two plants that would fall under the proposed requirements. These two plants report their emissions under subpart O of the GHGRP (*HCFC-22 Production and HFC-23 Destruction*), which requires owners or operators of facilities that contain HCFC-22 production or HFC-23 destruction processes to report their emissions from those processes. Plant-specific emissions from these processes are then published in EPA's Facility Level Information on GreenHouse gases Tool (FLIGHT). Interested readers can review the data concerning HFC-23 reported to EPA for over a decade. Other than the two plants included in the GHGRP data, EPA is not aware of any other class II ODS production plants in the United States that generate emissions of HFC-23.[1] EPA is soliciting comment on whether there are any other plants manufacturing class II ODS that have emissions of HFC-23. EPA is also aware that there are plants that generate HFC-23 emissions during production of HFCs and directs interested readers to "Phasedown of Hydrofluorocarbons: Establishing the Allowance Allocation and Trading Program under the American Innovation and Manufacturing Act" (86 FR 27150, May

[1] See, e.g., "Fluorinated Greenhouse Gas Emissions and Supplies Reported to the GHGRP." *Epa.gov*, Environmental Protection Agency, 24 Feb. 2021, https://www.epa.gov/ghgreporting/fluorinated-greenhouse-gas-emissions-and-supplies-reported-ghgrp#production.

19, 2021), the "Proposed HFC Allocation Rule," to learn more about EPA's proposal to implement a similar standard for emissions of HFC-23 at those plants.

EPA is proposing a compliance date of October 1, 2022. EPA recognizes that individual circumstances could arise that make it impossible for an individual plant to install necessary controls by October 1, 2022, and therefore is proposing a process under which companies could seek an extension of the compliance date.

C. What is the Agency's Authority for this Proposed Action?

Several sections of the CAA provide authority for this proposed action.[2] Section 603 provides authority to establish monitoring and reporting requirements for ODS, and section 605 provides authority to phase out the production and consumption of class II substances, to restrict the use of class II ODS, and to promulgate regulations associated with the production of class II ODS. EPA's regulations implementing the production and consumption controls for class II substances, including provisions implementing exceptions to those controls, can be found at 40 CFR part 82, subpart A.

To the extent that this rulemaking involves recordkeeping and reporting requirements, EPA also relies on its authority under section 114 of the CAA, which authorizes the EPA Administrator to require recordkeeping and reporting in carrying out any provision of the CAA (with certain exceptions that do not apply here). Additional authority for electronic reporting comes from the Government Paperwork Elimination Act (44 U.S.C. 3504), which provides "(1) for the option of the electronic maintenance, submission, or disclosure of information, when

[2] The Clean Air Act provisions addressing stratospheric ozone protection are codified at 42 U.S.C. 7671-7671q.

practicable as a substitute for paper; and (2) for the use and acceptance of electronic signatures, when practicable."

II. Background on this Action

A. Class I and Class II ODS Phaseout

To comply with the United States' obligations under the *Montreal Protocol on Substances that Deplete the Ozone Layer* (Montreal Protocol) and requirements under Title VI of the CAA, EPA has been implementing a system of production and consumption controls for decades to facilitate the orderly phaseout of class I and class II ODS.[3] Under this system, EPA allocates allowances for the production and consumption of these substances, gradually reducing the number of allowances allocated over time. Allocation of production and consumption allowances for most class I substances (e.g., chlorofluorocarbons, methyl chloroform, carbon tetrachloride, and halons) ended by 1996, and in 2005 for methyl bromide. EPA is implementing the phaseout of class II ODS on a chemical-by-chemical basis and had stopped allocating production and consumption allowances for most HCFCs by 2020. EPA allocated the few remaining production and consumption allowances for HCFC-123 and HCFC-124 in a 2020 rulemaking (85 FR 15258). Under that rule, production and consumption allowances for class II substances are reduced to zero by 2030 (§82.16). Production and import of HCFCs that are categorized as class II ODS without the appropriate allowances is generally prohibited unless an exception applies (§82.15(a) and (b)). The Montreal Protocol, the CAA, and EPA's implementing regulations also limit the permissible uses of HCFCs, with certain exceptions.

[3] The current list of substances that are categorized as class I substances can be found at 40 CFR part 82, subpart A, Appendix A, and as class II substances at 40 CFR part 82, subpart A, Appendix B. The class II substances are all HCFCs.

Additional information on the class II phaseout can be found in EPA's prior rulemakings in this area (see, e.g., 68 FR 2819, 79 FR 64254, and 85 FR 15258).

As noted previously, there are limited exceptions to these production controls under the CAA and EPA's implementing regulations (§82.15(a)). One exception allowed indefinitely under the CAA is manufacture for use in a process resulting in the HCFC being transformed. Consistent with section 601(11) of the CAA, the definition of "production" in 40 CFR 82.3 excludes the "manufacture of a controlled substance that is subsequently transformed." As defined in 40 CFR 82.3, "transform" means to "use and entirely consume (except for trace quantities) a controlled substance in the manufacture of other chemicals for commercial purposes."

B. The American Innovation and Manufacturing Act

HFC-23 is a very potent GHG with a 100-year global warming potential (GWP) of 14,800[4] that is generated as a byproduct during the manufacture of certain chemicals, including HCFC-22. In a Technical Support Document for EPA's GHGRP, EPA detailed the process by which HFC-23 is generated as a byproduct during the manufacture of HCFC-22:

> HCFC-22 is produced by the reaction of chloroform ($CHCl_3$) and hydrogen fluoride (HF) in the presence of a catalyst, $SbCl_5$. The reaction of the catalyst and HF produces $SbCl_xF_y$, (where x + y = 5), which reacts with chlorinated hydrocarbons to replace chlorine atoms with fluorine. The HF and chloroform are introduced by submerged piping into a continuous-flow reactor that contains the catalyst in a hydrocarbon mixture of chloroform and partially fluorinated intermediates. The vapors leaving the reactor contain HCFC-21 ($CHCl_2F$), HCFC-22 ($CHClF_2$), HFC-23 (CHF_3), HCl, chloroform, and HF. The under-fluorinated intermediates (HCFC-21) and chloroform are then condensed and returned to the reactor, along with residual catalyst, to undergo further fluorination. The final vapors leaving the condenser are primarily HCFC-22, HFC-23, HCl and residual HF. The HCl is recovered as a useful byproduct, and the HF is removed. Once

[4] Errata to Table 2.14 of the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report.

separated from the HCFC-22, the HFC-23 may be vented to the atmosphere as an unwanted by-product, captured for use in a limited number of applications, or destroyed.[5]

Historically, HFC-23 that has not been controlled or captured has been vented to the atmosphere. EPA is also aware of limited instances where HFC-23 is captured, purified, and used for commercial purposes, such as fire suppression, very low temperature refrigeration, and semiconductor manufacturing.

HFC-23 is a regulated substance under the American Innovation and Manufacturing Act of 2020 (AIM Act) enacted December 27, 2020, as section 103 in Division S, Innovation for the Environment, of the Consolidated Appropriations Act, 2021 (Pub. L. 116-260). EPA has recently published a proposed rule under AIM Act authority, the Proposed HFC Allocation Rule (86 FR 27150, May 19, 2021), that has several interrelated proposed approaches linked to HFC-23 emissions. Under the primary proposed approach, all creation of HFC-23, whether intentional or unintentional, beyond insignificant quantities under certain conditions, would be "production" covered by AIM Act regulations. That proposal would require that HFC-23 be captured and controlled to a specific standard and then the HFC-23 could be refined for sale, which would require expenditure of AIM Act allowances, or the HFC-23 would need to be destroyed.[6] In the alternative, EPA is proposing to require that, in order to be eligible for a production allowance under the AIM Act rules, companies must control, capture, and destroy HFC-23 emissions from

[5] Technical Support Document for Emissions of HFC- 23 from Production of HCFC-22: Proposed Rule for Mandatory Reporting of Greenhouse Gases, February 6, 2009, available at: https://www.epa.gov/sites/production/files/2015-02/documents/subparto-tsd.pdf.

[6] If that proposed approach under the AIM Act were to be finalized, all generation of HFC-23 would be regulated, including HFC-23 generated as a byproduct during production of HCFCs for feedstock use. Under such a scenario, EPA anticipates that it would not finalize this proposal, but is soliciting comments on whether this CAA-specific rulemaking would still be beneficial.

plants producing HFCs listed as regulated substances in the AIM Act. Under both proposals, EPA is proposing 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 percent of HFC-23 generated as a byproduct on the line may be emitted. EPA also proposed a process under which companies could seek an extension of the compliance date in certain circumstances. Accordingly, the timeline proposed in the Proposed HFC Allocation Rule matches the timeline proposed in this rulemaking, such that facilities would have no compliance obligations until October 1, 2022, or later if a compliance date extension was granted, to allow facilities necessary time to install and calibrate equipment. The HFC-23 must be destroyed using a technology approved in the context of the AIM Act regulations (which are also proposed in the same notice).

C. Emission Reduction Commitments

Studies indicate that HFC-23 emission trends from HCFC-22 manufacturing largely depend on the magnitude of HCFC-22 manufacturing and the effectiveness of HFC-23 destruction associated with that manufacture of HCFC-22.[7,8,9] HFC-23 has a substantially longer atmospheric lifetime and higher GWP than all other HFCs at 14,800. In 2015, EPA estimated

[7] Montzka, S. A., L. Kuijpers, M. O. Battle, M. Aydin, K. R. Verhulst, E. S. Saltzman, and D. W. Fahey. et al.: Recent increases in global HFC-23 emissions, Geophysical Research Letters, 37, L02808, doi:10.1029/2009GL041195, 2010.

[8] B. R. Miller, M. Rigby, L. J. M. Kuijpers, P. B. Krummel, et al.: HFC-23 (CHF_3) emission trend response to HCFC-22 ($CHClF_2$) production and recent HFC-23 emission abatement measures, Atmospheric Chemistry and Physics, 10, 7875–7890, 2010.

[9] World Meteorological Organization (WMO), Executive Summary: Scientific Assessment of Ozone Depletion: 2018, World Meteorological Organization, Global Ozone Research and Monitoring Project – Report No. 58, 67 pp., Geneva, Switzerland, 2018.

that global controls on byproduct HFC-23 emissions from HCFC-22 manufacture would result in cumulative HFC-23 byproduct emission reductions of 12,600 $MMTCO_2$ eq through 2050.[10]

On September 16, 2014, and October 15, 2015, entities in the private sector announced commitments to reduce emissions of HFCs.[11] Several of those commitments included reducing HFC-23 byproduct emissions. For example, one commitment from 2015 states, in part:

> "Chemours today agreed to control and, to the extent feasible, eliminate by-product emissions of HFC-23 at all its fluorochemical production facilities worldwide. Furthermore, Chemours today agreed to use in the U.S. only feedstock HCFC-22 from producers that control and, to the extent feasible, eliminate by-product emissions of HFC-23 at their production facilities in North America."

And a second 2015 pledge states, in part:

> "Daikin Industries Ltd. today announced its commitment to strictly control and, to the extent feasible, eliminate by-product emissions of HFC-23 at its fluorochemical production facilities worldwide. Daikin's plant in Decatur, Alabama, was the first plant in the U.S. that committed to the destruction of HFC-23 when it started operations in 1994."

These commitments demonstrate longstanding concerns over and efforts to limit HFC-23 byproduct emissions. Further, in a 2021 news release, Chemours announced a project to significantly reduce emissions at their Louisville, Kentucky, manufacturing site. As stated in the news release, the project includes the design, custom-build, and installation of proprietary technology to capture at least 99 percent of HFC-23 process emissions from the site. The news release is available in the docket to this rule (EPA-HQ-OAR-2021-0253).

[10] Proposed amendment to the Montreal Protocol submitted by Canada, Mexico and the United States of America. https://ozone.unep.org/system/files/documents/OEWG-36-3E.pdf.

[11] https://obamawhitehouse.archives.gov/the-press-office/2014/09/16/fact-sheet-obama-administration-partners-private-sector-new-commitments- and https://obamawhitehouse.archives.gov/the-press-office/2015/10/15/fact-sheet-obama-administration-and-private-sector-leaders-announce.

III. What is EPA Proposing in this Action?

A. What is EPA Proposing to Require for Manufacturers of Class II ODS?

In this action, EPA is proposing plants that manufacture HCFCs must control, capture, and destroy HFC-23 byproduct emissions. More specifically, EPA is proposing that, no later than October 1, 2022, as compared to the amount of chemical intentionally manufactured on a facility line over a certain time period, no more than 0.1 percent of HFC-23 generated on the line may be emitted during that same time period. After such point, emissions of HFC-23 byproduct that exceed the 0.1 percent would be treated as violations of an applicable emissions limitation in violation of federal law and subject to appropriate enforcement action. The proposed 0.1 percent allowable emissions standard is mass based, with the mass of the intentionally produced substance as the comparison point. In other words, if a line is intentionally producing 1,000 pounds of HCFC-22 over a certain time period, only one pound of HFC-23 could be emitted over that same time period. EPA proposes that any captured HFC-23 must either be refined and employed for commercial purposes, in accordance with any other governing regulatory requirements, or destroyed.

Given that the focus of this rulemaking is to minimize HFC-23 byproduct emissions, it is reasonable to require that if the HFC-23 is not being captured and employed for a commercial purpose, in which case it is not directly emitted from the HCFC manufacturing facility, HFC-23 must be destroyed using a technology that has been demonstrated to be highly effective in destroying HFC-23. EPA is proposing that HFC-23 must be destroyed using a technology approved by EPA. HFC-23 is a regulated substance under the newly enacted AIM Act. EPA has recently published the Proposed HFC Allocation Rule (86 FR 27150, May 19, 2021), which

includes a proposal to approve specific technologies as permissible for the destruction of HFC-23. Because HFC-23 is a regulated substance under the AIM Act, it seems most appropriate to list approved technologies for the destruction of HFC-23 through the Proposed HFC Allocation Rule. Therefore, EPA is not separately proposing a list of technologies through this rulemaking. The list of technologies proposed for approval through the Proposed HFC Allocation Rule is as follows: (1) Gaseous/fume oxidation; (2) Liquid injection incineration; (3) Reactor cracking; (4) Rotary kiln incineration; (5) Argon plasma arc; (6) Nitrogen plasma arc; (7) Chemical reaction with hydrogen and carbon dioxide; and (8) Superheated steam reactor. As stated in the preamble of the Proposed HFC Allocation Rule (86 FR 27183), these technologies are capable of destroying HFC-23 to a destruction and removal efficiency (DRE) of 99.99 percent.[12]

For additional information on these technologies, EPA's basis for approving them for destruction of HFC-23, and to participate in the public process concerning that Proposed HFC Allocation Rule, please see the earlier-cited proposed rule. EPA is soliciting comment on its proposed approach to require use of a technology listed as approved through the Proposed HFC Allocation Rule, and it is also soliciting comment in this rulemaking on whether the same set of destruction technologies should be separately listed and approved for HFC-23 destruction under this rulemaking for inclusion in the part 82 regulations.

[12] The preamble to the Proposed HFC Allocation Rule also states that many of the destruction technologies previously approved by EPA to destroy ODS have also been found capable of destroying HFCs to a minimum DRE of 99.99 percent, citing the 2018 TEAP Report, Volume 2: Decision XXIX/ 4 TEAP Task Force Report on Destruction Technologies for Controlled Substances. March 15, 2021. https://ozone.unep.org/sites/default/files/2019-04/TEAP-DecXXIX4-TF-Report-April2018.pdf. In addition, we note that these eight technologies are currently included in the list of destruction processes approved by EPA for class I and class II ODS, which can be found in the definition of "destruction" in 40 CFR 82.3.

As noted previously, the known plants affected by this rulemaking have made public commitments to control and, to the extent feasible, eliminate byproduct emissions of HFC-23. In recent discussions with EPA, affected companies described ongoing efforts to control, capture, and destroy HFC-23, including planned facility upgrades.[13] EPA is proposing regulations to establish permanent and federally enforceable requirements in addition to these voluntary commitments. EPA acknowledges that some plants may need to install and calibrate new equipment to meet the standard and therefore is proposing a compliance date of October 1, 2022, to allow these plants to complete these activities. Based on the actions EPA understands need to be undertaken, including building and installing customized equipment, October 1, 2022, is a reasonable date by which plants should be expected to comply with the requirements proposed in this rule, if finalized.

Moreover, EPA recognizes that individual circumstances could arise that make it impossible for an individual plant to install necessary controls by October 1, 2022. Therefore, EPA proposes that the Agency may grant a six-month deferral of this compliance deadline (with the possibility of an additional, one-time six month extension) for companies that can demonstrate to EPA that they have taken concrete steps to start to improve their HFC-23 control, capture, and destruction (such as purchase and installation of necessary equipment) at the relevant plants, are reporting under applicable sections of 40 CFR parts 82, 84,[14] and 98, and

[13] "Facilities with HFC-23 Emissions" is available in the docket (EPA-HQ-OAR-2021-0253).

[14] EPA has proposed initial implementing regulations for the recently enacted AIM Act, which would be codified at 40 CFR part 84. This includes proposed recordkeeping and reporting requirements. More details can be found in "Phasedown of Hydrofluorocarbons: Establishing the Allowance Allocation and Trading Program under the American Innovation and Manufacturing Act" (86 FR 27150, May 19, 2021). If the referenced recordkeeping and reporting requirements are finalized, EPA is proposing through this notice that such recordkeeping and reporting requirements would need to be followed in order for a facility to be eligible for an extension.

have clear plans to come into full compliance with the 0.1 percent HFC-23 limit by the deferred date. Alternatively, EPA proposes that the Agency may grant a one-time, one-year deferral of the October 1, 2022 deadline, with no possible extension. EPA is soliciting comment on whether a phased approach of two six-month deferrals would provide helpful oversight by EPA on the company's progress to ensure regulatory requirements take effect as soon as feasible, or whether a single one-time deferral is more appropriate in this instance. Under this proposal, companies would need to request such a deferral by August 1, 2022. EPA proposes to make a determination on an application within 30 days. EPA intends to publicly announce any compliance deferrals granted under this process.

EPA proposes that the destruction of captured HFC-23 is not required to occur at the same plant where the HFC-23 is generated. Destruction of HFC-23 may occur either at the plant where it is generated (on-site) or off-site at another plant. In instances where captured HFC-23 is destroyed off-site, EPA proposes that the transportation to and destruction at the off-site plant would be considered in calculating compliance with the 0.1 percent emissions standard.

Destruction of HFC-23 on-site at the plant where it is generated occurs very soon after it is generated. Accordingly, EPA proposes that if a company utilizes onsite destruction capability, HFC-23 must be destroyed within 30 days of its generation. Alternatively, where destruction occurs off-site, more time may be needed to allow for transportation. To ensure HFC-23 is destroyed in a reasonable amount of time and is not inadvertently emitted, EPA is proposing to require that off-site HFC-23 destruction occur within 90 days after it is generated. These timelines are achievable as a practical matter while being short enough to avoid potential malfeasance that could occur over an elongated time horizon and to minimize the potential of

accidental releases. EPA welcomes comment on these timeframes and would consider longer time windows if necessary to destroy HFC-23.

The CAA in section 605(c) provides EPA with the authority to promulgate regulations relating to the phase out of production of class II substances. Given plants are allowed to continue to manufacture HCFCs indefinitely under certain exceptions to the general prohibition on their production, such as manufacture as a feedstock for transformation, it is reasonable to require them to control, capture, and/or destroy HFC-23 emissions associated with such manufacture. As noted previously, HFC-23 has a GWP of 14,800, meaning that emitting a single kilogram of HFC-23 has about the same effect on the global climate over 100 years as emitting 14,800 kilograms of CO_2. Elevated concentrations of greenhouse gases (GHGs), including HFC-23, 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. Extensive additional information on climate change is available in numerous scientific assessments[15] and EPA documents, as well as in the technical and scientific information supporting them. Two of these

[15] For example, the 2018 National Climate Assessment or the 2018 IPCC Special Report on 1.5°C: 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. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018 and IPCC, 2018: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)].

documents are EPA's 2009 final rule document "Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act" (74 FR 66496, December 15, 2009) and EPA's 2016 Endangerment and Cause or Contribute Findings for greenhouse gas emissions from aircraft under section 231(a)(2)(A) of the Clean Air Act (81 FR 54422, September 14, 2016).[16]

As noted, EPA is aware of two plants that intentionally manufacture HCFCs that generate HFC-23 as a byproduct. Both of these plants manufacture HCFC-22 for transformation. The definition in 40 CFR 82.3 of transformation notes that chemicals used in transformation processes are used and entirely consumed, except for trace quantities. As noted previously, this is consistent with the exclusion of substances that are "used and entirely consumed (except for trace quantities) in the manufacture of other chemicals" from the definition of produce, produced, and production in section 601(11) of the CAA. It is reasonable to assume that, in excepting transformation processes from the definitions related to production and accordingly from the production controls under the ODS phaseout, including for HCFCs, Congress's expectation was that HCFCs manufactured under this exception would be used and entirely consumed in the subsequent transformation processes, thereby resulting in minimal environmental effects from the manufactured HCFCs. Accordingly, it is reasonable for EPA to place additional controls around the process used to manufacture HCFCs intended for transformation in order to minimize its environmental effects.

B. What is EPA Proposing for Recordkeeping and Reporting Requirements?

[16] In describing these 2009 and 2016 Findings in this proposal, EPA is neither reopening nor revisiting them.

EPA is proposing reporting requirements and corresponding recordkeeping requirements for plants that manufacture class II ODS with HFC-23 byproduct generation. EPA is proposing a one-time report, to be submitted within 45 days after the effective date of the rule, containing the following: (i) Information on the capacity to manufacture the intended chemical(s) on the line(s) where HFC-23 byproduct is generated; (ii) a description of actions taken at the plant to control the generation and emissions of HFC-23; (iii) identification of approved destruction technology and its location intended for use for HFC-23 destruction; and (iv) a copy of the DRE report associated with the destruction technology. EPA is further proposing that any changes to the information provided in the one-time report be reflected in a revision submitted to EPA within 60 days of the change(s).

EPA is also proposing quarterly reporting, to be submitted 45 days after the end of the applicable reporting period,[17] for production line data on HFC-23: (i) emissions; (ii) generated, whether captured or not; (iii) generated and captured for all uses; (iv) generated and captured for feedstock use in the United States; (v) generated and captured for destruction; (vi) used for feedstock without prior capture; and (vii) destroyed without prior capture. Quantities should be reported in kilograms consistent with the existing reporting requirements in 40 CFR 82.24 for class II controlled substances.

If captured HFC-23 byproduct is destroyed in a subsequent calendar year (e.g., it is generated and captured December 15 and destroyed January 15 in the following year), EPA is further proposing to require the entity that generated the HFC-23 to report that the HFC-23 has

[17] There are four quarters or reporting periods in the control period. As defined in 40 CFR §82.3, the control period is each twelve-month period from January 1 through December 31.

been destroyed. The information must be submitted within 45 days after destruction occurs. In addition, where destruction of HFC-23 occurs at a different plant than where it is generated, EPA is proposing to require the entity that generated the HFC-23 to report that the HFC-23 has been destroyed within 90 days of being generated. The information must be submitted within 45 days after destruction occurs.

To ensure that reported values for HFC-23 generation, capture, transformation, and destruction are reliable, EPA is proposing to require entities to comply with certain monitoring and calculation provisions. Specifically, EPA is proposing to require entities to meet the same requirements in 40 CFR part 98, subpart L or subpart OO, depending on the quantity being reported. These provisions include validated methods for measuring concentrations of HFC-23 in process streams and the mass flow rates of those streams; accuracy, precision, and calibration requirements for instrumentation; and specific calculation methods for uncontrolled emissions and for quantities transformed and destroyed. EPA proposes to include these reporting requirements to ensure that reported data are accurate, precise, and comparable over time and across plants and companies.

Regarding annual plant-level information on HFC-23 generated and destroyed, these data are inputs into emission equations that are used under GHGRP subpart O to calculate and report emissions of HFC-23, and inputs into emission equations are considered "emission data." Section 114(c) of the CAA provides that "emission data" shall be available to the public. EPA generally anticipates that these elements related to HFC-23 are emission data and thus will not be treated as confidential following their collection.

EPA is proposing to require records of reports submitted to EPA to be kept for five years.

III. Statutory and Executive Order Review

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is an economically significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review. Any changes made in response to OMB recommendations have been documented in the docket. EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis, "Draft Regulatory Impact Analysis for Protection of Stratospheric Ozone: Standards Related to the Manufacture of Class II Ozone-Depleting Substances for Feedstock" is available in the docket.

B. Paperwork Reduction Act (PRA)

The information collection activities in this proposed rule have been submitted for approval to OMB under the PRA. The Information Collection Request (ICR) document that EPA prepared has been assigned EPA ICR number 1432.37. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here.

EPA is proposing both a one-time report and quarterly reporting to ensure compliance with the proposed limits related to HFC-23 byproduct emissions from the manufacture of class II controlled substances or HCFCs. Quarterly reporting is consistent with the existing reporting requirements in 40 CFR 82.24 for class II controlled substances. The ICR addresses the incremental changes to the existing reporting and recordkeeping programs that are approved under OMB control number 2060-0170.

Respondents/affected entities: Respondents and affected entities will be plants that manufacture HCFCs and generate HFC-23 as a byproduct.

Respondent's obligation to respond: Mandatory – sections 603(b) and 114 of the CAA.

Estimated number of respondents: 2

Frequency of response: Quarterly, annually, and as needed.

Total estimated burden: 164 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $20,157 (per year), includes $0 annualized capital or operation and maintenance costs.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9.

Submit your comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to EPA using the docket identified at the beginning of this rule. You may also send your ICR-related comments to OMB's Office of Information and Regulatory Affairs via email to OIRA_submission@omb.eop.gov, Attention: Desk Officer for EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after receipt, OMB must receive comments no later than **[insert date 30 days after publication in the Federal Register]**. EPA will respond to any ICR-related comments in the final rule.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities (SISNOSE) under the RFA. This action will not impose any requirements on small entities. If a rule may have a SISNOSE, the Agency would be required to take certain steps to ensure that the interests of small entities were represented in the rulemaking

process. To determine whether the proposed changes would likely have a SISNOSE, EPA identified producers with HFC-23 emissions under EPA's GHGRP. The small business threshold is defined by the SBA as the number of employees in the company and varied between 100 and 1,500 employees. Because only two plants were identified as potentially affected by this action, and neither of those plants are owned by small businesses, it can be presumed that this action will have no SISNOSE.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531 – 1538 and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local, or tribal governments.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments, on the relationship between the federal government and Indian tribes, or on the distribution of power and responsibilities between the federal government and Indian tribes, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this action. EPA periodically provides updates on air regulations to the National Tribal Air Association and will share information on this rulemaking through this and other fora.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

This action is subject to Executive Order 13045 (62 FR 19885, April 23, 1997) because it is an economically significant regulatory action as defined by Executive Order 12866, and EPA believes that the environmental health or safety risk addressed by this action has a disproportionate effect on children. Accordingly, EPA has evaluated the environmental health and welfare effects of climate change on children.

GHGs, including HFCs, contribute to climate change. The GHG emissions reductions from HFC-23 resulting from implementation of this rule will further improve children's health. The assessment literature cited in EPA's 2009 and 2016 Endangerment Findings concluded that certain populations and life stages, including children, the elderly, and the poor, are most vulnerable to climate-related health effects. The assessment literature since 2016 strengthens these conclusions by providing more detailed findings regarding these groups' vulnerabilities and the projected impacts they may experience. These assessments describe how children's unique physiological and developmental factors contribute to making them particularly vulnerable to climate change. Impacts to children are expected from heat waves, air pollution, infectious and waterborne illnesses, and mental health effects resulting from extreme weather events. In addition, children are among those especially susceptible to most allergic diseases, as well as health effects associated with heat waves, storms, and floods. Additional health concerns may arise in low-income households, especially those with children, if climate change reduces food availability and increases prices, leading to food insecurity within households.

H. Executive Order 13211: Actions that Significantly Affect Energy Supply, Distribution, or Use

This action is not a "significant energy action" because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. This action applies to the manufacture of certain regulated substances, none of which are used to supply or distribute energy.

I. National Technology Transfer and Advancement Act (NTTAA)

This rulemaking does not involve technical standards.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

EPA believes that this action does not contribute to disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994). As discussed in the Regulatory Impact Analysis, "Draft Regulatory Impact Analysis for Protection of Stratospheric Ozone: Standards Related to the Manufacture of Class II Ozone-Depleting Substances for Feedstock," one of the plants potentially affected by this proposed rule is currently controlling their HFC-23 emissions on-site, and the other plant plans to install equipment that will capture HFC-23 process emissions. Based on this information and as discussed further in the Regulatory Impact Analysis, we do not anticipate any effects from the proposed rule on the manufacture of HCFC-22.

This rule, if finalized, will reduce emissions of a potent GHG that is generated as a byproduct from the manufacture of certain HCFCs. While there are no local effects associated with the release of HFC-23, reducing emissions of HFC-23 will contribute to reducing the effects of climate change in the longer term, including public health and welfare effects that may be

unevenly distributed and particularly harmful to minority populations, low-income populations, and/or indigenous peoples.

List of Subjects in 40 CFR Part 82

Environmental protection, Air pollution control, Chemicals, Emissions, Reporting and recordkeeping requirements.

Dated:

Michael S. Regan,
Administrator.

For the reasons set forth in the preamble, EPA proposes to amend 40 CFR part 82 as follows:

Part 82 Protection of Stratospheric Ozone

1. The authority citation for part 82 continues to read as follows:

Authority: 42 U.S.C. 7414, 7601, 7671-7671q.

2. Amend §82.15 by adding paragraph (a)(3) to read as follows:

§82.15 Prohibitions for class II controlled substances.

(a) * * *

(3) Effective October 1, 2022, no person may manufacture class II controlled substances defined in §82.3 at a plant where HFC-23 byproduct is generated unless no more than 0.1 percent of HFC-23 generated is emitted as compared to the amount of class II controlled substances intentionally manufactured on the facility line. Any captured HFC-23 must be employed for commercial use consistent with the requirements outlined in 40 CFR part 84 or destroyed using a technology approved by EPA for that purpose in §84.29. Where destruction occurs on-site at the plant where HFC-23 is generated, HFC-23 must be destroyed within 30 days of its generation. Captured HFC-23 destroyed at a different plant than where it is generated must be destroyed within 90 days after its generation. In such instances, emissions during the transportation to and destruction at the different plant are included in the calculations of whether the manufacturer meets the 0.1 percent standard.

(i) *Request for extension.* A person may submit to the relevant Agency official a request for a six-month extension, with the possibility of one additional six-month extension of the October 1, 2022, compliance date. No entity may have a compliance date later than October 1, 2023.

(ii) *Timing of request.* The extension request must be submitted to EPA no later than August 1, 2022, for a first-time extension, or February 1, 2023, for a second extension.

(iii) *Content of request.* The extension request must contain the following information:

(A) Name of the plant submitting the request; contact information for a person at the plant; and the address of the plant.

(B) A description of the specific actions taken at the plant to improve HFC-23 control, capture, and destruction; the plans to meet the 0.1 percent HFC-23 limit including the expected date by which the equipment will be installed and operating; and verification that the plant has met all applicable reporting requirements under 40 CFR parts 82, 84, and 98.

(iv*) Review of request*. Starting on the first working day following receipt by the relevant Agency official of a complete request for extension, the official will initiate review of the information submitted and take action within 30 working days.

* * * * *

3. Amend §82.24 by adding paragraph (g) to read as follows:

§82.24 Recordkeeping and reporting requirements for class II controlled substances.

* * * * *

(g) *Manufacturers of class II controlled substances under §82.15(a)(3).* Any person who manufactures class II controlled substances under §82.15(a)(3) during a control period must comply with the following recordkeeping and reporting requirements:

(1) *Reporting.* Each manufacturer of a class II controlled substance under §82.15(a)(3) must provide the Administrator with the following two reports as required in §82.24(g)(1)(i) and (ii).

(i) Within 45 days of the effective date of the final rule**,** each manufacturer must provide the Administrator with a one-time report containing the information required in this paragraph (i). Any changes to information required in this paragraph (g)(1)(i) must be reflected in a revision to the report to be submitted to EPA within 60 days of the change(s).

(A) Information on the capacity to manufacture the intended chemical on the line(s) on which HFC-23 is generated.

(B) Description of actions taken at the plant to control the generation and emissions of HFC-23.

(C) Identification of approved destruction technology and its location intended for use for HFC-23 destruction.

(D) A copy of the destruction and removal efficiency report associated with the destruction technology.

(ii) For each quarter, each manufacturer must provide the Administrator with a report containing the information required in this paragraph (g)(1)(ii).

(A) Production line data for the quarter on HFC-23 (in kilograms) on: Emissions; generated; generated and captured; generated and captured for feedstock use in the United States; generated and captured for destruction; used for feedstock without prior capture; and destroyed without prior capture.

(iii) If captured HFC-23 is destroyed in a subsequent control period, within 45 days after destruction occurs, manufacturers must submit information to EPA indicating the HFC-23 has been destroyed.

(iv) If captured HFC-23 is destroyed at a different plant than where it is generated, within 45 days after destruction occurs, manufacturers must submit information to EPA indicating the

HFC-23 has been destroyed. Such report must include the date on which the HFC-23 was generated and the date on which the HFC-23 was destroyed.

(v) In developing any required report, the owner/operator of a plant that manufacturers class II controlled substances that generates HFC-23 must abide by the following monitoring and quality assurance and control provisions:

(A) To calculate the quantities of HFC-23 generated and captured for any use, generated and captured for destruction, used for feedstock without prior capture, and destroyed without prior capture, plants shall comply with the monitoring methods and quality assurance and control requirements set forth at 40 CFR §98.414 of this title and the calculation methods set forth at §98.413 of this title, except paragraph §98.414(p) of this title shall not apply.

(B) To calculate the quantity of HFC-23 emitted, plants shall comply with the monitoring methods and quality assurance and control requirements set forth at §98.124 of this title and the calculation methods set forth at §98.123 of this title.

(2) *Recordkeeping*. Each manufacturer during a control period must maintain records of reports provided to the Administrator for five years.