6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 9 and 84

[EPA-HQ-OAR-2021-0044; FRL-8458-01-OAR]

RIN 2060-AV17

Phasedown of Hydrofluorocarbons: Establishing the Allowance Allocation and Trading Program under the American Innovation and Manufacturing Act

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency is issuing regulations to implement certain provisions of the American Innovation and Manufacturing Act, as enacted on December 27, 2020. This Act mandates the phasedown of hydrofluorocarbons, which are highly potent greenhouse gases, by 85 percent over a period ending in 2036. The Act directs the Environmental Protection Agency to implement the phasedown by issuing a fixed quantity of transferrable production and consumption allowances, which producers and importers of hydrofluorocarbons must hold in quantities equal to the amount of hydrofluorocarbons they produce or import. To establish the allowance allocation program, this rulemaking determines the hydrofluorocarbon production and consumption baselines, from which allowed production and consumption will decrease consistent with the statutory phasedown schedule; provides an initial approach to allocating calendar-year allowances and allowing for the transfer of those allowances; establishes provisions for the international transfer of allowances; and establishes recordkeeping and reporting requirements. Additionally, it establishes provisions to support implementation, compliance with, and enforcement of, statutory and regulatory requirements

under the Act's phasedown provisions. Over the time period from 2022–2050, this rulemaking will avoid cumulative emissions of 4,560 million metric tons of exchange value equivalent of HFCs in the United States with a present value of cumulative net benefits of $272.7 billion.

DATES: *Effective Dates:* This rule is effective on **[INSERT DATE 30 DAYS AFTER PUBLICATION]**, except for amendatory instruction 3 adding 40 CFR part 84 and establishing regulatory text at 40 CFR 84.3, 84.7, 84.9, 84.11, 84.13, 84.15, and 84.31(h)(2) and (3), which is effective on **[INSERT DATE OF PUBLICATION]**.

Operational Dates: For operational purposes under the American Innovation and Manufacturing Act of 2020 (AIM Act or the Act), the regulatory text established in amendatory instruction 3, is operational as of September 23, 2021, and effective as of **[INSERT DATE OF PUBLICATION]**. The remainder of this rule, and its associated regulatory text outlined in amendatory instructions 1, 2, and 4 through 8 are effective as of **[INSERT DATE 30 DAYS AFTER PUBLICATION]**.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-HQ-OAR-2021-0044. All documents in the docket are listed on the *http://www.regulations.gov* web site. Although listed in the index, some information is not publicly available, e.g., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard-copy form. Publicly available docket materials are available electronically through *http://www.regulations.gov*.

FOR FURTHER INFORMATION CONTACT: Andy Chang, U.S. Environmental Protection Agency, Stratospheric Protection Division, telephone number: 202-564-6658; email address:

chang.andy@epa.gov. You may also visit EPA's website at *https://www.epa.gov/climate-hfcs-reduction* for further information.

SUPPLEMENTARY INFORMATION:

Effective Dates: Portions of this rule are effective less than 30 days from publication in the *Federal Register*. Section 553(d) of the Administrative Procedure Act (APA), 5 U.S.C. chapter 5, generally provides that rules may not take effect earlier than 30 days after they are published in the *Federal Register*. As further discussed in Section II.B, this rule is covered by the rulemaking procedures in section 307(d) of the Clean Air Act (CAA). See CAA section 307(d)(1)(I); AIM Act subsection (k) (providing that section 307 of the CAA "shall apply to … any rule, rulemaking, or regulation promulgated … pursuant to the [AIM Act] as though [the AIM Act] were expressly included in title VI" of the CAA). Section 307(d)(1) of the CAA states that: "The provisions of section 553 through 557 . . . of Title 5 shall not, except as expressly provided in this section, apply to actions to which this subsection applies." Thus, section 553(d) of the APA does not apply to this rule. EPA is nevertheless acting consistently with the policies underlying APA section 553(d) in making a portion of the revisions finalized in this rule effective immediately, while the remainder of the rule will be effective 30 days after publication. The purpose of the general rule in section 553(d) of the APA that 30 days must be provided between publication and the effective date is to "give affected parties a reasonable time to adjust their behavior before the final rule takes effect." *Omnipoint Corp. v. Fed. Commc'n Comm'n*, 78 F.3d 620, 630 (D.C. Cir. 1996); *see also United States v. Gavrilovic*, 551 F.2d 1099, 1104 (8th Cir. 1977) (quoting legislative history). Accordingly, in determining if there is "good cause" to forgo the 30-day delayed effective date per the exception at section 553(d)(3), an agency should

"balance the necessity for immediate implementation against principles of fundamental fairness which require that all affected persons be afforded a reasonable amount of time to prepare for the effective date of its ruling." *Gavrilovic*, 551 F.2d at 1105. Here, EPA has determined that the portions of this rule that are effective less than 30 days from publication in the *Federal Register* are not binding on any third parties, and therefore the above-stated purpose of the 30-day effective date delay is not relevant to the consideration here. The provisions of the rule taking immediate effect are only binding on the Agency in how it will determine allowance allocations, and the AIM Act establishes a deadline for these determinations, namely that by October 1 of each calendar year EPA must calculate and determine the quantity of production and consumption allowances for the following year. In addition, having these provisions become operational immediately upon signature will allow EPA to make determinations regarding allowance allocations earlier than if the effective date were delayed, which in turn will facilitate earlier notification to regulated entities about what their allowance allocation will be and provide them more time to plan accordingly. Thus, EPA's action is consistent with the APA's provision for an effective date of less than 30 days where an agency demonstrates good cause to do so.

Accordingly, it is in keeping with the policy underlying the APA for regulatory text in 40 CFR 84.3, 84.7, 84.9, 84.11, 84.13, 84.15, and 84.31(h)(2) and (3), to take effect immediately. Finally, this rule undertaken in accordance with section 307(d) of the CAA is promulgated upon signature and widespread dissemination. For operational purposes under the AIM Act, EPA is making the regulatory text established in 40 CFR 84.3, 84.7, 84.9, 84.11, 84.13, 84.15, and 84.31 (h)(2) and (3) operational as of September 23, 2021, which is the date of signature.

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

AD/CVD – Anti-Dumping/Countervailing Duties
AIM Act – American Innovation and Manufacturing Act of 2020
ANPRM – Advanced Notice of Proposed Rulemaking
APA – Administrative Procedure Act
CAA – Clean Air Act
CBI – Confidential Business Information
CBP – Customs and Border Protection
CFC – Chlorofluorocarbon
CO_2 – Carbon Dioxide
CVD – Chemical Vapor Deposition
DRE – Destruction and Removal Efficiency
ECHO – Enforcement and Compliance History Online
e-GGRT – Electronic Greenhouse Gas Reporting Tool
EFCTC – European FluoroCarbons Technical Committee
EPA – Environmental Protection Agency
EVe – Exchange Value Equivalent
GHG – Greenhouse Gas
GHGRP – Greenhouse Gas Reporting Program
GWP – Global Warming Potential
HCFC – Hydrochlorofluorocarbon
HFC – Hydrofluorocarbon
HFO – Hydrofluoroolefin
IPCC – Intergovernmental Panel on Climate Change
IWG – Interagency Working Group
MDI – Metered Dose Inhaler
$MMTCO_2$ eq – Million Metric Tons of Carbon Dioxide Equivalent
MMTEVe – Million Metric Tons of Exchange Value Equivalent
MT – Metric tons
$MTCO_2$ eq – Metric Tons of Carbon Dioxide Equivalent
MVAC – Motor Vehicle Air Conditioning
NAICS – North American Industry Classification System
NATA – National Air Toxics Assessment
NODA – Notice of Data Availability
NPRM – Notice of Proposed Rulemaking
NRC – National Research Council
ODP – Ozone Depletion Potential
ODS – Ozone-Depleting Substances
RACA – Request for Additional Consumption Allowance

RIA – Regulatory Impact Analysis
RSEI-GM – Risk-Screening Environmental Indicators Geographic Microdata
SC-GHG – Social Cost of Greenhouse Gases
SC-HFCs – Social Costs of Hydrofluorocarbons
TRI – Toxics Release Inventory
TSCS – Toxic Substances Control Act
UNFCCC – United Nations Framework Convention on Climate Change
USGCRP – United States Global Change Research Program
WMO – World Meteorological Organization

This supplementary information section is arranged as follows:

I. Executive Summary

A. Purpose of the Regulatory Action

EPA is issuing regulations to implement certain provisions of the American Innovation and Manufacturing (AIM) Act, as enacted on December 27, 2020. The Act mandates the phasedown of hydrofluorocarbons (HFCs), which are highly potent greenhouse gases (GHGs), by 85 percent over a period ending in 2036. The Act directs EPA to implement the phasedown by issuing a fixed quantity of transferrable production and consumption allowances, which producers and importers of HFCs must hold in quantities equal to the amount of HFCs they produce or import. To establish the allowance allocation program, this rulemaking establishes HFC production and consumption baselines, codifies the statutory phasedown schedule of allowed production and consumption relative to the baseline level, provides an initial approach to allocating calendar-year allowances and allowing for the transfer of those allowances, establishes provisions for the international transfer of allowances, and establishes recordkeeping and reporting requirements. Additionally, it establishes provisions to support implementation,

compliance with, and enforcement of, statutory and regulatory requirements under the AIM Act's phasedown provisions.

The AIM Act directs EPA to issue a final rule accomplishing these Congressionally directed tasks by September 23, 2021. Additionally, under the AIM Act, by October 1 of each calendar year EPA must calculate and determine the quantity of production and consumption allowances for the following year. EPA intends to issue allowances for the 2022 calendar year no later than October 1, 2021, using the procedure established through this rulemaking, and intends to issue individual allowances for the 2023 calendar year no later than October 1, 2022, using the procedure established through this rulemaking.

The AIM Act further directs EPA to issue a final rule by September 23, 2021, governing the transfer of production and consumption allowances. The AIM Act also directs EPA to issue regulations by December 27, 2021, related to the international transfer of production allowances. This final rule addresses these statutory directives as well.

B. Summary of the Major Provisions of the Regulatory Action

Baselines: This rule establishes the HFC production and consumption baselines from which the phasedown steps are measured. Using the equation provided in the AIM Act, and based on the data available to the Agency through the Greenhouse Gas Reporting Program (GHGRP) and outreach conducted for this rulemaking, EPA determines that the production baseline is 382.6 Million Metric Tons of Exchange Value Equivalent (MMTEVe) and the consumption baseline is 303.9 MMTEVe.

Allocation: The total annual allocations for 2022 and 2023 are 344.3 MMTEVe of production allowances and 273.5 MMTEVe of consumption allowances. EPA intends to issue allowances

for 2022 by October 1, 2021, according to the framework and procedure established through this rulemaking. Company production and consumption allowance allocations are based on the three highest years (not necessarily consecutive) of production or consumption between 2011 and 2019. EPA is issuing allowances to active HFC producers and importers operating in 2020 and is giving individualized consideration to circumstances of historical importers that were not active in 2020. EPA is establishing the allowance allocation framework for two years and intends to undertake a subsequent rulemaking to govern allocations for calendar years 2024 and beyond.

Application-specific Allowances: EPA is issuing "application-specific allowances" to end users in six applications established by the AIM Act: propellants in metered dose inhalers (MDIs), defense sprays, structural composite preformed polyurethane foam for marine use and trailer use, etching of semiconductor material or wafers and the cleaning of chemical vapor deposition (CVD) chambers within the semiconductor manufacturing sector, mission-critical military end uses, and onboard aerospace fire suppression. The rule details the framework for how many allowances are issued for each end use. End users within a specific application may transfer their allowances only with another end user in that same application. Allowances may also be conferred, as frequently as needed, to effectuate the production or import of HFCs for that specific use.

Set-Aside Allowances: EPA is establishing a set-aside pool of 7.5 MMTEVe (less than 3 percent of allowances to be allocated for 2022) that is available to three groups of companies: (1) end users in application-specific sectors that EPA has not yet identified or verified by the date of the final rule, (2) importers that otherwise would have qualified for consumption allowances but are not yet identified or verified by the date of the final rule, and (3) importers that are new market

entrants. Companies seeking to receive allowances via the set-aside should submit applications by November 30, 2021.

HFC-23 Controls: By the established compliance date, entities that create HFC-23 must capture the HFC-23 and either (1) expend production and consumption allowances for the amounts sold for consumptive uses and/or (2) timely destroy the captured HFC-23 using a technology approved by the Administrator. As compared with 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 after the compliance date.

Enforcement and Compliance: EPA is finalizing a multifaceted approach to deter, identify, and penalize illegal activity. These tools include administrative consequences for allowance holders, requiring use of refillable cylinders, increased oversight of imports including transhipments and HFCs imported for transformation, comprehensive tracking of containers of HFCs as they are imported, sold and distributed, and third-party auditing. EPA has also determined that much of the quarterly production and consumption data provided to the Agency will not be provided confidential treatment and will be affirmatively released without further process. This data transparency will incentivize compliance and allow the public and competing companies to identify and report noncompliance to EPA.

C. Costs and Benefits

EPA has estimated the costs and benefits of this action to provide the public with information and to comply with executive orders. EPA estimates that in 2022 the annual net benefits of this rule are $1.7 billion, reflecting compliance costs associated with recordkeeping and reporting and refillable cylinders and cost savings due to lower refrigerant replacement costs

and reduced energy consumption of $300 million and social benefits of $1.4 billion. In 2036, when the final phasedown step is reached at 15 percent of the statutorily defined HFC baseline, the estimated annual net benefits of this rule are $16.4 billion. The present value of cumulative net benefits evaluated from 2022 through 2050 is $272.7 billion at a three percent discount rate or $260.9 billion at a seven percent discount rate. Over the same time period the equivalent annualized value (EAV) of benefits is $13.6 billion when using a 3 percent discount rate; the EAV of costs is negative $0.6 billion when using a 3 percent discount rate and negative $0.5 billion when using a 7 percent discount rate; and the EAV of cumulative net benefits over the period 2022–2050 is $14.2 billion when using a 3 percent discount rate and $14.1 billion when using a 7 percent discount rate.[1] The present value of net benefits is calculated over the 29-year period from 2022–2050 to account for additional years that emissions will be reduced following the consumption reductions from 2022–2036.

Table 1: Summary of Annual Values, Present Values, and Equivalent Annualized Values for the 2022 – 2050 Timeframe for Estimated Abatement Costs, Benefits, and Net Benefits for the Final Rule (billions of 2020$, discounted to 2022)[a,b]

Year	Climate Benefits (3%)[c,d]	Costs[c]		Net Benefits	
		3%	7%	3%	7%
Present Value	$260.9	-$11.8	-$6.4	$272.7	$267.4
Equivalent Annualized Value	$13.6	-$0.6	-$0.5	$14.2	$14.1

[a] Rows may not appear to add correctly due to rounding.
[b] The annualized present value of costs and benefits are calculated over a 29-year period from 2022 to 2050.
[c] The costs presented in this table are consistent with the costs presented in RIA Chapter 3, Table 3-6.
[d] Climate benefits are based on changes (reductions) in HFC emissions and are calculated using four different estimates of the SC-HFCs (model average at 2.5 percent, 3 percent, and 5 percent discount rates; and 95th percentile at 3 percent discount rate). The IWG emphasized, and EPA agrees, on the importance and value of considering the benefits calculated using all four estimates. As discussed in the Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 (IWG 2021), a consideration of climate benefits calculated using discount rates below 3 percent, including 2 percent and lower, are also warranted when discounting intergenerational impacts.

[1] All values for costs and benefits in this section are given in 2020 dollars and are calculated by discounting future costs and benefits to 2022 using a three percent discount rate. Calculations using other discount rates and discussion of the impact of the discount rate are found in the Regulatory Impact Analysis.

Over the 15-year period of the phasedown of HFCs, at a three percent discount rate, the present value of cumulative compliance costs is negative $5.4 billion, or $5.4 billion in savings; the present value of cumulative social benefits is $94.8 billion; and the present value of cumulative net benefits is $100.2 billion. Evaluated at a seven percent discount rate, the present value of cumulative compliance costs is negative $3.7 billion, or $3.7 billion in savings, and the present value of cumulative net benefits is $98.5 billion. Over the time period of 2022–2036 the EAV of benefits is $7.9 billion when using a 3 percent discount rate; the EAV of costs is negative $0.5 billion when using a 3 percent discount rate and negative $0.4 billion when using a 7 percent discount rate; and the EAV of cumulative net benefits is $8.4 billion when using a 3 percent discount rate and $8.3 billion when using a 7 percent discount rate.

EPA estimates that for the years 2022–2036 this action will avoid cumulative consumption of 3,152 MMTEVe of HFCs in the United States. The annual consumption avoided is estimated at 42 MMTEVe in the year 2022 and 282 MMTEVe in 2036. In order to calculate the climate benefits associated with consumption abatement, the consumption changes were expressed in terms of emissions reductions. EPA estimates that for the years 2022–2050 this action will avoid emissions of 4,560 MMTEVe of HFCs in the United States. The annual avoided emissions are estimated at 22 MMTEVe in the year 2022 and 171 MMTEVe in 2036.

Climate benefits are based on changes (reductions) in HFC emissions and are calculated using four different estimates of the social costs of HFCs (SC-HFCs) (model average at 2.5 percent, 3 percent, and 5 percent discount rates; and 95th percentile at 3 percent discount rate). The SC-HFCs estimates used in this analysis were developed using methodologies consistent with the methodology underlying the Interagency Working Group on the Social Cost of

Greenhouse Gases' (IWG) interim estimates of the social cost of other greenhouse gases (social cost of carbon SC-CO_2, social cost of methane SC-CH_4, and social cost of nitrous oxide SC-N_2O) that were developed over many years, using a transparent process, peer-reviewed methodologies, the best science available at the time of that process, and with input from the public. The benefits presented in this paragraph are the benefits associated with the average SC-HFCs at a 3 percent discount rate, but the Agency does not have a single central SC-HFCs point estimate. The IWG emphasized the importance and value of considering the benefits calculated using all four estimates.

As summarized further in Section XI of the preamble and described more fully in the Regulatory Impact Analysis (RIA), EPA's analysis indicates the principal costs (or savings) result from industry transitioning to substitute chemicals and technology. The principal benefits result from a decrease in emissions of HFCs into the atmosphere and the corresponding effects on global warming. The benefits are monetized by using the SC-HFCs. SC-HFCs is estimated using a method consistent with the method used to estimate the Social Cost of Greenhouse Gases (SC-GHGs). An alternative method was also considered that estimates SC-HFCs by using the global warming potential (GWP) (or exchange value) of HFCs and scaling to the known social cost of another GHG, e.g., CO_2, CH_4, or N_2O.

II. General Information

A. Does this Action Apply to Me?

You may be potentially affected by this action if you produce, import, export, destroy, use as a feedstock, reclaim, package, or otherwise distribute HFCs. You may also be potentially affected by this rule if you use HFCs to manufacture products, such as refrigeration and air

conditioning systems, foams, aerosols, and fire suppression systems, or use HFCs in one of the six applications eligible for an allocation under section (e)(4)(B)(iv) of the AIM Act. Potentially affected categories, by North American Industry Classification System (NAICS) code, are included in Table 2.

Table 2: NAICS Classification of Potentially Affected Entities

NAICS Code	NAICS Industry Description
211120	Crude Petroleum Extraction
221210	Natural Gas Distribution
236118	Residential Remodelers
236220	Commercial and Institutional Building Construction
238220	Plumbing, Heating, and Air-Conditioning Contractors
238990	All Other Specialty Trade Contractors
311351	Chocolate and Confectionery Manufacturing from Cacao Beans
322299	All Other Converted Paper Product Manufacturing
325120	Industrial Gas Manufacturing
325180	Other Basic Inorganic Chemical Manufacturing
325199	All Other Basic Organic Chemical Manufacturing
325211	Plastics Material and Resin Manufacturing
325320	Pesticide and Other Agricultural Chemical Manufacturing
325412*	Pharmaceutical Preparation Manufacturing
325414*	Biological Product (except Diagnostic) Manufacturing
325992	Photographic Film, Paper, Plate and Chemical Manufacturing
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing
326150*	Urethane and Other Foam Product
331420	Copper Rolling, Drawing, Extruding, and Alloying
332312	Fabricated Structural Metal Manufacturing
332313	Plate Work Manufacturing
333132	Oil and Gas Field Machinery and Equipment Manufacturing
333314	Optical Instrument and Lens Manufacturing
333316	Photographic and Photocopying Equipment Manufacturing
333413	Industrial and Commercial Fan and Blower and Air Purification Equipment Manufacturing
333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing
333611	Turbine and Turbine Generator Set Unit Manufacturing
333996	Fluid Power Pump and Motor Manufacturing
334413*	Semiconductor and Related Device Manufacturing

NAICS Code	NAICS Industry Description
334419*	Other Electronic Component Manufacturing
334515	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals
334516	Analytical Laboratory Instrument Manufacturing
334613	Blank Magnetic and Optical Recording Media Manufacturing
336212*	Truck Trailer Manufacturing
336214*	Travel Trailer and Camper Manufacturing
336411*	Aircraft Manufacturing
336510	Railroad Rolling Stock Manufacturing
336611*	Ship Building and Repairing
336612*	Boat Building
336992*	Military Armored Vehicle, Tank, and Tank Component Manufacturing
339999*	All Other Miscellaneous Manufacturing
SIC 373102*	Military Ships, Building, and Repairing
423120	Motor Vehicle Supplies and New Parts Merchant Wholesalers
423450	Medical, Dental, and Hospital Equipment and Supplies Merchant Wholesalers
423460	Ophthalmic Goods Merchant Wholesalers
423730	Warm Air Heating and Air-Conditioning Equipment and Supplies Merchant Wholesalers
423740	Refrigeration Equipment and Supplies Merchant Wholesalers
423830	Industrial Machinery and Equipment Merchant Wholesalers
423860*	Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers
423990*	Other Miscellaneous Durable Goods Merchant Wholesalers
424210	Drugs and Druggists' Sundries Merchant Wholesalers
424410	General Line Grocery Merchant Wholesalers
424610	Plastics Materials and Basic Forms and Shapes Merchant Wholesalers
424690	Other Chemical and Allied Products Merchant Wholesalers
424910	Farm Supplies Merchant Wholesalers
441310	Automotive Parts and Accessories Stores
443141	Household Appliance Stores
443142	Electronics Stores
444130	Hardware Stores
446191	Food (Health) Supplement Stores
452311	Warehouse Clubs and Supercenters
453998	All Other Miscellaneous Store Retailers (except Tobacco Stores)
454110	Electronic Shopping and Mail-Order Houses
481111	Scheduled Passenger Air Transportation
482111	Line-Haul Railroads
488510	Freight Transportation Arrangement

NAICS Code	NAICS Industry Description
493110	General Warehousing and Storage
522293	International Trade Financing
523130	Commodity Contracts Dealing
531110	Lessors of Residential Buildings and Dwellings
531120	Lessors of Nonresidential Buildings (except Miniwarehouses)
532420	Office Machinery and Equipment Rental and Leasing
541330	Engineering Services
541519	Other Computer Related Services
541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)
561210	Facilities Support Services
561910	Packaging and Labeling Services
561990	All Other Support Services
562920	Recovery and Reclamation
722511	Full-Service Restaurants
811219	Other Electronic and Precision Equipment Repair and Maintenance
811412	Appliance Repair and Maintenance
922160*	Fire Protection

* Codes marked with an asterisk may apply to sectors that receive application-specific allowances under the AIM Act.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be regulated by this action. This table lists the types of entities that EPA is now aware could potentially be regulated by this action. Other types of entities not listed in the table could also be regulated. To determine whether your entity is regulated by this action, you should carefully examine the regulatory text at the end of this notice. If you have questions regarding the applicability of this action to a particular entity, consult the person listed in the FOR FURTHER INFORMATION CONTACT section.

B. What is the Agency's Authority for Taking this Action?

On December 27, 2020, the AIM Act was enacted as section 103 in Division S, Innovation for the Environment, of the Consolidated Appropriations Act, 2021 (Pub. L. 116-

260).[2] The AIM Act directs EPA to address HFCs by providing new authorities in three main areas: phasing down the production and consumption of listed HFCs; managing these HFCs and their substitutes; and facilitating the transition to next-generation technologies by restricting use of these HFCs in the sector or subsectors in which they are used. This rulemaking focuses on the first area: the phasedown of the production and consumption of HFCs.

Subsection (e) of the AIM Act gives EPA authority to phase down the production and consumption of listed HFCs through an allowance allocation and trading program. The Act uses the term "produce" to mean "the manufacture[3] of a regulated substance from a raw material or feedstock chemical," but excludes from that definition the destruction of HFCs using approved technologies; reclamation, reuse, or recycling of HFCs; and HFCs for transformation.[4] The Act uses the term "consumption" to refer to the amount of HFCs produced in and imported to the United States, subtracting the amount exported.

The Act lists 18 saturated HFCs, and by reference any of their isomers not so listed, that are covered by the statute's provisions, referred to as "regulated substances" under the Act.

[2] EPA interprets the phrase "under this section" in the AIM Act to refer to section 103 of the Consolidated Appropriations Act, 2021, and thus to mean "under the AIM Act." This approach would be consistent with the language included in the Act, such as subsection (a) which states that "[t]his section may be cited as American Innovation and Manufacturing Act of 2020."

[3] While the AIM Act and the definition in this rule use the term "manufacture" in defining the term "produce," in implementing EPA's CAA title VI programs, the Agency has historically used the term "production" when referring to the manufacture of chemicals and "manufacture" when referring to the manufacture of equipment. EPA intends to continue using this framing when describing production of chemicals and manufacture of equipment under the AIM Act to help distinguish between the two activities.

[4] The AIM Act uses the phrase "a regulated substance that is used and entirely consumed (except for trace quantities) in the manufacture of another chemical" instead of "transformation" in this definition. The quoted phrase mirrors the definition used in 40 CFR part 82, subpart A for the term "transform." The AIM Act subsequently uses the terms "transformation" and "use as a feedstock" interchangeably. EPA interprets the use of these two terms in the statute as being intended to have the same meaning and accordingly EPA will use them interchangeably.

Congress also assigned an "exchange value"[5,6] to each regulated substance (along with other chemicals that are used to calculate the baseline). The table in subsection (c)(1), reproduced here in Table 3, lists the 18 regulated substances and their exchange values.

Table 3: List of Regulated Substances and Their Exchange Values

Chemical Name	Common Name	Exchange Value
CHF_2CHF_2	HFC-134	1,100
CH_2FCF_3	HFC-134a	1,430
CH_2FCHF_2	HFC-143	353
$CHF_2CH_2CF_3$	HFC-245fa	1,030
$CF_3CH_2CF_2CH_3$	HFC-365mfc	794
CF_3CHFCF_3	HFC-227ea	3,220
$CH_2FCF_2CF_3$	HFC-236cb	1,340
CHF_2CHFCF_3	HFC-236ea	1,370
$CF_3CH_2CF_3$	HFC-236fa	9,810
$CH_2FCF_2CHF_2$	HFC-245ca	693
$CF_3CHFCHFCF_2CF_3$	HFC-43-10mee	1,640
CH_2F_2	HFC-32	675
CHF_2CF_3	HFC-125	3,500
CH_3CF_3	HFC-143a	4,470
CH_3F	HFC-41	92
CH_2FCH_2F	HFC-152	53
CH_3CHF_2	HFC-152a	124
CHF_3	HFC-23	14,800

The AIM Act requires EPA to phase down the consumption and production of the statutorily listed HFCs on an exchange value-weighted basis according to the schedule stated in (e)(2)(C) as shown in Table 4. The phasedown schedule begins on January 1 of each year.

[5] EPA has determined that the exchange values included in subsection (c) of the AIM Act are identical to the GWPs included in IPCC (2007). EPA uses the terms "global warming potential" and "exchange value" interchangeably. One MMTEVe is therefore equivalent to one $MMTCO_2e$.

[6] IPCC (2007): Solomon, S., D. Qin, M. Manning, R.B. Alley, T. Berntsen, N.L. Bindoff, Z. Chen, A. Chidthaisong, J.M. Gregory, G.C. Hegerl, M. Heimann, B. Hewitson, B.J. Hoskins, F. Joos, J. Jouzel, V. Kattsov, U. Lohmann, T. Matsuno, M. Molina, N. Nicholls, J. Overpeck, G. Raga, V. Ramaswamy, J. Ren, M. Rusticucci, R. Somerville, T.F. Stocker, P. Whetton, R.A. Wood and D. Wratt, 2007: Technical Summary. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Available at *https://www.ipcc.ch/report/ar4/wg1*

Table 4: Phasedown Schedule

Date	Percentage of Production Baseline	Percentage of Consumption Baseline
2020 – 2023	90 percent	90 percent
2024 – 2028	60 percent	60 percent
2029 – 2033	30 percent	30 percent
2034 – 2035	20 percent	20 percent
2036 and thereafter	15 percent	15 percent

The AIM Act requires that the EPA Administrator ensure the annual quantity of all regulated substances produced or consumed[7] in the United States does not exceed the applicable percentage listed for the production or consumption baseline.

In order to execute this statutory directive, EPA must determine both a production and consumption baseline from which the yearly targets are calculated. The AIM Act provides formulas for how to set a baseline. The equations are composed of an HFC component, a hydrochlorofluorocarbon (HCFC) component, and a chlorofluorocarbon (CFC) component. Specifically, EPA is directed to calculate the production baseline by adding: (i) the average annual quantity of all regulated substances produced in the United States from January 1, 2011, through December 31, 2013, and (ii) 15 percent of the production level of HCFCs in calendar year 1989, and (iii) 0.42 percent of the production level of CFCs in calendar year 1989.

EPA is directed to calculate the consumption baseline by adding: (i) the average annual quantity of all regulated substances consumed in the United States from January 1, 2011, through December 31, 2013, and (ii) 15 percent of the consumption level of HCFCs in calendar year

[7] In the context of allocating and expending allowances, EPA interprets the word "consume" as the verb form of the defined term "consumption." For example, subsection (e)(2)(A) states the phasedown consumption prohibition as "no person shall…*consume* a quantity of a regulated substance without a corresponding quantity of consumption allowances." While a common usage of the word "consume" means "use," EPA does not believe that Congress intended for every possible use of an HFC to require the expenditure of allowances. For example, we do not believe that Congress intended everyone who charges an appliance or fills an aerosol can with an HFC to expend allowances for that use.

1989, and (iii) 0.42 percent of the consumption level of CFCs in calendar year 1989. To implement the directive that the production and consumption of regulated substances in the United States does not exceed the statutory targets, the AIM Act in subsection (e)(3) requires EPA to issue regulations within 270 days of the Act's enactment establishing an allowance allocation and trading program to phase down the production and consumption of the listed HFCs. These allowances are limited authorizations for the production or consumption of regulated substances. Subsection (e)(2)(D) directs EPA to "determine the quantity of allowances for the production and consumption of regulated substances that may be used for the following calendar year" by October 1 each year. Subsection (e)(2) of the Act has a general prohibition that no person[8] shall produce or consume a quantity of regulated substances in the United States without a corresponding quantity of allowances. Also, within 270 days, EPA is directed in subsection (g) to establish regulations governing the transfer of production and consumption allowances. Subsection (e)(2)(A) provides that no person shall hold, use, or transfer an allocated production or consumption allowance except in accordance with the transfer regulations. Under subsection (g), the transfer regulations are to use the applicable exchange values and "ensure that the transfers … will result in greater total reductions" in production and consumption "than would occur during the year in the absence of the transfers."

Subsection (e)(4)(B)(iv) of the Act requires EPA to allocate allowances sufficient to meet the full quantity needed for production and consumption for six specific applications for five years following enactment. EPA is to determine the necessary allowance amount for these

[8] Under the Act's term, this general prohibition applies to any "person." Because EPA anticipates that the parties that produce or consume HFCs—and that would thus be subject to the Act's production and consumption controls—are companies or other entities, we frequently use those terms to refer to regulated parties. Using this shorthand, however, does not alter the applicability of the Act's requirements and prohibitions.

applications "based on projected, current, and historical trends." The six statutorily listed applications are: propellants in metered dose inhalers; defense sprays (e.g., bear spray); structural composite preformed polyurethane foam for marine use and trailer use; etching of semiconductor material or wafers and the cleaning of CVD chambers within the semiconductor manufacturing sector; mission-critical military end uses; and onboard aerospace fire suppression. The allowances EPA allocates for these applications are for the "exclusive use" in one of the six applications.

Subsection (j) of the AIM Act speaks to international cooperation. Of particular relevance to this rulemaking, subsection (j)(4) requires EPA to promulgate a rule by December 27, 2021, to carry out the subsection. The AIM Act contains several restrictions and requirements governing international transfers of production allowances in subsections (j)(1) and (j)(2) and also provides some discretionary authority to EPA in (j)(3) regarding the effect of such transfers on production limits.

In subsection (k)(1)(A), the AIM Act provides EPA with the authority to promulgate necessary regulations to carry out EPA's functions under the Act, including its obligations to ensure that the Act's requirements are satisfied. Subsection (k) of the AIM Act explicitly makes certain sections of the CAA applicable to the AIM Act and regulations promulgated under its authority, stating "Sections 113, 114, 304, and 307 of the Clean Air Act (42 U.S.C. 7413, 7414, 7604, 7607) shall apply to this section and any rule, rulemaking, or regulation promulgated by the Administrator pursuant to this section as though this section were expressly included in title VI of that Act (42 U.S.C. 7671 *et seq.*)." Accordingly, this rulemaking is subject to CAA section 307(d) (42 U.S.C. 7607(d)(1)(I)), which provides that CAA section 307(d) applies to

"promulgation or revision of regulations under subchapter VI of this chapter (relating to stratosphere and ozone protection)" (i.e., title VI of the CAA)). Violation of the requirements established in this rulemaking is subject to federal enforcement and the penalties laid out in CAA section 113 including, but not limited to, the penalties in section 113(b) for civil judicial enforcement and section 113(c) criminal penalties. In addition, although there is limited legislative history available on the AIM Act, Congress is generally presumed to legislate with an awareness of the existing law that is pertinent to enacted legislation. Given the similarities in the text, structure, and function of the production and consumption phasedown provisions of the AIM Act and EPA's program phasing out ozone-depleting substances (ODS) under title VI of the CAA,[9] EPA finds it reasonable to build on its experience phasing out ODS when developing the AIM Act's HFC allowance allocation and trading program, while also recognizing that there are areas where the AIM Act's requirements diverge from the text and framework of title VI of the CAA. There are many instances where the definitions and structure are either identical or have only slight differences. For example, the definitions of "import" in the AIM Act and CAA section 601 are materially similar though they have slightly different phrasing. In at least some instances, Congress adopted language in the AIM Act that matches EPA's implementation approach for ODS production and consumption controls under CAA title VI as reflected in 40 CFR part 82, subpart A. For example, the definition for "produce" in the AIM Act mirrors the parallel definition in CAA section 601 in many respects, but in contrast to the CAA definition, the AIM Act explicitly excludes the destruction of regulated substances using technologies

[9] EPA's well-established regulatory program at 40 CFR part 82, subpart A, provides for the allocation of ODS production and consumption allowances, implementing the ODS production and consumption controls of title VI of the CAA and facilitating an orderly phaseout.

approved by the Administrator from being counted in production. While the CAA definition does not explicitly exclude destruction from production, EPA's regulatory definition for "production" in 40 CFR 82.3 does exclude destruction from being counted as production. Throughout this rulemaking, EPA explains how the Agency is relying on and building from its experience implementing the ODS phaseout provisions in the CAA and its implementing regulations where such considerations are relevant to creating the framework structure for the AIM Act's required HFC allowance allocation and trading program. Given EPA's extensive experience phasing out ODS under similar CAA authority for a regulated community that bears marked resemblance to entities that could be impacted by this rulemaking, reliance on EPA's expertise will help achieve the goals required by Congress in implementing the AIM Act.

III. Background

A. What are HFCs?

HFCs are anthropogenic[10] fluorinated chemicals that have no known natural sources. HFCs are used in the same applications that ODS have historically been used in, such as refrigeration and air conditioning, foam blowing agents, solvents, aerosols, and fire suppression. HFCs are potent GHGs with 100-year GWPs (a measure of the relative climatic impact of a GHG) that can be hundreds to thousands of times more potent than carbon dioxide (CO_2).

Although HFCs represent a small fraction (~1.5 percent) of the current total GWP-weighted amount of GHG emissions,[11] their use is growing worldwide due to the global

[10] While the overwhelming majority of HFC production is intentional, HFC-23 can be a byproduct associated with the production of other chemicals, including but not limited to HCFC-22.

[11] World Meteorological Organization (WMO), *Scientific Assessment of Ozone Depletion: 2018*, World Meteorological Organization, Global Ozone Research and Monitoring Project – Report No. 58, 588 pp., Geneva, Switzerland, 2018. Available at *https://ozone.unep.org/sites/default/files/2019-05/SAP-2018-Assessment-report.pdf*

phaseout of ODS under the *Montreal Protocol on Substances that Deplete the Ozone Layer* (Montreal Protocol), and the increasing use of refrigeration and air conditioning equipment globally. HFC emissions had previously been projected to increase substantially over the next several decades, but global adherence to the Kigali Amendment to the Montreal Protocol (Kigali Amendment) would substantially reduce future emissions, leading to a peaking of HFC emissions before 2040.[12]

Atmospheric observations of most currently measured HFCs confirm their amounts are increasing in the global atmosphere at accelerating rates. Total emissions of HFCs increased by 23 percent from 2012 to 2016 and the four most abundant HFCs in the atmosphere, in GWP-weighted terms, are HFC-134a, HFC-125, HFC-23, and HFC-143a.[13]

In 2016, HFCs accounted for a radiative forcing of 0.025 W/m^2, not including additional forcing from HFC-23 of 0.005 W/m^2: this is a 36 percent increase in total HFC forcing relative to 2012. This radiative forcing was projected to increase by an order of magnitude to 0.25 W/m^2 by 2050, not including additional forcing from HFC-23. In 2016, in Kigali, Rwanda, countries agreed to adopt an amendment to the Montreal Protocol, known as the Kigali Amendment, which provides for a global phasedown of the production and consumption of HFCs. If the Kigali Amendment were to be fully implemented, it would be expected to reduce the future radiative forcing due to HFCs (excluding HFC-23) to 0.13 W/m^2 in 2050: a reduction of about 50 percent compared to the radiative forcing projected in the business-as-usual scenario of uncontrolled

[12] Ibid.
[13] Ibid.

HFCs.[14] A global HFC phasedown consistent with the Kigali Amendment to the Montreal Protocol is expected to avoid up to 0.5 °C of warming by 2100.[15]

There are hundreds of possible HFC compounds. The 18 HFCs listed as regulated substances by the AIM Act are some of the most commonly used HFCs and have high impacts as measured by the quantity emitted multiplied by their respective GWPs. These 18 HFCs are all saturated, meaning they have only single bonds between their atoms and therefore have longer atmospheric lifetimes.

In the United States, HFCs are used primarily in refrigeration and air conditioning equipment in homes, commercial buildings, and industrial operations (~75 percent of total HFC use in 2019) and in air conditioning in vehicles and refrigerated transport (~8 percent). Smaller amounts are used in foam products (~11 percent), aerosols (~4 percent), fire protection systems (~1 percent), and solvents (~1 percent).[16]

EPA considered the emissions reductions from an HFC consumption phasedown in the United States and presented the results in the 2016 Biennial Report to the United Nations Framework Convention on Climate Change (UNFCCC).[17] At that time, EPA provided a reductions estimate of 113 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) of

[14] Ibid.
[15] Ibid.
[16] Calculations are based on EPA's Vintaging Model, which estimates the annual chemical emissions from industry sectors that historically used ODS, including refrigeration and air-conditioning, foam blowing, solvents, aerosols, and fire suppression. The model uses information on the market size and growth for each end use, as well as a history and projections of the market transition from ODS to alternatives. The model tracks emissions of annual "vintages" of new equipment that enter into operation by incorporating information on estimates of the quantity of equipment or products sold, serviced, retired, or converted each year, and the quantity of the compound required to manufacture, charge, and/or maintain the equipment. Information on these estimates is available in U.S. EPA, April 2016, EPA Report EPA-430-R-16-002. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2014*. Available at *https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2014*
[17] U.S. Department of State. Second Biennial Report of the United States of America Under the United Nations Framework Convention on Climate Change. Washington, DC, 2016. Available at *http://unfccc.int/national_reports/biennial_reports_and_iar/submitted_biennial_reports/items/7550.php*

reduced HFC emissions in the United States associated with the implementation of an amendment proposal submitted in 2015 by the United States, Canada, and Mexico that was under consideration by the parties to the Montreal Protocol and was very similar to the Kigali Amendment. While the Kigali Amendment ultimately adopted under the Montreal Protocol has certain marked differences from the AIM Act, given that the two documents have a nearly identical list of HFCs to be phased down following the same schedule, the 2016 Biennial Report provides useful information. The Biennial Report included estimates for HFC actions under CAA section 612 modeled in the *2016 Current Measures* scenario. HFC emissions reductions through additional measures in 2020 and 2025 relative to the *2016 Current Measures* scenario were presented under the *Additional Measures* scenario and included both options for continued action under the CAA and the implementation of an HFC phasedown in the United States, which is similar to the requirements of the AIM Act with an earlier start date.[18] The emissions reductions for the *Additional Measures* scenario were estimated to be 63 $MMTCO_2e$ in 2020 and 113 $MMTCO_2e$ in 2025.

B. How do HFCs Affect Public Health and Welfare?

As EPA has previously recognized, elevated concentrations of GHGs including HFCs have been warming the planet, leading to changes in the Earth's climate including changes in the

[18] The *Current Measures* scenario in the Biennial Report included HFC reductions estimated under a rule EPA issued on July 20, 2015, under section 612 of the CAA, which, among other things, changed listings under the Significant New Alternatives Policy program for certain HFCs and blends from acceptable to unacceptable in various end uses in the aerosols, refrigeration and air conditioning, and foam blowing sectors. The *Additional Measures* scenario in the Biennial Report included additional actions that EPA anticipated under a proposed amendment to the Montreal Protocol to phase down HFC production and consumption, some of which were included in a rule EPA issued on December 1, 2016, under section 612 of the CAA. Since the 2016 Biennial Report, after a challenge to the 2015 rule, the U.S. Court of Appeals for the D.C. Circuit ("the court") issued a partial vacatur of the 2015 rule "to the extent [it] requires manufacturers to replace HFCs with a substitute substance," and remanded the rule to EPA for further proceedings. Later, the court issued a similar decision on portions of the rule issued December 1, 2016. *See Mexichem Fluor, Inc. v. EPA*, 760 F. App'x 6 (D.C. Cir. 2019) (per curiam).

frequency and intensity of heat waves, precipitation, and extreme weather events; rising seas; and, retreating snow and ice. Similarly, EPA has previously recognized that the changes taking place in the atmosphere are a result of the well-documented buildup of GHGs due to human activities and are changing the climate at a pace and in a way that threatens human health, society, and the natural environment. While EPA is not statutorily required to make any particular scientific or factual findings in order to regulate HFCs under the AIM Act's phasedown provisions, in this section EPA is providing some scientific background on climate change to offer additional context for this rulemaking and to help the public understand the environmental impacts of GHGs such as HFCs.

Extensive additional information on climate change is available in the scientific assessments and the EPA documents that are briefly described in this section, as well as in the technical and scientific information supporting them. One of those documents is EPA's 2009 Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the CAA (74 FR 66496, December 15, 2009).[19] In the 2009 Endangerment Finding, the Administrator found under section 202(a) of the CAA that elevated atmospheric concentrations of six key well-mixed GHGs—CO_2, CH_4, N_2O, HFCs, perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)—")—"may reasonably be anticipated to endanger the public health and welfare of current and future generations" (74 FR 66523, December 15, 2009). The 2009 Endangerment Finding, together with the extensive scientific and technical evidence in the supporting record, documented that climate change caused by human emissions of GHGs (including HFCs) threatens the public health of the population of the United States. It explained

[19] As noted in the NRPM for this action, in describing the 2009 Findings in this rulemaking, EPA is neither reopening nor revisiting them (see 86 FR 27516, May 19, 2021).

that by raising average temperatures, climate change increases the likelihood of heat waves, which are associated with increased deaths and illnesses (74 FR 66497, December 15, 2009). It noted that while climate change also increases the likelihood of reductions in cold-related mortality, evidence indicates that the increases in heat mortality will be larger than the decreases in cold mortality in the United States (74 FR 66525, December 15, 2009). The 2009 Endangerment Finding further explained that compared with a future without climate change, climate change is expected to increase tropospheric ozone pollution over broad areas of the United States, including in the largest metropolitan areas with the worst tropospheric ozone problems, and thereby increase the risk of adverse effects on public health (74 FR 66525, December 15, 2009). Climate change is also expected to cause more intense hurricanes and more frequent and intense storms of other types and heavy precipitation, with impacts on other areas of public health, such as the potential for increased deaths, injuries, infectious and waterborne diseases, and stress-related disorders (74 FR 66525 December 15, 2009). Children, the elderly, and the poor are among the most vulnerable to these climate-related health effects (74 FR 66498 December 15, 2009).

The 2009 Endangerment Finding also documented, together with the extensive scientific and technical evidence in the supporting record, that climate change touches nearly every aspect of public welfare[20] in the United States with resulting economic costs, including: changes in water supply and quality due to changes in drought and extreme rainfall events; increased risk of

[20] The CAA states in section 302(h) that "[a]ll language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants." 42 U.S.C. 7602(h).

storm surge and flooding in coastal areas and land loss due to inundation; increases in peak electricity demand and risks to electricity infrastructure; and the potential for significant agricultural disruptions and crop failures (though offset to some extent by carbon fertilization). These impacts are also global and may exacerbate problems outside the United States that raise humanitarian, trade, and national security issues for the United States (74 FR 66530, December 15, 2009).

In 2016, the Administrator similarly issued Endangerment and Cause or Contribute Findings for greenhouse gas emissions from aircraft under section 231(a)(2)(A) of the CAA (81 FR 54422, August 15, 2016).[21] In the 2016 Endangerment Finding, the Administrator found that the body of scientific evidence amassed in the record for the 2009 Endangerment Finding compellingly supported a similar endangerment finding under CAA section 231(a)(2)(A), and also found that the science assessments released between the 2009 and the 2016 Findings "strengthen and further support the judgment that GHGs in the atmosphere may reasonably be anticipated to endanger the public health and welfare of current and future generations" (81 FR 54424, August 15, 2016).

Since the 2016 Endangerment Finding, the climate has continued to change, with new records being set for several climate indicators such as global average surface temperatures, greenhouse gas concentrations, and sea level rise. Additionally, major scientific assessments continue to be released that further improve our understanding of the climate system and the impacts that GHGs have on public health and welfare both for current and future generations. According to the IPCC's Sixth Assessment Report, "it is unequivocal that human influence has

[21] As noted in the NRPM for this action, in describing the 2016 Findings in this rulemaking, EPA is neither reopening nor revisiting them (see 86 FR 27516, May 19, 2021).

warmed the atmosphere, ocean and land. Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred." These updated observations and projections document the rapid rate of current and future climate change both globally and in the United States.[22,23,24,25]

IV. How is EPA Considering Environmental Justice?

Executive Order 12898 (59 FR 7629, February 16, 1994) and Executive Order 14008 (86 FR 7619, January 27, 2021) establish federal executive policy on environmental justice. Executive Order 12898's main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States. EPA defines environmental justice 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.[26] Meaningful involvement means that: (1) Potentially affected

[22] 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. Available at *https://nca2018.globalchange.gov*

[23] IPCC, 2021: Summary for Policymakers. In: *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)]. Cambridge University Press. In Press.

[24] National Academies of Sciences, Engineering, and Medicine, 2019. *Climate Change and Ecosystems*. Washington, DC: The National Academies Press. Available at *https://doi.org/10.17226/25504*

[25] NOAA National Centers for Environmental Information, State of the Climate: Global Climate Report for Annual 2020, published online January 2021. Available at *https://www.ncdc.noaa.gov/sotc/global/202013*

[26] See, e.g., Environmental Protection Agency. "Environmental Justice." Available at *https://www.epa.gov/environmentaljustice*

populations have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health; (2) the public's contribution can influence the regulatory agency's decision; (3) the concerns of all participants involved will be considered in the decision-making process; and (4) the rule-writers and decision-makers seek out and facilitate the involvement of those potentially affected.[27] The term "disproportionate impacts" refers to differences in impacts or risks that are extensive enough that they may merit Agency action. In general, the determination of whether there is a disproportionate impact that may merit Agency action is ultimately a policy judgment which, while informed by analysis, is the responsibility of the decision-maker. The terms "difference" or "differential" indicate an analytically discernible distinction in impacts or risks across population groups. It is the role of the analyst to assess and present differences in anticipated impacts across population groups of concern for both the baseline and proposed regulatory options, using the best available information (both quantitative and qualitative) to inform the decision-maker and the public.[28]

A regulatory action may involve potential environmental justice concerns if it could: (1) Create new disproportionate impacts on minority populations, low-income populations, and/or indigenous peoples; (2) exacerbate existing disproportionate impacts on minority populations, low-income populations, and/or indigenous peoples; or (3) present opportunities to address

[27] The criteria for meaningful involvement are contained in EPA's May 2015 document "Guidance on Considering Environmental Justice During the Development of an Action." Environmental Protection Agency, 17 Feb. 2017. Available at *https://www.epa.gov/environmentaljustice/guidance-considering-environmental-justice-during-development-action*

[28] The definitions and criteria for "disproportionate impacts," "difference," and "differential" are contained in EPA's June 2016 document "Technical Guidance for Assessing Environmental Justice in Regulatory Analysis." Available at *https://www.epa.gov/sites/production/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf*

existing disproportionate impacts on minority populations, low-income populations, and/or indigenous peoples through the action under development.

Executive Order 14008 calls on agencies to make achieving environmental justice part of their missions "by developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related, and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts." Executive Order 14008 further declares a policy "to secure environmental justice and spur economic opportunity for disadvantaged communities that have been historically marginalized and overburdened by pollution and under-investment in housing, transportation, water and wastewater infrastructure, and health care."

Further, under Executive Order 13563 (76 FR 3821, January 18, 2011), federal agencies may consider equity, human dignity, fairness, and distributional considerations, where appropriate and permitted by law. Likewise, the Presidential Memorandum on Modernizing Regulatory Review calls for procedures to "take into account the distributional consequences of regulations, including as part of any quantitative or qualitative analysis of the costs and benefits of regulations, to ensure that regulatory initiatives appropriately benefit and do not inappropriately burden disadvantaged, vulnerable, or marginalized communities."[29] EPA also released its June 2016 "Technical Guidance for Assessing Environmental Justice in Regulatory Analysis" (2016 Technical Guidance) to provide recommendations that encourage analysts to conduct the highest quality analysis feasible, recognizing that data limitations, time and resource constraints, and analytic challenges will vary by media and circumstance.[30]

[29] See https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/modernizing-regulatory-review
[30] See https://www.epa.gov/sites/default/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf

As described elsewhere in this preamble, this rule establishes the framework for the United States' phasedown of HFCs, which will achieve significant benefits by reducing production and consumption of certain chemicals with high GWPs. Section III.B of this rule briefly summarizes the public health and welfare effects of GHG emissions (including HFCs) as documented in EPA's 2009 and 2016 Endangerment Findings. As part of these Endangerment Findings, the Administrator considered climate change risks to minority populations and low-income populations, finding that certain parts of the population may be especially vulnerable based on their characteristics or circumstances, including the poor, the elderly, the very young, those already in poor health, the disabled, those living alone, and/or indigenous populations dependent on one or limited resources due to factors including but not limited to geography, access, and mobility.

More recent assessment reports by the United States Global Change Research Program (USGCRP), the Intergovernmental Panel on Climate Change (IPCC), and the National Research Council (NRC) of the National Academies demonstrate that the potential impacts of climate change raise environmental justice issues.[31] These reports concluded that low-income communities can be especially vulnerable to climate change impacts because they tend to have more limited capacity to bear the costs of adaptation and are more dependent on climate-sensitive resources such as local water and food supplies. In corollary, some communities of color, specifically populations defined jointly by both ethnic/racial characteristics and geographic location, may be uniquely vulnerable to climate change health impacts in the United States. Native American tribal communities also possess unique vulnerabilities to climate

[31] *Supra* footnotes 22, 23, and 24. See also EPA. 2021. Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts. U.S. Environmental Protection Agency, EPA 430-R-21-003.

change, particularly those impacted by degradation of natural and cultural resources within established reservation boundaries and threats to traditional subsistence lifestyles. The Technical Support Document for the 2009 Endangerment Finding also specifically noted that Southwest native cultures are especially vulnerable to water quality and availability impacts, and Native Alaskan communities are already experiencing disruptive impacts, including coastal erosion and shifts in the range or abundance of wild species crucial to their livelihoods and well-being.

This rulemaking, as part of the phasedown of HFCs in the United States, achieves significant benefits associated with reducing emissions of potent GHGs. However, as described in the RIA and summarized below, there is significant uncertainty about how the phasedown of HFC production and the issuance of allowances by themselves, as well as the interactions with market trends independent of this rulemaking, could affect production of HFCs and HFC substitutes—and associated emissions—at individual facilities, particularly in communities that are disproportionately burdened by air pollution. In its proposed rulemaking, EPA solicited comment, data, and other information that could be helpful to EPA in future rulemaking actions in analyzing and, as appropriate, reducing the potential for inadvertent or unexpected distributional effects from this program, including the potential for environmental justice concerns due to the release of toxic chemicals that are feedstocks, catalysts, or byproducts in the production of HFCs or HFC substitutes. Information provided in response to this solicitation is available in the docket for this rulemaking, and EPA intends to take it into account, as appropriate, as the Agency moves forward in implementing the AIM Act.

A reasonable starting point for assessing the need for a more detailed environmental justice analysis is to review the available evidence from the published literature and from

community input on what factors may make population groups of concern more vulnerable to adverse effects (e.g., cumulative exposure from multiple stressors), including but not limited to the 2009 and 2016 Endangerment Findings and the reports from USGCRP, IPCC, and NRC. It is also important to evaluate the data and methods available for conducting an environmental justice analysis.

EPA's 2016 Technical Guidance does not prescribe or recommend a specific approach or methodology for conducting an environmental justice analysis, though a key consideration is consistency with the assumptions underlying other parts of the regulatory analysis when evaluating the baseline and regulatory options.

The environmental justice analysis performed to support this rulemaking is described in the associated RIA and is based on public data from the Toxics Release Inventory (TRI), GHGRP, EJSCREEN (an environmental justice mapping and screening tool developed by EPA), Enforcement and Compliance History Online (ECHO), and Census data. In addition, this analysis integrates suggestions received during the public comment period to the extent possible. Where applicable and practicable, the Agency examined certain metrics for an environmental justice analysis comprising more than just climate change effects, including: the proximity of companies receiving allowances to populations disaggregated by race and ethnicity, low-income populations, and/or indigenous peoples; the number of companies receiving allowances that may be adversely affecting population groups of concern; the nature, amounts, and location of regulated HFC production that may adversely affect population groups of concern; and potential exposure pathways associated with the production of the regulated HFCs or with chemicals used as feedstocks, catalysts, or byproducts of HFC production unique to particular populations (e.g.,

workers). The environmental justice analysis also contains information on non-production releases (as defined by TRI), water releases, and offsite disposal for chemicals used in HFC production. The analysis of potential environmental justice concerns focused mainly on characterizing baseline emissions of air toxics that are also associated with chemical feedstock use for HFC production. As noted in the RIA, there is uncertainty around the role that HFC production plays in emissions of these air toxics. In addition, EPA conducted a proximity analysis to examine community characteristics within one and three miles of these facilities. The Agency also explored larger radii (five and 10 miles) in response to public comments that releases from these facilities may travel longer distances. The relatively small number of facilities directly affected by this rule enabled EPA to assemble a uniquely granular assessment of the characteristics of these facilities and the communities where they are located.

Overall, this rule reduces GHG emissions, which will benefit populations that may be especially vulnerable to damages associated with climate change. However, the manner in which producers transition from high-GWP HFCs could drive changes in future risk for communities living near facilities that produce HFCs and HFC substitutes, to the extent the use of toxic feedstocks, byproducts, or catalysts changes and those chemicals are released into the environment with adverse local effects. The environmental justice analysis, which examined racial and economic demographic and health risk information, found heterogeneity in community characteristics around individual facilities. The analysis showed that the total baseline cancer risk and total respiratory risk from air toxics (not all of which stem from HFC production) varies, but is generally higher, and in some cases much higher, within one to ten miles of an HFC production facility. The analysis also found that higher percentages of low-income and Black or

African-American individuals live near several HFC production facilities compared with the appropriate national and state level average. EPA noted in the proposed rulemaking, and reiterates here, that it is not clear the extent to which these baseline risks are directly related to HFC production, but some feedstocks, catalysts, and byproducts are toxic, particularly with respect to potential carcinogenicity (e.g., carbon tetrachloride, tetrachloroethylene, and trichloroethylene). All HFC production facilities are near other industrial facilities that could contribute to the cumulative National Air Toxics Assessment (NATA) cancer and respiratory risk; the number of neighboring TRI facilities within one mile of an HFC production facility ranges from two to 14, within three miles there are two to 19 neighboring TRI facilities, within five miles there are two to 34 neighboring TRI facilities, and within 10 miles there are six to 66 neighboring TRI facilities. At this time, it is not clear how emissions related to HFC production compare to other chemical production at the same or nearby facilities. Additionally, some HFC alternatives, such as hydrofluoroolefins (HFOs), use the same chemicals as feedstocks in their production or release the same chemicals as byproducts, potentially raising concerns about local exposure. Emissions from production facilities manufacturing non-fluorinated substitutes (e.g., hydrocarbons, ammonia) could also be affected by the phasedown of HFCs. However, given limited information regarding where substitutes will be produced and what other factors might affect production and emissions at those locations, it is unclear to what extent this rule may affect baseline risks from hazardous air toxics for communities living near HFC production facilities. Further, the HFC phasedown schedule prescribed by Congress—with a 10 percent reduction by 2022, a 40 percent reduction by 2024, a 70 percent reduction by 2029, an 80 percent

reduction by 2034 and an 85 percent reduction by 2036—may also reduce the potential for a facility to increase emissions above current levels for a prolonged period.

EPA requested commenters provide data or other information to help better characterize these changes and their implications for nearby communities. Several commenters asserted that the RIA for the proposed rulemaking overestimated the environmental justice benefits, in part because emissions at HFC production facilities have likely declined since the 2014 NATA that EPA relied upon in its analysis. EPA responds that the Agency relied on the 2014 NATA data as a proxy for cumulative exposure to air toxics near HFC production facilities, which is the most recent year of data available. EPA plans to use more recent NATA data in future analyses of potential environmental justice concerns as it becomes available. EPA has not quantitatively assessed the potential benefits in terms of reductions in risk or exposure to environmental justice communities from changes in HFC production resulting from the rule. The absence of this assessment is due to data constraints and uncertainty about where HFCs and HFC alternatives will be produced in the future and where some HFC alternatives are produced now (e.g., for non-HFC technologies). EPA also lacks information on which alternative(s) or type(s) of alternative (fluorinated, non-fluorinated, etc.) will take the dominant market share for the current uses of HFCs.

One commenter provided extensive suggestions for how EPA could augment and strengthen its environmental justice analysis for the final rulemaking. Suggested factors and metrics included increasing the area of analysis and integrating the Risk-Screening Environmental Indicators Geographic Microdata (RSEI-GM), which incorporates data from the TRI together with factors such as each chemical's fate and transport through the environment,

each chemical's relative toxicity, and potential human exposure. One other commenter suggested that EPA use existing data available in EJSCREEN to identify whether certain communities should be prioritized by EPA in mitigating any adverse impacts, and also to serve as a benchmark for measuring the effects of this rule over time. EPA will explore opportunities to prioritize areas with environmental justice concerns, particularly those related to multiple or cumulative exposures to environmental hazards, and to improve environmental justice analysis in future rulemakings. Updates to the environmental justice analysis can be found in the RIA for this final rulemaking, and notably, EPA explored larger radii (five and 10 miles) from identified facilities. Results at these larger radii are similar to the average aggregate community characteristics near HFC production facilities at one- and three-mile distances contained in the proposed rulemaking RIA. To examine the potential exposure of nearby communities to all reported TRI air emissions from each HFC production facility, EPA extracted concentrations weighted by toxicity for chemicals emitted by each facility over a 50-kilometer radius from the RSEI-GM model. The one-, three-, five- and 10 mile-buffers are shown on these maps and indicate that the highest concentrations are immediately adjacent to the facilities (i.e., within a mile). Toxicity-weighted concentrations decline further from the facility as these releases disperse. The area with moderate concentrations is mostly within the 10-mile buffer. However, because of prevailing wind directions, toxicity-weighted concentrations are not uniformly distributed around the facilities and, in some cases, communities outside of the 10-mile buffer are still exposed to elevated concentrations. Linking these toxicity-weighted concentrations with specific communities of concern is an area of investigation to improve environmental justice analyses. EPA will further consider use of RSEI-GM for future regulatory analyses. EPA also

added information from EJSCREEN on wastewater discharges, proximity to hazardous waste, ground-level ozone concentrations, and particulate matter concentrations near HFC production facilities. The Agency reiterates, consistent with our view in the proposed rulemaking, that there is uncertainty around the role that HFC production plays in emissions of these air toxics, as well as the impact that this program will have on the location and amount of production of HFCs and their substitutes and any associated air pollution emissions. The environmental justice analysis is intended as a tool to inform potential concerns. While EPA finds evidence of environmental justice concerns near HFC production facilities from cumulative exposure to existing environmental hazards in these communities, at this early stage in the development of the HFC allowance allocation program, EPA cannot, on the basis of this analysis, determine the extent to which this rule will contribute to or reduce existing environmental justice concerns for communities of color, low-income people, and/or indigenous peoples. This is primarily due to uncertainty with regard to where and in what quantities substitutes for high-exchange-value HFCs will be produced.

In the proposed rulemaking, EPA specifically sought comment on whether changes in emissions, particularly in communities that are already disproportionately affected by air pollution, could occur as the result of the HFC allowance allocation program, the associated ability to transfer allowances, or other unrelated changes in the market. EPA also sought comment on whether there are remedies that could be applied as part of the design of the program in the event the Agency determines such unintended distributional impacts exist. In addition, EPA solicited comment on whether other regulatory authorities would be more appropriate to address any inadvertent or unexpected distributional effects that are identified, for

example, if a producer obtained allowances in sufficient quantities to increase HFC production, which could potentially increase air emissions at that location.

EPA received comments in response to the question of what the Agency should consider for future rulemakings with respect to environmental justice. Several commenters noted that the AIM Act does not require EPA to consider environmental justice. Some commenters also noted that enforcing existing controls or limits promulgated under various other CAA authorities (e.g., criteria pollutants and air toxics) or state and local regulations (e.g., permitted air toxics limits) that would be applicable to HFCs and alternatives are sufficient to address any potential environmental justice concerns, and are also the most direct strategy for addressing such concerns.

In response, EPA reiterates that Executive Order 12898 (59 FR 7629; February 16, 1994) and Executive Order 14008 (86 FR 7619, January 27, 2021) establish federal executive policy on environmental justice. As outlined at the beginning of this section, the main provision of Executive Order 12898 directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States. Additionally, Executive Order 14008 calls on agencies to make achieving environmental justice part of their missions "by developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts." Executive Order 14008 further declares a policy "to

secure environmental justice and spur economic opportunity for disadvantaged communities that have been historically marginalized and overburdened by pollution and under-investment in housing, transportation, water and wastewater infrastructure, and health care." Further, under Executive Order 13563 (76 FR 3821, January 18, 2011), federal agencies may consider equity, human dignity, fairness, and distributional considerations, where appropriate and permitted by law. In addition, the Presidential Memorandum on Modernizing Regulatory Review calls for procedures to "take into account the distributional consequences of regulations, including as part of a quantitative or qualitative analysis of the costs and benefits of regulations, to ensure that regulatory initiatives appropriately benefit, and do not inappropriately burden disadvantaged, vulnerable, or marginalized communities." EPA has promulgated other regulations or limits under different authorities that may affect the facilities identified in the RIA and the surrounding communities, but EPA is also committed to taking a holistic view of facilities affected by these rulemakings pursuant to the two above-cited executive orders that direct EPA to make environmental justice part of its mission for any and all rulemaking processes. In such instances where other authorities may be a more appropriate avenue, EPA expects that effects on surrounding communities and associated mitigating solutions would be addressed through those regulatory processes and under commensurate timelines.

Additionally, one commenter disagreed with assumptions underlying EPA's environmental justice analysis. First, the commenter asserted that Congress has previously recognized that feedstock emissions are too insignificant to be a concern and has already provided other authority to protect communities near industrial facilities (i.e., standards for hazardous air pollutants contained in sections 112(d) and (f) of the CAA and codified in 40 CFR

63, specifically subparts F, G, H, and I). Second, the commenter asserted that the Toxic Substances Control Act (TSCA) risk evaluations are deficient and should not be used as a basis for environmental justice regulations. Lastly, the commenter asserted that more information is needed on background concentrations and sources. EPA continues to rely on the latest information available from the TSCA risk evaluation process to inform the potential for worker exposure from HFC feedstocks. These risk evaluations did not assess air, water, or disposal exposures to the general population when these exposure pathways are or can be regulated under other EPA-administered statutes. However, EPA recently announced plans to conduct additional analysis for the risk evaluations for seven of the first 10 chemicals evaluated under the amended TSCA to ensure that the risk evaluations did not overlook risk to fenceline communities (i.e., communities near industrial facilities). EPA is also revisiting the assumptions from the risk evaluations regarding the assumed use of personal protective equipment for purposes of risk determination. Following these additional analyses, EPA will issue revised risk determinations on the whole chemical substance, rather than on each condition of use. This has the potential to change the unreasonable risk determinations under TSCA for some of the first 10 chemicals, including the four chemicals with risk evaluations completed in 2020 (i.e., carbon tetrachloride, tetrachloroethylene, trichloroethylene, and methylene chloride).

EPA is finalizing requirements for other provisions in this rule that are relevant for environmental justice. For example, as further explained in Section X.C.1, some commenters stated that providing facility-level chemical-specific production data would be beneficial to communities located adjacent to chemical manufacturing facilities. EPA is determining in this final rulemaking that facility-level production data is not entitled to confidential treatment, and

EPA intends to release this information to the public. This additional transparency will allow neighboring communities to see how emissions from a particular facility compare to changes in HFC production levels.

Finally, EPA received suggestions for additional ways that EPA could consider environmental justice in future rulemakings, including but not limited to: considering indirect pollution effects, e.g., increased motor vehicle emissions; considering a comprehensive emissions and release evaluation approach for all facilities including all media and all applicable limits; integrating existing and newly deployed fenceline monitoring data; evaluating the effects of producing certain HFC substitutes on air and water quality; and evaluating how exports of products and equipment containing HFCs could affect other countries' environmental justice concerns. EPA acknowledges receipt of these various comments, and will consider them, as appropriate, as we develop future rulemakings.

As noted in the proposed rule and reiterated here, EPA intends to develop another rule before allowances are allocated for calendar year 2024 that may alter the framework and procedure for issuing allowance allocations established in this rule. EPA will continue to monitor the impacts of this program on HFC and substitute production, and emissions in neighboring communities, as we move forward to implement this rule. EPA may consider taking appropriate action in the future—including action—under CAA authorities, in future HFC allocation rules, or under other relevant authorities, if we develop further information indicating there is a risk of disproportionate impacts.

EPA notes that this rule affects a small number of entities through a unique phasedown and allocation program, and that these entities manufacture a wide variety of products and are

subject to a number of distinct market and regulatory forces independent of this HFC program. As such, the issues and possible remedies identified here may not be broadly applicable or practicable in other rulemakings.

V. What Definitions is EPA Establishing to Implement the AIM Act?

EPA is establishing definitions to implement the framework for the AIM Act generally and the allowance allocation and trading program specifically. EPA proposed to define new terms that arise from the text of the AIM Act. EPA also proposed to adopt existing definitions as written in 40 CFR part 82, subpart A, with modifications as needed to conform to differences in the AIM Act. EPA proposed this approach because these definitions are commonly understood by those familiar with the ODS phaseout experience.

Many proposed definitions did not garner specific comment. EPA is finalizing them as proposed and further discussion of those terms can be found in the proposed rule. These terms are: Central Data Exchange, Consumption allowances, Destruction, Exporter, Facility, Foreign country, Importer, Individual shipment, Non-objection notice, Person, Production allowances, Production line, Transform, and Used regulated substances.

The remainder of this section discusses comments received on the remaining proposed definitions.

Allowance. The AIM Act defines allowance as a limited authorization for the production or consumption of a regulated substance established under subsection (e). EPA is adopting that definition and adding that an allowance allocated under this subsection does not constitute a property right as stated in subsection (e)(2)(D)(ii)(aa). The framework for issuing allowances is subject to change through notice and comment rulemaking.

One commenter stated that the discretion to retire, revoke, or withhold allowances should not be within the definitions of allowance or application-specific allowance. EPA is removing this text from the regulatory definitions of allowance and application-specific allowance in this final rulemaking. While the Agency has the authority to adjust allowances and is finalizing regulatory text outlining the circumstances in which such adjustments may occur and a process for levying administrative consequences, reiterating a statement of that authority in the definitions is unnecessary.

Bulk. EPA is defining this term as "a regulated substance of any amount that is in a container for the transportation or storage of that substance such as cylinders, drums, ISO tanks, and small cans. A regulated substance that must first be transferred from a container to another container, vessel, or piece of equipment in order to realize its intended use is a bulk substance. A regulated substance contained in a manufactured product such as an appliance, an aerosol can, or a foam is not a bulk substance." The examples provided in the definition are not exclusive. This definition serves to distinguish between a regulated substance that is in a container from a regulated substance that is in a product or other type of use system. Imported equipment and products that contain HFCs are outside the scope of the allowance-based phasedown component of the AIM Act.

One commenter requested that EPA clarify that the reference to small cans in the proposed definition does not include consumer products such as air conditioning recharge kits, drain cleaners, and other products that contain HFCs. The commenter expressed concern that requiring tracking of such products would impose significant regulatory burdens and costs. EPA responds that small cans of HFCs qualify as containers of bulk HFCs under this rule and the

HFC allowance allocation program it establishes if the HFC must first be transferred from the small can to a piece of equipment in order to realize its intended use. Air conditioning recharge kits are small cans of refrigerant used to recharge motor vehicle air conditioners and would therefore qualify as a container of bulk HFC. Their size and intended customer do not change the fact that they are containers and not products for purposes of this program, notwithstanding the commenter's concern, which EPA acknowledges, that tracking such products could be burdensome. The fact that some HFCs are housed in small containers does not remove them from the total inventory of HFCs for which EPA must account in implementing the phasedown mandate prescribed in the AIM Act. Thus, under the structure being finalized in this rule, allowances will be needed to import these air conditioning recharge kits. Similarly, those that have provided data on historical imports of small cans of refrigerant are eligible to receive an allowance allocation from the Agency under the framework finalized here. Entities that have not reported previously have options to receive allowances under the set-aside discussed in section VII.E. Without more information on drain cleaners, EPA cannot confirm whether this would be a container of bulk HFCs. If it can realize its intended use (e.g., cleaning drains) without the need to transfer HFCs from a container to a piece of equipment, it would likely not be a bulk container.

One commenter argued that cylinders containing HFCs that are used in total flooding fire suppression systems are not bulk containers and so import of these cylinders would be considered as a "product containing" HFCs under the proposed rule. EPA disagrees. System cylinders are pressurized cylinders that contain a chemical (in this case an HFC), and therefore resemble other bulk chemicals. Regardless of its intended use, it is an HFC in a container that

needs to be transferred to a piece of equipment to realize its intended purpose (i.e., the extinguishant is incorporated into the total flooding system from these containers). Consistent with regulations under CAA title VI, EPA has treated pressurized system cylinders used in total flooding fire suppression systems differently than handheld, wheeled, and other fire suppression systems. The latter are self-contained, ready-to-use systems that can realize their intended use without transfer of the HFCs to another product or container. Fire suppression system cylinders must be connected to the rest of the fire suppression system to realize their intended use. EPA has previously considered whether system cylinders in total flooding applications were covered by the Nonessential Products Ban under section 610 of the CAA. The Agency stated:

> EPA recognizes that total flooding agents contained in total fire suppression systems used to extinguish fires are different from a portable device used to extinguish fires. These total flooding systems differ from an aerosol product or pressurized dispenser in that total flooding systems are 'systems' that are completely installed and can be triggered to be automatically activated during an emergency situation. The extinguishant is incorporated into the system from bulk containers. Such systems thus do not constitute a pressurized dispenser or aerosol product within the meaning of section 610. Portable fire extinguishers, on the other hand, do constitute a pressurized dispenser, as they provide the product and dispensing apparatus in a self-contained portable unit. (58 FR 69647, December 30, 1993)

Additionally, under the class I ODS phaseout regulations in 40 CFR part 82, subpart A, fire suppression system cylinders are treated as a bulk substance. Companies that import used halons must petition the Agency prior to import under 40 CFR 82.13, with the exception of halon aircraft bottles, and report these imports to EPA. Given fire suppression system cylinders using HFCs have the same function as those for ODS, EPA concludes that it is reasonable to treat system cylinders of HFCs as bulk substances under this rule and the HFC allowance allocation program it establishes. The fact that some HFCs are housed in fire suppression system cylinders

does not remove them from the total inventory of HFCs for which EPA must account in implementing the phasedown mandate prescribed in the AIM Act.

Chemical vapor deposition chamber cleaning. EPA proposed to define this term as "in the context of semiconductor manufacturing, a process type in which chambers used for depositing thin films are cleaned periodically using plasma-generated fluorine atoms and other reactive fluorine-containing fragments." This definition is based closely on the source category definition for electronics manufacturing in the GHGRP (40 CFR 98.90(a)(2)).

Some commenters suggested that EPA use the GHGRP term and definition for "chamber cleaning" from 40 CFR 98.98 for consistency with reporting under that program. EPA is defining "chemical vapor deposition chamber cleaning" in this rule because Congress provided that EPA allocate allowances necessary for "the etching of semiconductor material or wafers and the *cleaning of chemical vapor deposition chambers* within the semiconductor manufacturing sector" (emphasis added) in subsection (e)(4)(B)(iv). This is narrower than the term defined under GHGRP, which is "chamber cleaning." The term "chamber cleaning" under the GHGRP is broader and contains more process types than chemical vapor deposition. EPA is not aligning the term with the term defined under GHGRP given the specific language of the AIM Act. EPA is, however, broadening the description of the process type to explicitly include chamber cleaning by thermally dissociated fluorine fragments.

Confer. EPA is defining this term as "to shift unexpended application-specific allowances obtained in accordance with subsection (e)(4)(B)(iv) of the AIM Act from the end user allocated such allowances to one or more entities in the supply chain for the production or import of a regulated substance for use by the end user." This term is intended to distinguish conferring an

allowance from an allowance transfer. A company receiving conferred allowances may produce or import HFCs with those application-specific allowances on behalf of the conferrer rather than expending calendar year production or consumption allowances. There is no offset for the conferring of allowances.

A few commenters stated that there may be more than one entity in the supply chain between the producer/importer and the application-specific end user, such as a purifier. In that instance, a commenter wanted EPA to allow for the re-conferral of application-specific allowances without the transaction being considered a transfer. EPA understands that the supply chains may be unique to each particular end use and is clarifying that application-specific allowances may be re-conferred as needed. EPA has amended the definition of "confer" finalized in this rulemaking to state that application-specific allowances may be conferred one or multiple times to entities in the supply chain. EPA is also amending the recordkeeping and reporting provisions to ensure that all entities in the conferral chain are identified.

Consumption. With respect to the definition of "consumption," commenters stated that the statutory definition of consumption in the AIM Act includes "all imports" and does not distinguish between imports of chemicals in large quantities for later use in a product manufactured in the United States and imports of the same chemical already contained in such a product manufactured abroad. The commenters disagreed with EPA excluding HFCs contained in imported products from the calculation of consumption, thereby excluding imported products containing HFCs from the calculation of the baseline and from the requirement to obtain and expend allowances.

EPA responds that the Agency is finalizing its proposed reading of the definition of consumption, and in this context, the incorporated reference of the term "import," as being limited to bulk substances. In doing so, EPA is drawing a distinction between the import of bulk regulated substances and the import of regulated substances contained in products, and concludes, as explained below, that the definition of "consumption" is appropriately read to be limited to import of bulk substances.[32] The effect of this decision is that consumption allowances are required for the import of bulk HFCs and not for the import of products containing HFCs. As explained here and in section VI.A, the definition of "consumption" in the AIM Act is ambiguous and does not speak directly to whether imported products containing HFCs be included in the consumption baseline or subject to the allowance obligation. EPA further concludes that the AIM Act's definition of "consumption" is reasonably interpreted *not* to encompass imports of products containing HFCs, because doing so: (1) is consistent with EPA's longstanding practice under the closely related provisions of title VI of the CAA; and (2) would create severe implementation difficulties, requiring EPA to obtain decades-old baseline data that almost certainly no longer exist, vastly expanding the number of regulated entities, and sweeping in a range of businesses (such as retailers) that likely did not anticipate being subject to these regulations.

EPA's resolution of this interpretive issue begins with the text of the statute. The AIM Act does not directly address whether products containing HFCs that are imported to the country

[32] As discussed earlier in this definitions section, EPA is defining a bulk substance as "a regulated substance of any amount that is in a container for the transportation or storage of that substance such as cylinders, drums, ISO tanks, and small cans. A regulated substance that must first be transferred from a container to another container, vessel, or piece of equipment in order to realize its intended use is a bulk substance. A regulated substance contained in a manufactured product such as an appliance, an aerosol can, or a foam is not a bulk substance."

should be included in the Agency's consideration of "consumption." In subsection (b)(3), Congress defined "consumption" to include "the quantity of regulated substance imported into the United States," but did not direct EPA as to how to determine such "quantity." Congress particularly did not direct EPA as to whether this includes the import of products that contain regulated substances versus the import of regulated substances themselves. Because the statute does not address this, the Agency is left to interpret the statute in a reasonable manner. Because this instance "involves an administrative agency's construction of a statute that it administers, [the] analysis is governed by *Chevron*." *Food & Drug Admin. v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 132 (2000). Under the *Chevron* framework, the initial inquiry is "whether Congress has directly spoken to the precise question at issue." *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842 (1984). "In determining whether Congress has specifically addressed the question at issue, [the analysis] should not [be confined] to examining a particular statutory provision in isolation. The meaning—or ambiguity—of certain words or phrases may only become evident when placed in context." *FDA*, 529 U.S. at 133. Here, there is no statutory text in the AIM Act—and the commenter was not able to provide any citation to such text—that unambiguously requires EPA to consider imports of products containing regulated substances in the calculation of "consumption," in addition to considering the imports of bulk regulated substances.

While EPA understands that the phrase "quantity of the regulated substances into the United States" could be read to include regulated substances contained in products imported into the United States, that is not the only permissible reading. Rather, this language can also reasonably be read to include only imported bulk substances. To inform the Agency's analysis of

whether Congress has directly spoken to the precise question at issue, the Agency has looked to the definition of "consumption" under title VI of the CAA. The title VI statutory definition of "consumption" is analogous to the parallel definition in the AIM Act, and thus EPA looked to the title VI definition on the question of whether the AIM Act statutory language is unambiguous. The AIM Act language is substantially similar to the definition of "consumption" provided by Congress for the phaseout of ODS in section 601(1) of the CAA, which defines the term "consumption" to include "the amount" of ODS "imported," but additionally states that "[s]uch term shall be construed in a manner consistent with the Montreal Protocol." This demonstrates that Congress understood, in the context of the CAA, that the term "consumption," including the embedded phrase "the amount imported," could reasonably be read in different ways. Under the Montreal Protocol, calculation of a country's consumption is limited to bulk substances and does not include imports of products containing ODS. Consistent with that practice, EPA has applied the ODS production and consumption controls under title VI of the CAA to bulk ODS, but not to products containing ODS. The term "the amount" in the CAA is substantially similar to "the quantity" in the parallel definition of the AIM Act, which demonstrates that the AIM Act provision can be interpreted in multiple ways, so Congress did not speak directly to the question of whether "consumption" under the AIM Act should include imports of products containing regulated substances. As further explained elsewhere in this preamble, EPA is reasonably interpreting the AIM Act to have a similar scope and meaning as title VI. *Lawson v. FMR LLC*, 571 U.S. 429, 459 (2014) ("[P]arallel text and purposes counsel in favor of interpreting … two provisions consistently.").

In addition, looking to the larger statutory context, in defining "consumption" in subsection (a)(3) of the AIM Act, Congress used the phrase "the quantity of" the regulated substance not only to refer to the quantity of the regulated substance imported into the United States, but also to refer to the quantity of the regulated substance produced in the United States, as well as the quantity exported from the United States. The "quantity of" the regulated substance produced in the United States is readily understood to include bulk substances, particularly in light of the statutory definition of "produce," but it would be difficult to interpret this phrase to extend to products containing HFCs. Such products could include either domestic or imported HFCs. Interpreting the phrase "the quantity of" a regulated substance to include only bulk substances reasonably applies the same understanding of this term across all the instances where it is used in the definition of consumption. These points further support EPA's views that "the quantity" as used in the AIM Act is open to more than one possible construction and that it can reasonably be read to be limited to bulk substances. Since the definition of "consumption" in the AIM Act can be read in different ways, this issue is not decided under the first step of the *Chevron* analysis.

Since the AIM Act does not provide unambiguous direction as to whether imported products containing HFCs should be considered part of "consumption," EPA is given discretion to interpret the statute, as long as such construction is reasonable, under the second step of the *Chevron* analysis. Where Congress has not directly spoken to an issue or has left ambiguity in the statute, that silence or ambiguity creates an assumption that "Congress implicitly delegated to the agency the power to make policy choices that represent a reasonable accommodation of conflicting policies that are committed to the agency's care by the statute." *National Ass'n of*

Mfrs. v. United States DOI, 134 F.3d 1095, 1106 (D.C. Cir. 1998). The "power of an administrative agency to administer a congressionally created … program necessarily requires the formulation of policy and the making of rules to fill any gap left, implicitly or explicitly, by Congress." *Chevron*, 467 U.S. at 843–44. The Supreme Court has explained "[w]e accord deference to agencies under *Chevron* … because of a presumption that Congress, when it left ambiguity in a statute meant for implementation by an agency, understood that the ambiguity would be resolved, first and foremost, by the agency, and desired the agency (rather than the courts) to possess whatever degree of discretion the ambiguity allows." *Smiley v. Citibank (S.D.), N.A.*, 517 U.S. 735, 740-41 (1996). Accordingly, Congress's silence with regard to whether imports of products containing HFCs should be considered in the determination of "consumption" leaves a gap for the Agency to fill, which EPA is doing in this rulemaking.

Excluding imports of products containing HFCs from the definition of "consumption" is consistent with EPA's longstanding practice in implementing nearly identical statutory language governing a nearly identical industry under title VI of the CAA. As further explained in Section II.B, there are significant similarities in the text, structure, function, and purpose of the provisions for production and consumption in the AIM Act and those in title VI of the CAA. Accordingly, EPA is utilizing its experience interpreting similar statutory terms under the CAA to phase out ODS when developing the AIM Act's HFC allowance allocation and trading program.[33] Moreover, the close similarities in text, structure, function, and purpose between title

[33] For purposes of implementing the ODS phaseout regulations (40 CFR part 82, subpart A), EPA defined a controlled substance, in part, as any listed ODS, whether existing alone or in a mixture, but excluding any such substance or mixture that is in a manufactured product other than a container used for the transportation or storage of the substance or mixture. Any amount of a listed substance that is not part of a use system containing the substance is a controlled substance. If a listed substance or mixture must first be transferred from a bulk container to another

VI and the AIM Act make it reasonable to infer that Congress was aware of EPA's approach of applying the ODS production and consumption controls under title VI to bulk substances but not products, including imported products, and did not intend to require EPA to depart from that approach under the AIM Act. *See FPC v. Sierra Pacific Power*, 350 U.S. 348 (1956) (determining that an interpretation of the Natural Gas Act was "equally applicable" to the Federal Power Act given that "the provisions of the Federal Power Act relevant to [the] question are in all material respects substantially identical to the equivalent provisions in the Natural Gas Act."). *See also Arkansas Louisiana Gas Co. v. Hall*, 435 U.S. 571 (1981) (citing to *FPC v. Sierra Pacific Power* for a similar premise); *NTEU v. Chertoff*, 452 F.3d 839, 857 (D.C. Cir. 2006) ("There is a presumption that Congress uses the same term consistently in different statutes."); *Smith v. City of Jackson, Miss.*, 544 U.S. 228, 233 (2005) (emphasizing the "premise that when Congress uses the same language in two statutes having similar purposes, … it is appropriate to presume that Congress intended that text to have the same meaning in both statutes").

In addition to these considerations, including imports of products containing HFCs in the calculation of consumption, and thereby including them in the regulatory allocation and phasedown program, would significantly increase the universe of regulated entities and reporters subject to this program. New categories of affected industries would include large-scale retailers that directly import products such as air conditioning units, refrigerators, fire extinguishers, and consumer aerosol products. These entities have never been subject to allowance obligations under title VI, and EPA finds it reasonable to infer that Congress did not expect or intend to

container, vessel, or piece of equipment in order to realize its intended use, the listed substance or mixture is a "controlled substance."

place allowance obligations on this vast array of entities under the closely related provisions of the AIM Act. Courts have previously supported statutory interpretations that enable sensible regulations as opposed to readings that "would radically transform those programs and render them unworkable as written." *Utility Air Regulatory Group v. EPA*, 134 S. Ct. 2427, 2442 (2014) (holding that EPA was not compelled to interpret the Clean Air Act's reference to "any air pollutant" as requiring the Agency to consider greenhouse gases in determining whether a source was major for purposes of new source review and CAA Title V permitting).

Further, it would be administratively impossible for EPA to gather data necessary to incorporate imports of products containing HFCs into the statutorily defined calculation of the baseline to a degree that matches the surety and caliber of data otherwise included in that calculation. Congress directed EPA to add figures for consumption of HCFCs and CFCs in 1989 in calculating baselines. If EPA were to read such a reference to "consumption" as encompassing imports of products containing chemicals, the Agency would need data on imports of products containing HCFCs and CFCs back in 1989. We are not aware of any source of this information, and it seems impossible that a comprehensive set of businesses would have actual data from that time period that EPA could obtain. One commenter noted that EPA could rely on estimates or modeled data from that time period and provided trade data for certain types of products that were imported in 1989, but such imprecise calculations would not match the certainty of data on which EPA is currently relying to calculate the baseline. In light of these challenges, the ambiguity of the statutory text, and the close similarities in the term "consumption" as used in title VI and the AIM Act, EPA concludes that it is reasonable to interpret the statutory term

"consumption," and the incorporated reference of the term "import," as including only bulk substances.

Defense spray. EPA is defining this term as "an aerosol-based spray used for self-defense, including pepper spray and animal sprays, and containing the irritant capsaicin and related capsaicinoids (derived from oleoresin capsicum), an emulsifier, and an aerosol propellant." Two commenters stated their support of the proposed definition for defense spray. EPA is finalizing the definition as proposed.

Etching. EPA proposed to define etching as, "in the context of semiconductor manufacturing, a process type that uses plasma-generated fluorine atoms and other reactive fluorine-containing fragments that chemically react with exposed thin-films (e.g., dielectric, metals) or substrate (e.g., silicon) to selectively remove portions of material. This includes production processes using fluorinated GHG reagents to clean wafers." This definition is closely based on the definition of the electronics manufacturing source category in the GHGRP (40 CFR 98.90(a)(1)) and on the GHGRP definition of "wafer cleaning" (40 CFR 98.98).

Some commenters suggested that EPA expand the definition of "etching" to include "wafer cleaning." EPA agrees that it is appropriate to include "wafer cleaning" in the definition of "etching" and is doing so in the final rule. Wafer cleaning involves using fluorinated GHG reagents to remove residual material from wafers, and other etching processes involve using fluorinated GHG reagents to remove materials from a substrate, which includes wafers. Under the GHGRP, the same emission factors are used for wafer cleaning as for other etching processes. Commenters also recommended that EPA use the GHGRP definition of "etching" at 40 CFR 98.98 for consistency with the GHGRP. In the final rule, we are retaining the language

from the description of etching in the GHGRP source category definition for electronics at 40 CFR 98.90. This language is briefer and more comprehensive than the definition of "etching" at 98.98, which includes potentially limiting language. Another commenter said that EPA should clarify that "etching" includes the use of HFCs as heat transfer fluids in chillers used "to control the temperature during the etching process." EPA responds that the Agency interprets the AIM Act's language on the "exclusive use of the regulated substance solely for…the etching of semiconductor material or wafers…" to not include processes adjacent to or in support of the application itself. Therefore, EPA is not accepting this proposed addition to the term.

Exchange value. The AIM Act defines "exchange value" as the value assigned to a regulated substance in accordance with subsections (c) and (e), as applicable. Subsection (c) includes a list of regulated substances with listed exchange values. Subsection (e) includes a list of ODS with listed exchange values. EPA is adopting the definition contained in the AIM Act, including the tables, which EPA is replicating in Appendix A of 40 CFR part 84.

Exchange value equivalent. EPA uses the term "exchange value equivalent" or "EVe" to provide a common unit of measure between HFCs. EVe is determined by multiplying the mass of a regulated substance by the exchange value of that substance. For example, 50 kilograms of HFC-134a would be 71,500 kgEVe (50 x 1,430). This can also be written as 71.5 metric tons exchange value equivalent (MTEVe). As explained further in Section VII.A on allowances, EPA is issuing allowances in units of 0.1 MTEVe. EPA is also using the term "EV-weighted" to describe a number presented in exchange value equivalents. For example, the size of an allowance is one EV-weighted ton.

EVe allows for the comparison between different regulated substances. For example, a blend containing multiple regulated substances would have an EVe that could be used to determine the quantity of allowances needed to produce or consume the regulated HFCs that are components of the blend. However, the EVe would only reflect the components of the blend that are regulated substances under the AIM Act. In situations where the blend contains components that are not regulated substances (e.g., HFOs), the EVe would not match the GWP of the blend and would be slightly lower. This would be the case for blends R-448A,[34] R-449A, and R-450A, which contain a mix of HFCs and HFOs.

One commenter agreed with EPA's proposed definition of "exchange value equivalent" and the calculation of EVe for blends. The commenter stated that the term correctly incentivizes the use of low-GWP components.

Export. EPA is finalizing its proposed definition for export and is clarifying that under this definition, HFCs admitted into a foreign-trade zone or other duty deferral program under CBP regulations are not exported for purposes of Part 84 regulations.

Final customer. EPA proposed to define this term as "the last person to purchase a bulk regulated substance before its intended use." For each use of HFCs, the final customer can be different. For example, an air conditioning contractor would generally be the final customer in the residential air conditioning market. For foams, the foam systems house would be the final

[34] Many blends contain HFCs and non-regulated substances such as HFOs. For example, R-448A is made of five components, three of which are HFCs regulated under the AIM Act and two of which are HFOs. The percentage of the blend and the exchange value of the constituents are: 26 percent HFC-32 (675), 26 percent HFC-125 (3,500), 21 percent HFC-134a (1,430), 20 percent HFO-1234yf (0), and 7 percent HFO-1234ze (0). The contribution of each HFC to the total EVe of the blend is calculated by multiplying the percentage of the blend made up of that HFC times its EVe, and the sum of the contributions of all the blend constituents is the blend EVe. Thus, the EVe of R-448A is (0.26 x 675) + (0.26 x 3,500) + (0.21 x 1,430) + (0.20 x 0) + (0.07 x 0) = 1,385.8.

customer, as they are making a product (i.e., a foam system). Likewise, aerosol fillers, semiconductor manufacturers, air conditioning and refrigeration equipment manufacturers that ship equipment pre-charged, and fire extinguisher manufacturers would be final customers. EPA requested comment on whether a list of examples like this should be incorporated into the definition and the Agency received comments in support of doing so. EPA is finalizing the definition with a list of example final customers to provide clarity. The examples provided in the definition are not exhaustive.

Commenters also requested additional detail on who the final customer would be in particular circumstances. Commenters were primarily concerned with the burden associated with the certification ID tracking system and sought to reduce uncertainty about who would be subject to those requirements. EPA responds to this comment in Section IX.G of this preamble.

Import. EPA is adopting the definition of the term "import" contained in subsection (b) of the AIM Act, which is nearly identical to the definition of "import" in 40 CFR part 82, and adding one of the three exemptions from the part 82 definition as proposed. EPA is also clarifying that under this definition, whether HFCs are admitted into or exiting a foreign-trade zone or other duty deferral program under CBP regulations does not affect whether the HFCs are being imported for purposes of Part 84. The AIM Act defines import as to land on, bring into, or introduce into, or attempt to land on, bring into, or introduce into, any place subject to the jurisdiction of the United States, regardless of whether that landing, bringing, or introduction constitutes an importation within the meaning of the customs laws of the United States.

EPA is including an exemption for the offloading of used regulated substances from a ship during servicing in a U.S. port. The Agency does not consider material recovered from

equipment onboard a vessel to be an import as it is analogous to material that has been recovered from air conditioning and refrigeration equipment during servicing, maintenance, repair, and disposal on that vessel. The exemption is limited to HFCs that are in an appliance or other piece of equipment (e.g., for fire suppression) as it moves across international borders. This exemption recognizes that sometimes onboard equipment needs to be serviced and used refrigerant offloaded. As noted in the proposal, treating this as an import would create a perverse incentive to improperly manage regulated substances. EPA has taken a similar approach under CAA title VI. Given such material is used, further sales or offer for sale of this offloaded material for any purpose other than reclamation, recycling for reuse onboard the vessel, recycling of fire suppression agents, or destruction is prohibited. This limited exemption only applies to used HFCs that were recovered during servicing from equipment in use on the vessel. It does not apply to containers of virgin HFCs. This situation is different from an import of used regulated substances that is transported over the border, because it would not otherwise be traveling across the border without the intent to import into the United States. To ensure the integrity of the allowance allocation and trading program, the marine vessel, aircraft, or other aerospace vehicle must maintain records documenting the company name, location of the appliance, date of recovery, person doing the recovery, and the amount of HFC recovered and type of refrigerant recovered for each servicing event.

One commenter recommended that EPA broaden the exemption for the offloading of used material to aircraft and space vehicles since the global nature of maritime vessels is similar to aerospace vehicles. EPA agrees that servicing of aircraft and other aerospace vehicles that arrive in the United States from another country is similar to the servicing of marine vessels.

Therefore, EPA is clarifying in the definition that offloading used regulated substances recovered from equipment onboard a marine vessel, aircraft, or other aerospace vehicle during servicing in the United States is not considered an import.

EPA notes that overseas U.S. government locations, including on vessels, in military units, and at fixed facilities (e.g., military bases, embassies, or consulates) often require a supply of HFCs in support of equipment, for example in air-conditioning, refrigeration, and fire suppression. Some of these HFCs are routinely returned to the United States and these returns by federal entities are not classified as "imports" under current customs laws and regulations. EPA had not considered the return of federally owned ODS to the United States to be an import under CAA title VI and is maintaining that interpretation for purposes of the HFC allowance allocation and trading program. Examples of situations that would not qualify as imports include:

- U.S. naval vessels routinely carry spare HFC refrigerant and fire suppressant cylinders for potential servicing and replenishment requirements while deployed. If the HFCs in these cylinders are not used while the vessel is underway, the vessel may return to the United States and off-load the cylinders.
- U.S. Armed Forces units deploying to overseas locations often transport HFCs in cylinders to service their military equipment and upon return from deployment will bring any remaining HFCs back to the United States with them.
- U.S. Government fixed facilities overseas have refrigerants removed and recovered during equipment servicing or when the equipment is replaced or retired from service. Since this refrigerant may be excess or may need to be reclaimed prior to reuse in other equipment, the recovered refrigerants may be shipped back to the United States

for reclamation or disposal if the host nation does not have refrigerant reclamation or disposal capabilities.

Metered dose inhaler. EPA is defining an MDI as "a handheld pressurized inhalation system that delivers small, precisely measured therapeutic doses of medication directly to the airways of a patient. MDIs treat health conditions such as asthma and chronic obstructive pulmonary disease and are approved for such use by the United States Food and Drug Administration (FDA)." This definition is substantially similar to the definition of "essential metered dose inhaler" in 40 CFR part 82.

Commenters generally agreed with this definition. One commenter recommended that the definition should be expanded beyond the treatment of asthma and chronic obstructive pulmonary disease (COPD) to include other conditions. EPA responds that the definition as proposed encompasses other uses of MDIs so long as they are approved by the FDA. While asthma and COPD may be the two most common conditions treated by MDIs, the list is not exclusive, as indicated by the words "such as." EPA is therefore finalizing the definition as proposed. We have updated the market characterization to include other conditions treated by MDIs.

Mission-critical military end uses. EPA proposed to define this term as "those uses of regulated substances by an agency of the Federal Government responsible for national defense which have a direct impact on mission capability, as determined by the U.S. Department of Defense (DOD), including, but not limited to uses necessary for development, testing, production, training, operation, and maintenance of Armed Forces vessels, aircraft, space

systems, ground vehicles, amphibious vehicles, deployable/expeditionary support equipment, munitions, and command and control systems."

Commenters suggested that the definition is too narrow or ambiguous and excludes uses of regulated substances by non-DOD federal entities that are involved in national defense or security, and local, state, and foreign governments. Commenters also requested that EPA ensure the definition covers use of HFCs in equipment approved by the United States Government for either Foreign Military Sales or Direct Commercial Sales. Commenters asked for clarification that uses by federal defense contractors, including those used within the manufacture of mission-critical products, are covered.

EPA is not expanding the definition of "mission-critical *military* end uses" (emphasis added) to cover non-military applications. Expanding the definition to cover non-military applications, even if related to national defense or security, would not be consistent with the statute. The definition directs the DOD to determine what end uses are mission-critical; it is not appropriate to provide that authority to state, local, or foreign governments. EPA is also not amending its proposed definition to include Foreign Military Sales and Direct Commercial Sales. Under Foreign Military Sales, the United States Government manages new sales of defense equipment to foreign allies and partners. Under Direct Commercial Sales, the U.S. Department of State provides regulatory approvals for sales negotiated privately between foreign end users and American companies. DOD is involved in reviewing both types of sales. Such sales could already be covered under the proposed definition as they are included in the "production … of Armed Forces vessels …" DOD must determine such sales to be mission-critical.

Onboard aerospace fire suppression. EPA is finalizing a definition of this term as "use of a regulated substance in fire suppression equipment used onboard commercial and general aviation aircraft, including commercial-derivative aircraft for military use; rotorcraft; and space vehicles," which differs in some respects from the proposed definition based on EPA's consideration of public comments. EPA is also finalizing a separate definition for space vehicles consistent with the definition in 40 CFR 82.3. EPA requested comment on whether the definition of onboard aerospace fire suppression should include general aviation, which consists of private and/or business aircraft, which may not have the same requirements as commercial aircraft for onboard aerospace fire suppression systems. The proposed definition excluded military aircraft because they are covered under the definition of mission-critical military end uses.

Commenters from the onboard aerospace fire suppression sector requested that EPA provide flexibility in the use of application-specific allowances within the aerospace and defense sectors or revise the definition for onboard aerospace fire suppression to allow the use of HFCs for military onboard aerospace fire suppression so that fire suppression systems are not limited to commercial aircraft applications, as opposed to aircraft used for military, recreational, or test purposes. Specifically, one commenter stated that there is not a clear distinction between commercial use and military use of HFCs for onboard aerospace fire suppression equipment. The commenter explained that in some cases, aircraft intended for sale to military customers are built using commercial aircraft designs that are modified for military use, and in other cases, the aircraft is built to commercial specifications and then modified for military use ("commercial derivatives"). Another commenter recommended that EPA allow for the use of HFCs for military onboard aerospace fire suppression under this application due to uncertainties involved in the

mission-critical military end use application. EPA is modifying the definition to include commercial derivatives for military use and rotorcraft.

As noted in the proposal, EPA has previously defined "space vehicle" under title VI regulations at 40 CFR 82.3 as a man-made device, either manned or unmanned, designed for operation beyond Earth's atmosphere. This definition includes integral equipment such as models, mock-ups, prototypes, molds, jigs, tooling, hardware jackets, and test coupons. Also included is auxiliary equipment associated with test, transport, and storage, which through contamination can compromise the space vehicle performance. EPA requested comment on whether "space vehicle," as defined in 82.3, is inclusive of applications that would be considered as onboard aerospace fire suppression.

A comment regarding the definition of "space vehicle" asked that it explicitly cross-reference the part 82 definition and extended to include aircraft in addition to space vehicles. EPA has included a definition of "space vehicle" that is consistent with the definition in 40 CFR 82.3 for clarity. It appears that in asking the definition to be extended to include aircraft, the commenter is requesting that HFCs used for fire suppression systems in models, mock-ups, prototypes, etc. for any onboard aerospace application, including aircraft, also be included within the definition of onboard aerospace fire suppression. EPA is not finalizing this suggestion. The Agency understands that there are a limited number of space vehicles and that the conditions they operate in are unique and include exposure to extreme heat and cold cycling, ultra-vacuum, atomic oxygen, and high-energy radiation. Given this set of factors does not apply to aircraft, it is appropriate to use a narrower definition for space vehicles that is consistent with the approach taken under the CAA.

Some commenters asked for the definition for onboard aerospace fire suppression to include aerospace applications of HFCs necessary to suppress the development of in-flight fires, and not solely fire extinguishing "equipment" and "systems." A commenter provided an example of HFC solvents to clean or flush oxygen systems. The Agency does not view this as fire suppression but as a solvent use. The Agency will only consider HFC use in systems or equipment that are discharged to extinguish live fires, or in specialized applications for explosion suppression and inerting against explosions and fires. These are the technical definitions of what these systems and equipment are made to do.[35] An overly broad interpretation of "onboard aerospace fire suppression" would undercut the intent of the AIM Act.

Process agent. The AIM Act uses the term "process agent" without defining it. EPA is defining the term as "the use of a regulated substance to form the environment for facilitating a chemical reaction or inhibiting an unintended chemical reaction (e.g., use as a solvent, catalyst, or stabilizer) where the regulated substance is not consumed in the reaction, but is removed or recycled back into the process and where no more than trace quantities remain in the final product. A feedstock, in contrast, is consumed during the reaction."[36] This definition matches the definition used by the Montreal Protocol's Technology and Economic Assessment Panel (TEAP) and is well-established and understood in the ODS context.[37]

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[35] Robert T. Wickham. "Status of Industry Efforts to Replace Halon Fire Extinguishing Agents," March 2002. Available at *https://www.epa.gov/sites/default/files/2015-07/documents/status.pdf*

[36] The term "consume" in the AIM Act has two separate meanings. In the context of describing transformation/feedstock uses of HFCs, the word "consume" is used to mean the decomposition of the substance. For example, subsection (b)(7)(B) excludes from the definition of "produce" "the manufacture of a regulated substance that is used and entirely *consumed* (except for trace quantities) in the manufacture of another chemical." (emphasis added).

[37] Montreal Protocol on Substances that Deplete the Ozone Layer, *Medical and Chemical Technical Options Committee 2018 Assessment Report*. United Nations Environment Programme, 2018. Available at *https://ozone.unep.org/sites/default/files/2019-04/MCTOC-Assessment-Report-2018.pdf*

EPA received comments that the proposed definition of process agent is too narrow in that it is limited to processes involving chemical reactions. Commenters suggested that the definition be expanded to include physical processes. Commenters did not provide additional information to explain what the differences are between a chemical reaction and a physical process, nor did they explain what specific actions may be excluded by using the proposed definition. EPA has been unable to find physical processes discussed in TEAP documents related to process agents; however, the Agency has found discussion of process agents inhibiting an unintended chemical reaction. This fits within the proposed definition that process agents are used to "form the environment" where the process occurs. EPA is finalizing the definition with the additional description of inhibiting unintended chemical reactions but is not including reference to physical processes, as the Agency does not have sufficient information supporting a change.

Production/Produce. EPA is adopting the definition of the term "produce" that is found in subsection (b) of the AIM Act. While substantially similar to the definition of the term "production" at 40 CFR 82.3, there are a few differences. First, the AIM Act definition does not use the word "transformed" but rather textually incorporates most of the definition of the defined term "transform" from §82.3. Second, the definition specifically excludes the reclamation of a regulated substance from the term production. This exclusion was not found in §82.3 but matches EPA's long-held interpretation in CAA title VI programs that reclamation does not constitute production and that reclaimed material is inherently reused/recycled.

EPA proposed that the definition of production specifically exclude "the inadvertent or coincidental creation of insignificant quantities of a regulated substance during a chemical

manufacturing process, resulting from unreacted feedstock, from the listed substance's use as a process agent present as a trace quantity in the chemical substance being manufactured, or as an unintended byproduct of research and development applications." This phrase appears in the 40 CFR 82.3 definition of "controlled substance." The exclusion of these four types of insignificant quantities is more properly considered in defining what qualifies as production, given they describe acts of "creation" or "resulting from" or "byproduct of." Such insignificant quantities created in the above-listed circumstances are considered regulated substances, but are not considered production. Combining all of the exclusions under one term increases clarity when interpreting the terms "produce" and "regulated substance" together.

Based on public comments received, EPA is finalizing an addition to the listed circumstances addressed by the exclusion, specifically clarifying that it covers the inadvertent or coincidental creation of insignificant quantities of a regulated substance "during semiconductor manufacturing processes." EPA estimates that 6 to 9 metric tons of HFC-23 were generated as a byproduct per year from 2017 to 2019 across all semiconductor manufacturing facilities that reported to the GHGRP. Semiconductor manufacturers reporting to the GHGRP are estimated to have accounted for 98 percent of HFC-23 generating activity (i.e., layer-weighted area of semiconductors produced) by semiconductor manufacturers in the United States in 2017.[38] Total byproduct generation of HFC-23 from 2017 to 2019 was calculated by first estimating consumption of HFC-23 based on reported emissions of HFC-23 to the GHGRP, reported emissions of other fluorinated greenhouse gases, the emission factors used, and the reported fab-wide destruction or removal efficiencies. Byproduct generation was then estimated by using the

[38] World Fab Forecast (2017). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2019. U.S. EPA 2021. Available at *https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2017*

ratio of byproduct emissions to total calculated uncontrolled emissions of HFC-23. The resulting estimates showed a decline between 2017 and 2019. Byproduct generation of HFC-23 from individual fabrication plants was estimated to average approximately 140 kg per plant, with no fabrication plant generating more than 1.1 metric tons. Such a small amount falls under EPA's intended definition of "insignificant quantities," and therefore EPA finds it reasonable to finalize a definition that includes text clarifying that such insignificant quantities are excluded from the definition of production.

In addition, EPA is finalizing a change to this regulatory text to clarify that each of the listed circumstances is an independent circumstance and if insignificant quantities are inadvertently or coincidentally created in any of these five circumstances, they are exempt from the definition of production. Specifically, EPA is finalizing the following text in the regulations: "Insignificant quantities of a regulated substance inadvertently or coincidentally generated from any of the following, independent circumstances:" before listing the five circumstances.

Reclaim. EPA is defining reclaim as "the reprocessing of regulated substances to all of the specifications in Appendix A of 40 CFR part 82, subpart F [based on AHRI Standard 700-2016] that are applicable to that regulated substance and to verify that the regulated substance meets these specifications using the analytical methodology prescribed in section 5 of Appendix A of 40 CFR part 82, subpart F." The final definition is unchanged from the proposal.

Some commenters recommended that EPA establish in the definition of "reclaim" a limit on the amount of virgin refrigerant that could be included. Put another way, if a recovered refrigerant is blended with more than a certain threshold of virgin refrigerant to bring it to AHRI 700 standards, the resulting refrigerant would not meet the regulatory definition of reclaimed

material. Commenters noted California's proposed requirement that reclaimed HFCs contain no greater than 15 percent new refrigerant by weight, and recommended that EPA adopt a similar benchmark in its definition of reclaim. EPA may consider establishing standards regarding the amount of virgin product permitted to be used in "reclaimed" material in the future, but this regulatory definition is not the appropriate place to address this issue. Given the early stage of AIM Act implementation and stakeholder engagement, EPA also does not have sufficient information at this time to make a reasoned decision on what benchmark to set, if any.

Regulated substance. The AIM Act uses the term "regulated substance" to refer to HFCs statutorily listed in the AIM Act and any such substance added to the list in the future consistent with subsection (c)(3)(A). EPA is defining the term as "a hydrofluorocarbon listed in the table contained in subsection (c)(1) of the AIM Act and a substance included as a regulated substance by the Administrator under the authority granted in subsection (c)(3). A current list of regulated substances can be found in Appendix A of this part." The final definition is unchanged from the proposal.

One commenter suggested EPA clarify that only saturated HFCs can be added to the list of regulated substances through the procedure in subsection (c)(3). EPA declines to make this addition to the definition. Subsection (c)(3) contains multiple limitations on what can be designated as a regulated substance, including that the chemical is a saturated HFC and has a minimum exchange value. For purposes of clarity, EPA is keeping the definition of regulated substances distinct from the process and limitations for designating additional regulated substances.

Structural composite preformed polyurethane foam. EPA is defining this term as "a foam blown from polyurethane that is reinforced with fibers and with polymer resin during the blowing process, and is preformed into the required shape (e.g., specific boat or trailer design) to increase structural strength, while reducing the weight of such structures." The final definition is unchanged from the proposal.

One commenter suggested a modified definition, which would describe "structural composite preformed polyurethane foam" as "a foam blown from polyurethane that is extruded or injected into reinforcing fiber fabric material to impart the fabric with dimensional shape to create preformed elements that are later assembled together, impregnated with resin and/or otherwise cured to form a composite structure (e.g., specific boat or trailer design)." The commenter explained that the modified definition more accurately and succinctly describes the structural composite preform technology for marine and trailer use. EPA is finalizing the definition as proposed to avoid creating an inadvertently restrictive definition and to keep the ideas of increased structural strength and weight reduction in the definition.

Transhipment. EPA proposed to define transhipment consistent with the definition in 40 CFR 82.3 for ODS. However, based on interagency consultation, EPA is revising its definition slightly by replacing the phrase "interstate commerce" with "U.S. commerce." This minor alteration in terminology will align this requirement more closely with trade regulations administered by CBP and is a more accurate expression of EPA's intended meaning. The term "transhipment" is defined as the continuous shipment of a regulated substance, from a foreign country of origin through the United States or its territories, to a second foreign country of final destination, as long as the shipment does not enter U.S. commerce. A transhipment, as it moves

through the United States or its territories, cannot be repackaged, sorted, or otherwise changed in condition.

EPA's use of this term is similar but not identical to an "entry for transportation and exportation" under 19 U.S.C. 1553 and 19 CFR 18.20 through 18.24, and a "transportation entry" under 19 CFR 18.1. CBP regulations expressly allow in-bond merchandise to be transferred from one conveyance to another—what the shipping industry typically calls "transloading" or a "transshipment" (see 19 CFR 18.3). CBP regulations also allow in-bond merchandise to be shipped in a conveyance that contains other merchandise that is not being shipped in-bond, so long as the in-bond merchandise is clearly identified (see 19 CFR 18.4(b)). However, EPA is not fully aligning with those practices for transhipments of HFCs. Under the definition finalized in this rule, a transhipment, as it moves through the United States or its territories, cannot be repackaged, sorted, or otherwise changed in condition. The full text of all definitions finalized in this rule can be found in 40 CFR 84.3.

VI. How is EPA Establishing the HFC Production and Consumption Baselines?

The first step in phasing down HFCs through an allowance allocation and trading program is to establish the U.S. production and consumption baselines. It is from these baselines that EPA determines the total amount of allowances. By applying the AIM Act's percentage-based phasedown, which EPA implements via the total annual production and consumption allocations, the Agency derives in a stepwise manner the amount of allowances available compared to the baseline over the period of time encompassed in the statutory phasedown schedule.

A. What are the Components of the Production and Consumption Baselines?

Subsection (e)(1) of the AIM Act directs EPA to establish a production baseline and a consumption baseline and provides the equations for doing so. The equations comprise an HFC component, an HCFC component, and a CFC component. Specifically, the production baseline is equal to the sum of: (i) the average annual quantity of all regulated substances produced in the United States from January 1, 2011, through December 31, 2013, and (ii) 15 percent of the production level of HCFCs in calendar year 1989, and (iii) 0.42 percent of the production level of CFCs in calendar year 1989. For the purposes of establishing the baselines, EPA must use the exchange values assigned by Congress to develop an exchange value-weighted amount for both production and consumption. The equation representing the production baseline calculation is:

Equation 1: Production Baseline

$$\text{Production Baseline} = 100\% \left[\frac{\text{2011+2012+2013 HFC EV-weighted production level}}{3}\right] / \frac{\text{2011+2012+2013 HFC EV-weighted proc}}{3}$$
$$15\%\ [\text{1989 HCFC EV-weighted production level}] +$$
$$0.42\%\ [\text{1989 CFC EV-weighted production level}]$$

Similarly, the AIM Act defines the consumption baseline as equal to the sum of (i) the average annual quantity of the consumption[39] of regulated substances in the United States from January 1, 2011, through December 31, 2013, and (ii) 15 percent of the consumption of HCFCs in calendar year 1989, and (iii) 0.42 percent of the consumption of CFCs in calendar year 1989. The equation representing the consumption baseline calculation is below.

Equation 2: Consumption Baseline

$$\text{Consumption Baseline} = 100\% \left[\frac{\text{2011+2012+2013 HFC EV-weighted consumption level}}{3}\right] +$$
$$15\%\ [\text{1989 HCFC EV-weighted consumption level}] +$$
$$0.42\%\ [\text{1989 CFC EV-weighted consumption level}]$$

[39] Consumption is equal to production plus imports minus exports.

EPA's proposal that the HFC consumption baseline consist of bulk HFCs and not include imports of HFCs contained in products garnered multiple comments, both opposed and in favor. Similarly, some commenters raised the related issue of whether consumption allowances should be required to import HFCs contained in products. Some commenters pointed to the AIM Act's description of the consumption baseline in subsection (e)(1)(C), which states that it includes "*all* regulated substances consumed in the United States" (emphasis added) to include imports of HFCs contained in products in the baseline period. Commenters stated that the AIM Act does not distinguish between "bulk" HFCs and those contained in products but, rather, plainly states that all regulated substances are to be included.

As explained further in the definitions portion of this final notice, the AIM Act definition of "consumption" does not directly or unambiguously address whether that term should include imports of products containing HFCs or be limited to imports of bulk HFCs. Because the statute is ambiguous, EPA has discretion to develop a reasonable definition of the term in order to implement the statutorily required HFC phasedown. For the reasons provided in Section V on definitions, EPA is defining "consumption" to be limited to bulk substances. Therefore, the statutory language commenters cite in AIM Act subsection (e)(1)(C), which addresses the calculation of the consumption baseline and which refers to "all regulated substances consumed in the United States," is better understood to refer to all *consumption*, which necessarily limits this directive to bulk substances in light of EPA's previously described interpretation of that term. Accordingly, EPA is finalizing the consumption baseline calculation with only bulk HFCs as proposed.

While EPA recognizes that the AIM Act is a distinct authority from title VI of the CAA, it is also true that many of the AIM Act's statutory provisions addressing the HFC phasedown are written and structured similarly to statutory or regulatory provisions under title VI addressing the ODS phaseout. Under the phaseout requirements for ODS (40 CFR part 82, subpart A), only imports and exports of bulk controlled substances are counted as part of the consumption cap.[40] As explained in more detail in Section V of this final notice, it is reasonable to interpret and implement those terms in a similar manner when there is no indication to suggest disparate treatment. Further, during Congressional testimony on the AIM Leadership Act (a prior version of the AIM Act, but similar to the allowance allocation and trading text in the final AIM Act) before the House Energy and Commerce Committee, EPA was asked how the legislation compared to CAA title VI, and EPA responded that "most of the main components, particularly the phasedown, [are] very similar."[41] If members of the Committee had intended the terms "consume" and "consumption"—which are identical to the terms used under CAA title VI—to include products containing HFCs, it is reasonable to anticipate that they would have made their intention clear in the statutory text given that such an interpretation would be a significant divergence from EPA's implementation of the ODS phaseout under title VI of the CAA.

There would be severe implementation difficulties resulting from including imports of products containing HFCs in the consumption baseline and requiring allowances for imports of such products. If the HFC allocation framework under the AIM Act were expanded beyond bulk

[40] This approach is also consistent with the approach taken under the Montreal Protocol. Decision I/12A, taken at the first Meeting of the Parties to the Montreal Protocol, defines "controlled substances" as bulk chemical. As such, the production and consumption schedules under the Montreal Protocol only apply to bulk chemical.

[41] See https://www.congress.gov/116/meeting/house/110388/documents/HHRG-116-IF18-Transcript-20200114.pdf on pages 22 and 23.

substances to include imports of products containing HFCs, the regulated importer community would be at least double in number. Many if not all of these entities have never been subject to regulation of this kind and would therefore likely be caught unawares and be unfamiliar with EPA's general approach to the allocation program. Some commenters were not persuaded by this concern, which EPA also described in the proposed rule. A few commenters stated that this is also true of establishing the program of application-specific allowances while others stated that these concerns do not override the clear language of the statute. EPA disagrees that the statutory language is clear on this point. As noted in the definitions portion of this final rule, the language in the AIM Act is ambiguous as to whether "consumption" should include imports of products containing HFCs, and thus is also ambiguous as to whether the baseline calculation and allowance system should include imported products containing HFCs. Given the statutory ambiguity, EPA is taking many considerations into account to determine that the definition of "consumption" is most appropriately read to be limited to import of bulk substances. Including imported products in the consumption baseline calculation would by necessity require the Agency to issue consumption allowances to all importers of products containing HFCs. Put another way, all such products would be prohibited from being imported effective January 1, 2022, absent participation in an allowance allocation system.

Commenters did not dispute EPA's estimate that the regulated universe would at least double—or more—if HFCs contained in imported products were included in the allowance system. EPA's experience with the ODS phaseout taught the Agency that regulated substances can be in products ranging from silly string to niche medical devices. These products were often manufactured or imported by small businesses that only learned of the phaseout when informed

by their suppliers. While it is true that the application-specific allowance system will require allocations to end users, which is different than under title VI, Congress limited the universe to a discrete number of applications, which are expressly listed in (e)(4)(B)(iv).

Commenters in favor of including imports of HFCs contained in products expressed concern that domestic manufacturers of such products would be at a competitive disadvantage to imported products. They argue that because product manufacturers abroad can acquire HFCs that are not subject to the AIM Act's phasedown restrictions, domestic manufacturers would be disadvantaged by needing to acquire HFCs within the United States which they believe would be more expensive. Other commenters argued that undercounting the baseline results in a more stringent phasedown schedule than Congress intended. Some commenters expressed concern that the volume of HFCs in products is currently equal to 10 percent of bulk HFC consumption and is growing. Without controls, commenters said failure to include imports of HFCs in products will continue to allow HFCs into the country, further damaging the Earth's climate system.

EPA plans to achieve the objectives in the AIM Act to phase down HFCs and at the same time avoid the relocation of HFC production. Among the authorities provided in the AIM Act, EPA's assessment is that other subsections of the Act present opportunities for addressing use of HFCs in products separate from the production and consumption controls being finalized in this rule. In particular, subsection (i) of the AIM Act is a powerful tool in and of itself, providing both interested parties and EPA with significant potential to address the use of HFCs in products. This view appears to be consistent with other stakeholders as well, given the Agency has received more than a dozen petitions from companies, industry associations, environmental groups, and states under AIM Act subsection (i). The submitted petitions request restrictions on

HFCs in a wide range of applications, including use of HFCs in the types of products mentioned in comment.[42]

EPA disagrees with commenters that not including imports of products containing HFCs in the definition of consumption puts domestic manufacturers at a competitive disadvantage or will not achieve necessary environmental benefits. More than 120 countries have joined the Kigali Amendment to the Montreal Protocol, including most if not all of the countries with significant trade in products containing HFCs with the United States, such as Mexico, Japan, Germany, and China. Joining the Kigali Amendment entails a phasedown of HFC production and consumption, so the supply of HFCs in those countries will be limited in ways that are similar to the AIM Act restrictions implemented in the United States. Major United States trading parties, including Japan and Germany, have baseline figures based on the same historical data points as directed by the AIM Act and used to establish the baseline in this rule, and the Kigali Amendment phasedown schedule for those countries matches the phasedown schedule established in the AIM Act.

For some countries, including Mexico and China, baselines for the phasedown of HFCs consistent with the Kigali Amendment will be set based on 2020-2022 production and consumption. In those countries, a cap on production and consumption becomes effective as of January 1, 2024. Any HFC production or consumption that is used to manufacture and export products containing HFCs would count as production and consumption in the country exporting the products, not the country receiving the products via import. Commenters are concerned that companies in countries with a later phasedown schedule could increase their production and

[42] The petitions received to date are publicly available at *https://www.epa.gov/climate-hfcs-reduction/petitions-under-aim-act* and at *https://www.regulations.gov*, under Docket ID No. EPA-HQ-OAR-2021-0289.

consumption in the years used to determine the baseline for those countries, resulting in increased access to HFCs for the duration of the phasedown. In the near term, it is very unlikely companies operating in those countries would find it worthwhile or even be able to expand their production or consumption to service a hypothetical expanded products market for the United States. The time remaining to execute tactics aimed at expanding the baseline is exceedingly brief given that it is already late in 2021 and it is difficult to dramatically ramp up production and manufacturing in a short timeframe. It is also unlikely there would be significant incentive to do so prior to the cap on production that begins in 2024 since the reduction in allowed U.S. consumption in 2022 and 2023 is limited to 10 percent and would not create much "room" or demand for an increase in imports of products containing HFCs in the near term. Further, companies would also need to make investments to offshore or ramp up production in other countries while the U.S. regulatory landscape is actively unfolding and could run the risk of stranding assets depending on decisions EPA makes in near term rules. Combined, these are additional reasons to expect that importation of products containing HFCs will not affect the environmental benefits of the program established in this rule or the competitiveness of U.S. domestic manufacturers.

EPA's experience in implementing title VI of the CAA supports these expectations. Under the Agency's experience in phasing out ODS under title VI of the CAA, where other countries committed to similar phaseouts under the Montreal Protocol, the Agency did not see unaddressed documented harm to domestic product manufacturers or lack of environmental benefits. Where EPA did see the potential for harm, the Agency established requirements to address products containing ODS through other authorities under title VI, which ameliorated

competitive impacts on domestic manufacturers in sectors that might have otherwise experienced such impacts. In addition, there is reason to believe that manufacturers of products that currently contain HFCs will respond to the HFC phasedown by transitioning away from HFCs themselves. EPA is aware that some categories of products containing HFCs, including appliances where the refrigerant is factory-charged, such as household refrigerators, are already transitioning from HFC-134a to hydrocarbons and a full transition is anticipated no later than 2025. Therefore, EPA does not agree with comments that suggest significant growth for all products containing HFCs. However, if there are unanticipated documented challenges for domestic product manufacturers or lagging environmental benefits counter to EPA's expectations, EPA retains the discretion to revisit its approach to products containing HFCs in the future.

Lastly, we note that this rulemaking only addresses the framework for allocating production and consumption allowances under subsection (e) of the AIM Act. EPA intends to consider opportunities for addressing products containing HFCs under other subsections of the AIM Act in future actions. One authority currently under consideration by EPA is subsection (i) of the AIM Act, which authorizes EPA to "restrict, fully, partially, or on a graduated schedule, the use of a regulated substance in the sector or subsector in which the regulated substance is used." Subsection (i) also provides opportunity for outside parties to file a petition with EPA for a rule establishing such a restriction and establishes a time frame for EPA to act on those petitions. As noted previously, EPA has received more than a dozen petitions under subsection (i) requesting restrictions on the use of HFCs in products including aerosols, foams, refrigeration units, air conditioners (e.g., residential, commercial, and motor vehicle), and dehumidifiers. The statutory deadline under subsection (i) for granting or denying the first five of the pending

petitions received by the agency is October 10, 2021, and EPA intends to meet that deadline. If EPA were to finalize rulemaking consistent with the requests in these petitions, it would result in restrictions on the use of HFCs in domestically manufactured and imported products under subsection (i). As with any rulemaking, EPA anticipates that a rulemaking under subsection (i) would include an opportunity for public participation on these issues.

In response to comments that EPA is undercounting the baseline by not including products, and thereby accelerating the HFC phasedown, EPA disagrees. The commenter's suggestion seems premised on a misconception that imports of products containing HFCs could be included in the baseline, but not in the allowance system. The key question is whether imports of products containing HFCs are included in the terms "consume" and "consumption." If imports of products containing HFCs are part of consumption, they would be calculated into the consumption baseline, but also consumption allowances would be required for future import of products containing HFCs. As explained previously, the statute does not speak directly to this question, so EPA is using its discretion to interpret the terms "consume" and "consumption" to not include imports of products containing HFCs. Under this interpretation, HFCs contained in imported products are not covered by the allocation system, and they cannot be included in the baseline. Consumption allowances will not be required to import products containing HFCs, and as described in the prior paragraph, EPA intends to consider ways to address HFC use in products under other subsections of the AIM Act. For this rule, we are using a consistent accounting system for both the baseline and the allowance system that does not incorporate products containing HFCs.

Further, without adequate data to establish a baseline that accurately reflects products, EPA would run a significant risk of creating a baseline that is too small to account for the full scope of imported products used today. While Subpart QQ of the GHGRP contains data about imports of foams and appliances containing HFCs, it does not capture all regulated substances contained in items including fire suppression equipment or consumer aerosol products. If the Agency were to include HFCs contained in products in the baseline figures, it also would need to include data reflecting HCFCs and CFCs contained in products in 1989 to complete the baseline formula. The Agency does not have these data and it would be administratively impossible to comprehensively collect such decades-old data now (as opposed to bulk CFC and bulk HCFC data which the Agency already collected many years ago and has used under title VI of the CAA as a basis for establishing and implementing the phaseout schedule and allowances for both CFCs and HCFCs for 30 years).

Some commenters disagreed that it would be administratively impossible to collect data on HCFCs and CFCs contained in products in 1989 to complete the baseline formula. Commenters noted that volumes would be small given most appliances were domestically produced at that time. One commenter provided data on imports of window units to that effect. When multiplied by the percentages in the baseline formula, commenters stated, the effect would be minimal compared to the HFC element of the calculation. EPA does not dispute commenters' points, but the commenters also do not dispute EPA's fundamental point that it is administratively impossible to collect a comprehensive set of data on HCFCs and CFCs imported into the United States inside of products in 1989 of a similar quality to the data EPA holds on bulk HCFCs and CFCs. Commenters, at most, allege that EPA could make an informed guess at

a number to add to the baseline calculation. But such a guess would not match the surety and caliber of data otherwise included in the baseline calculation—which is based on actual data—and is not sufficient to determine the baseline calculation with a level of certainty that is necessary to meet the directive Congress provided to EPA in the AIM Act. Further, it is reasonable to presume that Congress knew that we would lack such 1989 data given EPA's implementation of the ODS phaseout was limited to bulk substances, and this provides further support that EPA's interpretation of "consumption" as limited to bulk is reasonable. Furthermore, even if commenters' statement that we could develop a figure to estimate 1989 imports for products imported that contained CFCs and HCFCs were correct, this does not undermine all the other reasons EPA has provided for its reasonable interpretation that "consumption" is limited to bulk substances.

EPA is also finalizing its approach of not including transhipment amounts within the baseline. In addition to the prior discussion on why imports of HFCs contained in products are not included in the baseline calculation, transhipment imports are not included in the definition of "consumption." A transhipment is the continuous shipment of a regulated substance, from a foreign country of origin through the United States, to a second foreign country of final destination. Transhipments do not enter U.S. commerce. The sum effect of this activity is zero since the regulated substance is both imported (which would be added to the consumption baseline) and exported (which would be subtracted from the consumption baseline) in identical quantities.

1. How is EPA Determining the HFC Component of the Production and Consumption Baselines?

In order to calculate the production and consumption baselines, EPA has determined the annual production and consumption of the statutorily listed HFCs in the years 2011, 2012, and 2013. EPA has used multiple sources of data to calculate HFC consumption and production figures for 2011 through 2013: (1) data reported to EPA's GHGRP; (2) data received in response to the notice of data availability (NODA) published February 11, 2021; (3) data from Customs in the Automated Customs Environment (ACE) and confirmed through letters sent out under CAA section 114 (EPA ICR 2685.01); and (4) data received in response to the notice of proposed rulemaking by the comment due date. EPA received new or revised production, import, export, and destruction data, all of which affect the final baseline values.

The GHGRP requires various facilities and suppliers to annually report data related to GHGs to EPA (see 40 CFR part 98). Subpart OO, "Suppliers of Industrial Greenhouse Gases," is the section relevant to reporting on HFC production and consumption. Because the HFCs listed as regulated substances under the AIM Act are industrial GHGs, EPA has collected a significant amount of data relevant to HFC production and consumption as defined under the AIM Act. EPA used these data as a starting point for estimating the historical HFC production and consumption figures necessary to calculate baselines under the AIM Act. Further discussion of the GHGRP can be found in the notice for the proposed rule.

The data available through GHGRP significantly contribute to EPA's ability to calculate the amount of HFCs produced and consumed in the United States in 2011–2013 for purposes of determining the AIM Act baselines. However, there are known gaps in the GHGRP data, and EPA has made best efforts to fill these gaps. EPA published a NODA on February 11, 2021,

outlining available information and perceived data gaps (86 FR 9059). Further discussion of the NODA and data collection efforts taken prior to proposal can be found in the proposed rule.

EPA invited additional public input through the proposed rulemaking and has separately sent letters under the authority of subsection (k)(1)(C) of the AIM Act and section 114 of the CAA to companies that may have relevant data.[43] Specifically, EPA attempted to contact companies that may not have been reporting to GHGRP, either because they had failed to report and were out of compliance or because they were below the GHGRP reporting threshold. These companies were asked to submit any data on HFC production, import, export, transformation, and destruction between 2011 and 2019 that they had not already submitted to GHGRP Subpart OO. To find these companies, EPA obtained a list from U.S. Customs and Border Protection (CBP) of all companies that appeared to import HFCs between 2011 and 2019. This list contained roughly 400 companies. EPA first sent letters to these companies, requesting they submit any relevant data. EPA then attempted to find email addresses for these companies and sent a copy of the request letter by email as well.

Roughly 130 companies responded to the letter or the follow-up email. A small fraction of these companies actually had relevant data to submit. EPA reviewed any new or updated data for accuracy. EPA used this more complete dataset to calculate the AIM baseline and each company's historical annual HFC production and consumption.

2. What is the HFC Component of the Production and Consumption Baselines?

The equations in the AIM Act for the production and consumption baselines include the average annual production and consumption of HFCs between January 1, 2011, and December

[43] View Information Collection Request (ICR) Package at https://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=202103-2060-005

31, 2013. Based on the information reported to the GHGRP and gathered through recent data collection efforts, average HFC consumption in 2011 through 2013 was 260.7MMTEVe and average HFC production in 2011 through 2013 was 338.3 MMTEVe for those three years. A memo to the docket ("HFC Production and Consumption Data – Final Rule") provides the aggregated data for each of the three years similar to that provided in the NODA and the proposed rule. As envisioned in the proposed rule, these values have changed by about 2 percent based on the data collected since the rule was proposed.

3. What are the HCFC and CFC Components of the Production and Consumption Baselines?

The equations in the AIM Act for the production and consumption baselines include HCFC and CFC components from 1989. That year was designated under the Montreal Protocol as the baseline year used for several class I substances (Groups III, IV, and V in the Montreal Protocol) as well as for class II substances (HCFCs). See, e.g., 74 FR 66412 (December 15, 2009). As a result, EPA has previously developed a complete accounting of ODS production, import, and export during that year.[44] These values are unchanged from the proposed rule.

Specifically, the 1989 production and consumption levels for HCFCs are 216.9 MMTEVe and 210.3 MMTEVe respectively, and the 1989 production and consumption baselines for CFCs are 2,799.8 MMTEVe and 2,784.5 MMTEVe respectively. Fifteen percent of the 1989 HCFC production and consumption baselines is 32.5 MMTEVe and 31.5 MMTEVe respectively, while 0.42 percent of the 1989 CFC production and consumption baselines is 11.8 MMTEVe and 11.7 MMTEVe respectively.

[44] For more information on historical U.S. ODS production and consumption data, please visit the United Nations Environment Programme's website at *https://ozone.unep.org/countries/profile/usa*

B. What are the Final HFC Production and Consumption Baselines?

Using the equation provided in the AIM Act, and based on the data available to the Agency, EPA is establishing in this final rule the production baseline of 382.6 MMTEVe and the consumption baseline of 303.9 MMTEVe. 40 CFR 84.7(b) includes the baseline values in MTEVe.

Table 5: Inputs for Calculation of Production and Consumption Baselines

Input	Value (MMTEVe)	Percentage in baseline	Modified Value (MMTEVe)
2011 – 2013 average HFC production	338.3	100%	338.3
1989 HCFC production	216.9	15%	32.5
1989 CFC production	2,799.8	0.42%	11.8
Production baseline			**382.6 MMTEVe**
2011 – 2013 average HFC consumption	260.7	100%	260.7
1989 HCFC consumption	210.3	15%	31.5
1989 CFC consumption	2,784.5	0.42%	11.7
Consumption baseline			**303.9 MMTEVe**

EPA received a comment that providing draft baselines that are subject to change in the final rule deprives commenters of the ability to comment on the actual baseline. EPA disagrees. EPA provided the best data available to the Agency at the time of proposal. After further analysis EPA finds that these values have increased by approximately 8 MMTEVe and 5 MMTEVe, respectively. This is a 2.3 percent and 2.0 percent increase and is substantively similar to the proposed value for commenters to consider. While EPA acknowledges that the exact baseline figures were not identified at the proposal stage, EPA did provide sufficient information regarding the methodology to be used to reach a final baseline figure, and commenters were able to provide comment on this methodology. EPA provided notice of the steps the Agency would take to collect data to further inform the baseline calculation, including highlighting known data gaps in the numbers provided at proposal. Commenters were also given notice of the calculation

methodology EPA would use to determine the production and consumption baselines given that the formulas are provided for in the statute.

Another commenter stated that the GHGRP data are heavily flawed and result in a "possibly significant" undercount of imports because they exempt from reporting companies that import below a 25,000 $MTCO_2e$ threshold. EPA acknowledges this difference between data available through GHGRP and data needed to inform the baseline calculations under AIM. The Agency noted this difference in the NODA and in the proposed rule. EPA has made best efforts to identify non-reporters to the GHGRP. EPA analyzed import data from Customs reported through the Automated Commercial Environment/International Trade Data System (ACE/ITDS), which has no minimum threshold for reporting, to identify potential HFC importers and then contacted them by email and certified letter. As a result, additional companies reported production and consumption data for the first time and EPA has included all verified data from these efforts into the baseline calculation. The commenter did not identify an alternate dataset or suggest another means of establishing the baselines.

VII. How is EPA Establishing Allowances?

This section provides an overview of the system for providing HFC production and consumption allowances and EPA's methodology for issuing allowances. The AIM Act in subsection (e)(3) requires EPA to phase down production and consumption of regulated substances in the United States through an allowance allocation and trading program. In contrast to the significant detail provided in the AIM Act on how to establish production and consumption baselines and the required set percentage reductions in specific years from that

baseline, the AIM Act provides EPA considerable discretion in determining how to establish the allowance program and how to allocate allowances in that program.

A. What is an Allowance?

Subsection (e)(2)(D)(ii) of the AIM Act specifies that an allowance allocated by EPA under the AIM Act is a limited authorization for the production or consumption of a regulated substance and does not constitute a property right. As proposed, the Agency will issue allowances that are valid between January 1 and December 31 of a given year, also known as a "calendar-year allowance." A calendar-year allowance represents the privilege granted to a company to produce or import regulated substances in that year. Unused calendar-year allowances cannot be used in a subsequent year.

EPA is establishing three types of allowances: production allowances, consumption allowances, and "application-specific allowances" for six uses specified in the Act. Producing HFCs will require expending both production allowances and consumption allowances, since production is a component of the AIM Act definition of what comprises consumption. This design helps EPA ensure that both the production and consumption caps from the AIM Act will be met through the allowances allocated. Importing HFCs will require expending only consumption allowances. This framework matches EPA's practice from the ODS phaseout and accordingly is familiar to many producers and importers of HFCs. As discussed later, "application-specific allowances" are a third category of allowances that can be expended to either produce or import HFCs.

EPA is finalizing the proposal that allowances issued under the AIM Act be exchange value-weighted. This will help EPA align the baseline (which Congress directed be calculated in

exchange value terms) with the allowances available for allocation under the statutory phasedown schedule. It also maintains flexibility for a producer or importer to select the appropriate regulated substance for their business since allowances will be allocated in and transferred on an exchange value-weighted basis, as opposed to being specific to a chemical. This allows entities to efficiently distribute allowances as the market needs and may encourage transitions into regulated substances with lower exchange values earlier than would happen under the statutory schedule, which could lead to greater environmental and health benefits. Multiple commenters expressed support for allowances being EVe-weighted and agreed with EPA's basis for noting that this provides flexibility and aligns with the EVe-weighted baseline. One commenter asked that EPA consider using the 20-year GWP value for HFCs in addition to the 100-year value to better address the near-term harm caused by HFCs. The AIM Act directs the Agency to use the exchange values provided in the Act to calculate the baseline from which the statutory phasedown is calculated. In order to ensure that allowances are allocated in an amount permissible under the statutory phasedown schedule, EPA has determined it is reasonable and necessary to rely on the exchange values provided in the AIM Act.

EPA is finalizing its proposal that one allowance is equal to one MTEVe. To determine the total number of allowances needed, producers and importers must multiply the quantity of the HFC they seek to produce or import by its exchange value. For example, an importer would need to expend 143 consumption allowances to import 100 kilograms of HFC-134a. Given the variation in exchange values, one would need to expend between 5.3 allowances to produce 100 kg of HFC-152 and 1,480 allowances to produce 100 kg of HFC-23. As demonstrated in this example, allowances are to be expended down to the tenth, with any necessary rounding after

calculating the total. If any production or consumption occurs, that does not fall under a permitted exception, a person must expend at least 0.1 allowances. As proposed, EPA is adopting the table of regulated substances and their corresponding exchange values provided in section (c) of the AIM Act into appendix A to 40 CFR part 84.

EPA notes that the exchange values listed in the AIM Act for each regulated HFC, and for the CFCs and HCFCs used in the baseline calculations, are numerically identical to the 100-year GWPs of each substance, as given in the Errata to Table 2.14 of the IPCC's Fourth Assessment Report (AR4)[45] and Annexes A, C, and F of the Montreal Protocol. In practical terms, producers, importers, and exporters would be able to use the AR4 GWP of a blend that contains only regulated HFCs in determining the amount of allowances necessary to produce or import that blend, or more precisely, the regulated HFC components contained in the blend. If a blend contains components that are not listed as a regulated substance, only the components of the blend that are regulated HFCs are included in determining the amount of allowances necessary to import that blend in EVe weight. As a result, allowances required to be expended would be lower than the CO_2e value for blends that are not limited to regulated substances.

Another commenter suggested that an allowance be based on multiple factors including its GWP, global temperature potential, market prevalence, and whether or not a viable alternative exists for the type of HFC in question. The allowance system established in this rulemaking is for purposes of executing the Congressionally mandated phasedown schedule, which is based in exchange-value weighted terms. It is therefore reasonable to base allowances on exchange value.

[45] IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Available at *https://www.ipcc.ch/report/ar4/wg1*

If other factors were taken into account in determining allowances, that would not ensure EPA is meeting the Congressionally mandated phasedown schedule. In practice, the commenter's approach would also be unworkable since it would require a chemical-specific and use-specific allocation. The Agency could not determine how all allowances would be used prior to issuing them. EPA notes, however, that there are other provisions under the AIM Act where prevalence of viable alternatives may be relevant, and so factors such as those cited by the commenter may be relevant in future Agency rulemakings.

Unlike the approach taken under the CAA to phase out ODS, EPA's proposed approach to determine allowance allocations does not rely on the creation of company-specific baseline allowances. Under the ODS phaseout, baseline allowances were revisited periodically and updated based on transfers between companies. Baseline allowances effectively became "permanent" and had value across control periods. Companies that stopped producing ODS had the ability to continue receiving allowances annually until the phaseout date, or could sell their market share to another company by transferring their baseline and/or calendar-year allowances. Under the AIM Act, EPA proposed to only issue calendar-year allowances, which are only usable in the year they are issued, without the system of baseline allowances. This approach provides flexibility in the future to adjust approaches, such as the allocation for 2024. Rather than being tied to a fixed amount in the past, this approach allows EPA to react to a dynamic marketplace associated with a phasedown as opposed to a phaseout.

As discussed, an allowance is a limited authorization for the production or consumption of a regulated substance. Typically, an allowance is expended upon the creation or import of a regulated substance. However, the AIM Act provides certain exceptions to that general rule.

Producing or importing HFCs that will be used and entirely consumed (except for trace quantities) in the manufacture of another chemical (i.e., for use as a feedstock, which is also known as transformation) does not require expending production or consumption allowances. In general, such HFCs are exempted from the term "produce" under subsection (b) of the AIM Act. However, HFCs intended to be used for transformation are regulated substances and thus certain provisions, such as recordkeeping and reporting, apply to them to verify that they are in fact transformed. The few commenters who spoke to this issue were supportive of this proposal.

The definition of "produce" in the AIM Act and as finalized in this rulemaking explicitly excludes the reclamation, reuse, or recycling of a regulated substance. Because the definition of "consumption" includes production, EPA is not including the amounts of domestically reclaimed HFCs for calculating the yearly production or consumption limits. The AIM Act does not exempt HFCs that have been reclaimed or otherwise reprocessed from consideration when determining the volume of HFCs imported into the United States. EPA is therefore requiring consumption allowances for the import of reclaimed HFCs, unless the reclaimed HFCs are being imported solely for the purpose of destruction. In that situation, if the imported reclaimed HFCs were counted toward consumption, it would be subtracted back out when destroyed. In this circumstance, it seems appropriate to simply permit reclaimed HFCs to be imported solely for purposes of destruction without expenditure of an allowance, assuming it can be reasonably demonstrated that the HFC will in fact be destroyed. Related recordkeeping and reporting requirements are found in §84.31. There is further discussion of the process to import used HFCs for destruction in Section IX.E of this preamble.

Producers of HFCs do not need to expend production or consumption allowances if the HFCs are destroyed in a timely manner using an approved technology. This approach is consistent with the definition of "produce" in the AIM Act, which excludes "the destruction of a regulated substance by a technology approved by the Administrator." HFCs that are domestically produced but are intended for destruction are regulated substances and thus certain provisions, such as recordkeeping and reporting, apply to them to verify that they are in fact destroyed. If a company intends to utilize onsite destruction capability, the company does not need to expend allowances for the HFC production if the HFCs are destroyed within 30 days of being generated. If a company intends to utilize offsite destruction capability, EPA is finalizing that the company need not expend allowances for the HFC production if the HFCs are destroyed within 120 days of being generated, which is 30 days longer than the proposed 90 days. These timelines seem achievable as a practical matter while being short enough to avoid potential malfeasance that could occur over an elongated time horizon.

One commenter argued that the timeline for destruction should begin when the company has a sufficient "batch" of chemicals to run through a destruction process. According to the commenter, the clock should run after such a "batch" was collected and then a company would have 90 days to destroy that batch offsite before triggering the requirement to expend allowances for such chemicals. EPA is not adopting this suggestion in the final rule because the triggering event is the production of the regulated substance which would otherwise require the expenditure of an allowance. Also, finalizing a timeline that runs off development of a "batch" as the commenter suggests seems functionally unenforceable given the lack of clarity around when chemicals would be sufficiently "batched." However, EPA acknowledges that the proposed

required timeline for offsite destruction may have been short, so as noted previously, is extending that time period from 90 to 120 days running from the time the regulated substance is created in this final rule.

As discussed in Section V, EPA is excluding from production "Insignificant quantities of a regulated substance inadvertently or coincidentally generated from any of the following, independent circumstances: during a chemical manufacturing process, resulting from unreacted feedstock, from the listed substance's use as a process agent present as a trace quantity in the chemical substance being manufactured, as an unintended byproduct of research and development applications, or during semiconductor manufacturing processes." Any other regulated substances created during the manufacturing process, either in quantities that are not insignificant or outside of the listed circumstances, *would* be considered "production" and would require expenditure of production and consumption allowances unless destroyed in a timely manner (there are additional restrictions related to HFC-23, as discussed further in Section VIII.C). This provision is intended to ensure that the regulated substances identified under the AIM Act are appropriately controlled and their production and consumption are reduced under the schedule required by Congress. Whether the regulated substance is inadvertently created through the chemical manufacturing process does not seem to be relevant to Congress's directive to phase down regulated substances on the statutorily defined schedule. EPA did not receive adverse comments on this proposed approach, except for the question regarding semiconductor manufacturing facilities, which the Agency addresses in Section V.

B. How is EPA Determining Allowance Allocations?

1. Which Years is EPA Issuing Allowances for?

As proposed, EPA intends to issue allowances for 2022 according to the framework and procedure established through this rulemaking by October 1, 2021. Likewise, EPA intends to issue 2023 allowances by October 1, 2022.[46] EPA is establishing the allocation allowance framework for these two years and intends to undertake a subsequent rulemaking to govern allocations for calendar years 2024 and beyond.

Multiple commenters supported the Agency's plan to quickly establish an allowance allocation and trading program for the near term while further developing a longer-term program. Phasing down regulated substances as required under the AIM Act may have different implications for stakeholders than the Agency's past experience with phasing out ODS. EPA intends to better understand and respond to those differences by seeking input from stakeholders and developing another rule that may alter the approach and procedure for allowance allocations finalized in this rule, if necessary. However, to do so requires more time than the 270 days provided by the AIM Act. Furthermore, additional analysis of the market—as well as the effects of implementing other provisions of the AIM Act—may be necessary before issuing allowances for the 2024 stepdown, when the number of allowances will decrease from 90 percent of baseline to 60 percent of baseline.

Some commenters requested that the Agency issue allowances for 2022 and 2023 at the same time, rather than allocating on an annual basis. Commenters stated that this would increase certainty and improve business planning, something that commenters claim is challenging if only given a three month lead time. Some commenters recognized that EPA will need to adjust the

[46] The exception to this general statement is that EPA intends to issue both 2022 and 2023 allowances from the set-aside pool to new entrants by October 1, 2021, in accordance with the process described in Section VII.E of the preamble.

allocations given updates to the application-specific allowance amounts for 2023. Those commenters encouraged EPA to issue the general pool of 2023 allowances now and adjust later in 2022 to account for any changes.

EPA responds that it does not intend to issue 2023 allowances (other than to new market entrants as discussed in Section VII.E on set-asides) in 2021. As discussed further in this section, the applications identified in AIM Act subsection (e)(4)(B)(iv) must be provided the level of allowances "necessary" to meet their market demands, so application-specific allowance holders are given priority access to the pool of available allowances. Until EPA can determine the number of application-specific allowances needed by the statutorily identified end users for 2023, it cannot know how many allowances remain from within the cap for general allowances. As a result, EPA intends to only allocate 2022 allowances on October 1, 2021, and subsequently provide individual company allocations in 2022 after determining the general pool of available allowances for 2023. EPA understands commenters' desire for more certainty and business planning lead time, but EPA is finalizing the structure that is best to meet the Congressional directive of providing application-specific allowance holders their necessary level of allowances from within the same cap on allowances overall. With respect to one commenter's suggestion to allocate allowances for 2023 on October 1, 2021, and make adjustments in 2022 if needed, EPA responds that the interests of certainty and planning are not well served by issuing allowances now and then modifying them next year. However, as discussed in the next section, EPA is establishing a methodology to govern calculation of allocation levels that will remain the same for 2022 and 2023 for general pool allowances. Therefore, allowance holders in this general pool can expect that their percentage share of the general pool of allowances will be approximately

the same for 2022 and 2023.[47] With general pool allowance holders' percentage share staying close to the same for 2022 and 2023, the only differing factor will be how much of the total available allocation is available after accounting for application-specific allowances. The amount of allowances allocated for application-specific end uses in 2023 is unknown at this time. However, application-specific allowances represent less than 3 percent of total allowances, thus changes to application-specific allowances are not expected to have a significant impact on the amount of general pool allowances available.

2. Which Companies is EPA Issuing Allowances to?

EPA proposed to issue allowances to companies that produced or imported HFCs in 2017, 2018, and/or 2019. EPA proposed to require that a company remain active in 2020 to be eligible to receive an allowance allocation from the Agency, but also noted that the Agency would be willing to consider individual circumstances. Considerations for determining who should receive allowances in this initial rulemaking include providing as seamless a transition as possible to a regime where allowances are needed to produce and import HFCs, promoting equity, timeliness of implementation, and availability of robust data. EPA is finalizing the proposal to issue allowances to active HFC producers and importers operating in 2020, but will also give individualized consideration to circumstances of historical importers that were not active in 2020. EPA is also creating a mechanism under which new market entrants can apply to the Agency for consumption allowances. EPA has determined that such a system balances the

[47] There may be a small adjustment between 2022 and 2023 to account for companies that were historical importers that are not required to report to GHGRP and that did not provide data in time for an allocation from the general pool for 2022. These companies are eligible for allowances under the set-aside, and would be added to the general pool in 2023 based on the same criteria as other historical importers. However, any such companies are anticipated to be small given the reporting thresholds provided in the GHGRP.

Agency's objectives of a smooth market transition while also not creating undue barriers to market entry for potential new participants.

Production allowances. EPA is issuing allowances to companies that produced HFCs in the United States in 2020. Since issuing the proposed rule, one additional company provided information documenting that it was a historical producer of HFCs.

Consumption allowances. EPA is generally allocating consumption allowances only to companies that produced or imported in 2020, even if they were active in prior years, to ensure that allowance holders are active in the HFC market. Except for the unique individual circumstances explained below, allocating consumption allowances to companies no longer producing or importing would be at the expense of companies that are still actively invested in HFC production and import. EPA stated in the proposal that the Agency would generally presume the business exited the production and/or import market if it did not actively produce or import in 2020. The proposal did note that EPA would undertake individual consideration of a company's inactivity, for example if it was due to the COVID-19 pandemic. Such companies would need to provide documentation to justify such inactivity and any other relevant information no later than the end of the comment period. EPA did receive requests for special consideration from certain companies.

EPA recognizes that some importers may not be aware of Congress's legislative activity in this area. EPA has undertaken best efforts to develop a comprehensive universe of importers for purposes of allowance allocation. The proposal was based on data available through the GHGRP; the February 11, 2021 NODA; stakeholder outreach meetings; outreach to trade associations that can inform their members; and direct communication with companies that EPA

suspects may have imported in relevant years that are not captured in the Agency's data sources. EPA continued to follow up with companies that may be eligible for allowances after proposal. EPA is issuing allowances to importers listed in the proposed rule, as well as importers that provided data that were sufficiently verifiable, for example through import records to EPA such as Customs forms or bills of lading. Additionally, as described further in Section VII.E, EPA will allow historical importers not yet identified or verified by the Agency to come in to request allowances based on their historical market activity if they were not previously required to report to the GHGRP.

EPA proposed to issue allowances at the parent company level if multiple companies that imported HFCs are controlled or owned by the same corporate entity. The proposed rationale for doing so is that it is administratively easier to implement and it improves transparency in the market. Commenters were generally in support of this proposal, with the exception of some application-specific allowance holders, which EPA will discuss in Section VII.C of this notice. One comment in support noted that it provides flexibility for retailers to address shifting needs and consumer demands across several brands, facilities, and locations. Another company recommended that "parent" company should be defined to be broader than simply ownership to determine if companies are related (e.g., include management, employees, relatives). A few commenters suggested that companies that are under common control, but are not subsidiaries of a corporate parent, should be issued allowances together. EPA responds that for purposes of determining the quantity of past imports, EPA is treating all companies majority owned and/or controlled by the same individual(s) as a single company, even if there is no corporate parent. EPA does not agree with the comment that EPA should collect or analyze personally identifiable

information to the scale that the commenter suggests. Data on the complete ownership of the company, including co-owners, is sufficient and is the type of information that corporate owners have a reasonable expectation may be requested.

Most commenters agreed with EPA's proposal to issue allowances to companies that have historical production and consumption data and were active in 2020. Some commenters noted that this will fairly include small to medium sized businesses that have recently entered or innovated within the market. Commenters agreed with EPA's focus on more recent years of data, such as basing qualification on being active at some point in 2017–2019 as well as being active in 2020, and stated that issuing allowances only to companies operating in 2011–2013 would exclude current market participants and not be reflective of current market conditions. Commenters provided examples of this concern. One commenter stated that users of HFCs for niche, non-refrigerant uses would be harmed if the current distribution system were interrupted. Another commenter noted that it would harm the current air conditioning aftermarket and distributors supported by that business.

A few commenters disagreed that importing in 2020 should be the sole metric in determining whether a company is currently participating in the market. Three companies provided information about their operations in 2020 and requested EPA to consider them as existing market participants that qualify for the general pool of consumption allowances.

EPA agrees with commenters that issuing allowances to active companies best maintains the current distribution architecture. Recognizing the unique nature of 2020, with economic disruptions caused by a global pandemic, EPA is issuing allowances to companies that did not

import in 2020, but provided documentation showing that they were still active, either by selling or purchasing HFCs domestically in 2020.

3. What is EPA's Framework for Determining How Many Allowances Each Company Receives?

This section discusses how EPA will determine how many allowances each company will receive from the general allocation pool. EPA proposed that the amount of allowances issued to each producer and importer be based on a company's highest year of production or consumption, on an EVe basis, in 2017–2019. EPA also took comment on using data from 2011–2013 or some other combination of years, including all years, between 2011 and 2019. Under the proposal, EPA would sum together every company's highest year amount(s), determine a percentage share for each company, and multiply each company's percentage by the total amount of available calendar-year allowances. EPA also requested comment on whether the Agency should consider individualized circumstances to take into account a company's 2020 data for determining allowances for companies that have newly entered the HFC import market, for example a company that entered the market or acquired another company late in 2019.

Most commenters supported using production and consumption data either from 2017–2019 or the full range of years from 2011–2019. Commenters favoring 2017–2019 assert that these years provide the most accurate reflection of current production, consumption, and use of HFCs. These commenters argue the HFC market has shifted significantly since 2011. A few commenters recommended that EPA also include 2020 data as it best represents the present refrigerant market. One commenter stated that 2016 is an appropriate end-point for determining the representative picture of the market as this is before anti-dumping and countervailing duty (AD/CVD) decisions by the Department of Commerce (DOC) and International Trade

Commission (ITC) (see the memo to the docket discussing these duties) and before the Kigali Amendment was agreed. Many commenters suggested that EPA consider favoring 2011–2019 because they assert that 2017–2019 period does not fairly consider longstanding market participants. Some commenters stated that considering a larger range of years is more equitable by ensuring participants are not harmed by market manipulation.

EPA has considered all the comments received, which had a broad range of recommended approaches. EPA has determined to base allowance allocations on data from the entire period from 2011–2019. However, since we are pulling data from such a wide range of years, EPA has determined it is appropriate to average a company's three highest years of data (not necessarily consecutive), as opposed to going with a single high year. Commenters that supported this approach of using the full 2011–2019 time period argued that it is more accurate, equitable, and inclusive, and the Agency agrees. Using an average of the three highest years during the 2011–2019 period incorporates consideration of both industry history and ongoing growth and market change. EPA has determined that using the full range of years allows a balancing of using the most current data, which generally provide the most accurate information on the current market to provide for less market disruption, while also incorporating data from earlier years to account for changes in market behavior (e.g., actively commercializing alternatives to high-GWP HFCs) that took place earlier in the transition as a result of the global agreement to the Kigali Amendment or other countries enacting HFC phasedown regulations. More recent years also include orders issued by the DOC concerning anti-dumping and countervailing duties (see the memo to the docket discussing these duties). Such orders could be evidence that the overall market reflects some degree of unfair trade by foreign exporters.

Bringing in consideration from earlier years will bring to bear a wider array of data to inform allocations.

EPA is not including 2020 data in its analysis because the Agency had not completed its regular quality assurance review of 2020 data reported to the GHGRP early enough in the process for consideration in this final rule. As explained in other sections, EPA is relying largely on data reported to GHGRP in this initial rule and in the initial allocation given that companies have not yet been reporting to EPA under the AIM Act. Typically, EPA releases GHGRP data in October for the prior year, which is after the analysis for this rule must be finalized.

EPA recognizes that there is no single year that is "better" for all market participants. There is no year in which a forward-looking company may not have been stockpiling in preparation for a restriction on HFCs or new duties that were imposed by the DOC. Though countries agreed to the Kigali Amendment in 2016, efforts to amend the Montreal Protocol took the better part of a decade. As such, taking an average of a wider range of years is more equitable to all companies in the market. Each company receives its "best" years regardless of actions taken by other companies.

One commenter noted that the production and consumption baselines years specified under the AIM Act, 2011–2013, were at a time when a greater proportion of what American producers made was exported compared with today. Larger exports mean their total consumption is lower, as those exports are subtracted from production. The commenter states that distributing allowances based on the high year between 2017 and 2019, when consumption is higher because producers' exports are lower, would accentuate the discrepancy between total amounts of production and consumption allowances and result in stranded production allowances or the need

for producers to purchase additional consumption allowances. As EPA stated in the proposed rule, the discrepancy between the production and consumption baselines is due to producers exporting HFCs. Whenever this happens, there will be a discrepancy between production and consumption. However, EPA agrees with the commenter that basing the allowance allocation on years when the import market was larger will further reduce consumption allowances for producers. Using a longer period of years and averaging the highest three years (not necessarily consecutive) during that time addresses the commenter's concern, in part. For this and other reasons discussed in this section, EPA is not basing the allocation on the high year between 2017 and 2019.

One commenter stated that even if EPA expanded its allocation methodology to consider data from multiple years, it would still fail to account for market fluctuations if the Agency ultimately based the allocation on only a single high year of data because doing so would maximize the impact of market aberrations such as a large single-year client or other one-off business opportunities. The commenter recommended using the average of multiple years to more fairly account for fluctuations.

One commenter did not support averaging a small number of years and preferred using the high-water mark year. The commenter stated that this approach better accounts for companies with inconsistent import activities from year to year, which are typically smaller businesses. Additionally, the commenter stated that averaging across all of 2011–2019 would be problematic for companies that were not in the market in the early years.

As noted previously, when EPA was proposing to base allowance allocations from data from 2017–2019, the Agency proposed to choose the single high year. However, in light of the

Agency finalizing an approach that will consider data over a wider range of years that reach further back in time, EPA has determined it is appropriate to base allowance allocations on the average of a company's three highest years. This allows for more evening out of fluctuations in the market and avoids the possibility of a company receiving a large share of allocations based on a single very high year that occurred several years in the past. One commenter noted concern that small importing businesses can have inconsistent business year to year; the approach EPA is finalizing to average three years of data, as opposed to averaging every year over the 2011–2019 timeframe, absolves this concern. Averaging a firm's highest three years over a longer time period is an equitable approach, avoiding crediting a single extraneous high year but also not requiring averaging of every year for small importers that may have inconsistent business. It also incorporates consideration of the market before Congress was considering legislation to regulate this industry and prior to the Kigali Amendment. Averaging softens the effects of outlier years where a company may have imported extra to avoid duties, to build stockpile, or to address a one-off large order or series of orders from customers. If a company does not have three years of data, EPA will take the average of the years between 2011 and 2019 for which the company produced or imported HFCs, assuming the company was active in 2020 or has applied for and received special consideration.

EPA requested comment on whether the Agency should be calculating historical production and import data on a total EVe-weighted basis or as a percentage of market share. EPA received comments in support of both approaches. Companies favoring market share noted it was an effective way to scale quantities produced and consumed in a year, while those opposed argued that using market share would provide undue extra weight to production and consumption

that happened in a year where there was less overall production and consumption. Those in favor of using an EVe quantity noted this represented the actual EVe quantity of HFCs imported and would align better with that company's actual production and consumption. EPA compared the effect of selecting either approach and found that the differences between the two were minimal. EPA is finalizing an approach that allocates based on the reported EVe-weighted amount as it more closely reflects an individual company's participation in the market. EPA's overall approach to allocating allowances from the general pool is to reflect activity in the market and to minimize market disruption beyond what is inherently required to meet the Congressionally mandated phasedown. Using EVe-weighted amount best accomplishes this since it reflects actual volumes of regulated substances in the market, as opposed to market share which is not as directly connected.

Some commenters insisted that EPA correct historical market disruption through the allowance allocation program by using certain years of data or excluding specific companies. In brief, commenters urged EPA not to reward alleged anti-competitive behavior by issuing allowances based on that behavior. EPA responds that the Agency is not weighing in on unproven allegations nor is the Agency adjusting production or consumption allowances for the benefit or detriment of any particular company. EPA reiterates that considerations for determining who should receive allowances includes providing as seamless a transition as possible to a regime where allowances are needed to produce and import HFCs, promoting equity, timeliness of implementation, and availability of robust data. EPA declines to issue allowances only to market participants in 2011–2013. As stated in the proposed rule, excluding all newcomers based on the actions of a few would penalize all recent market entrants. An

attempt to reset the market to 2013 would also disrupt all existing market relationships for HFCs from the importer down the supply chain.

Given the longer timeframe of years, information reported to EPA indicate some companies that historically produced or imported HFCs have changed name or ownership. EPA is clarifying that for purposes of allocating allowances, if a company (Company A) purchased another company (Company B) or a portion of a company (e.g., the refrigerants business unit of a larger company), the current owner of the business (Company A) would receive allowances based on its own past production and consumption, and the production and consumption of the acquired company (Company B). EPA has experience with similar situations under the ODS phaseout. EPA also notes here the opposite situation where a company spins off a business unit and that unit retains the allowances. EPA has treated such circumstances as a change in company ownership, name, and/or structure. The company would need to provide a formal request to EPA on company letterhead explaining the change, certifying that the new business entity is no longer under the same parent company or common ownership, and providing the name of the business unit that would retain the allowances, along with contact information for the new representative at the company.

Consistent with the definition of "Produce," EPA is issuing production allowances based on the total EVe quantity produced minus amounts for transformation minus amounts destroyed. Consumption allowances are determined for each company based on the EVe quantity of HFCs they produced (subtracting out transformation and destruction) plus the amount they imported (excluding the amount imported for transformation or destruction) minus the amount exported. As such, companies producing and then exporting HFCs have more production allowances than

consumption allowances, assuming the company did not import more HFCs than it exported. Overall, this approach results in more production allowances than consumption allowances, given the quantity of exports during the baseline years.

4. What is EPA's Framework for Issuing Allowances?

This section contains EPA's formula for determining the amount of production and consumption allowances to be issued to each producer and importer. EPA is finalizing as proposed the calculation as a whole but is modifying step three for the reasons discussed in the prior section of this preamble.

First, EPA will multiply the United States production and consumption baselines by the current phasedown step in subsection (e)(2)(C) of the AIM Act. EPA is codifying the phasedown steps shown in the table in (e)(2)(C) into the regulations at §84.7, as proposed. For 2022 and 2023, total production and consumption cannot exceed 90 percent of baseline. Thus, EPA is multiplying each baseline by 0.9 to determine the production and consumption caps for those years.

Second, before determining the quantity of allowances available to be issued from the general pool to each producer and importer, EPA must provide allowances for statutorily defined applications according to the AIM Act requirements in subsection (e)(4)(B)(iv). Subsection (e)(2)(D) of the AIM Act ensures that the total amount of allowances issued does not exceed the production and consumption caps, even including application-specific allowances.[48] Therefore,

[48] Under CAA title VI, essential use production and consumption allowances are for uses exempt from the ODS phaseout and are only available since the United States' production and consumption is zero. Therefore, the amounts allocated for essential uses are in addition to the amounts otherwise allocated (i.e., zero). By contrast, under the AIM Act, application-specific and essential use allocations are not exemptions from the cap but rather receive priority within the cap.

the pool of available calendar-year allowances must be determined after the amounts for uses in subsection (e)(4)(B)(iv) are determined. These calculations are conducted by EPA to protect company claims of CBI on previously reported data. EPA intends to issue allowances to individual companies for 2022 and release information on the amount of allowances allocated to each company publicly by October 1, 2021. For 2022 and 2023, EPA also proposed and is finalizing a set-aside of allowances. EPA is setting aside 7.5 MMTEVe (see Section VII.E for a fuller discussion). The remainder is the general allowance pool for that year.

Third, EPA will determine the average of each eligible company's three highest EV-weighted annual production and consumption amounts between 2011 and 2019. EPA will then divide each company's average by the sum of all companies' averages to determine each company's share of the allowances in the general pool.

Fourth, EPA will multiply each producer's or importer's share by the general allowance pool to determine each company's calendar year production and/or consumption allocation amounts. EPA is issuing allowances in to the tenth of an MTEVe.

Lastly, EPA will then issue by October 1st the list of companies receiving production and/or consumption allowances and application-specific allowances as well as the quantities of allowances each company received in the initial distribution. For 2022 calendar-year allowances, EPA intends to also issue allowances from the set-aside pool (see Section VII.E of the preamble) by March 31, 2022, and distribute pro rata any unused allowances from the set-aside to the companies in the general pool at the same time.

5. What Process is EPA Using to Respond to Requests for Additional Consumption Allowances?

EPA proposed a process in §84.17 to allow a person to obtain consumption allowances equivalent to the quantity of newly produced ("virgin") regulated substances exported by that person, provided that the substances were originally produced or imported with consumption allowances in the same calendar year. Given that the AIM Act subtracts exports in the definition of "consumption" under subsection (b)(3), it is consistent with the Act to refund consumption allowances that were expended to import or produce regulated substances if those regulated substances were later exported from the country.

One commenter requested that EPA provide a timeframe by which the Agency must respond to a "request for additional consumption allowances" (RACA). The commenter noted that EPA proposed timeframes for many other petition requirements. EPA agrees that establishing a schedule on the length of time needed to either grant or deny a RACA request is reasonable and provides some element of certainty to the requestor. Based on timeframes needed to respond to RACAs for ODS, EPA is establishing a 15 working day nominal timeline for the Agency to grant or deny a request.

One commenter disagreed with the requirement that the allowances for production or import must be in the same calendar year as the RACA. Further they requested that EPA allow producers and importers to net out their exports annually rather than periodically request a refund. EPA agrees that documenting that the production or import of the subsequently exported HFCs all occurred in the same calendar year is unnecessary. Such a requirement would hinder exports in the early part of the year as the HFCs would first have to have been produced or imported. EPA recognizes through managing the ODS phaseout that exports occur all year and what matters from the perspective of requesting an additional consumption allowance is when

the export occurs, not the production or import. EPA is maintaining the requirement that both the export and the RACA occur in the same year and that any refunded allowances must also be expended in that same calendar year. This is necessary to ensure that the statutorily defined production and consumption reduction targets are met each year.

The exporter must submit certain information for EPA's review to verify that the regulated substances were in fact exported. This information includes: (i) the identities and addresses of the exporter and the recipient of the exports; (ii) the quantity (in kilograms) and names of regulated substances exported; (iii) the source of the regulated substances and the date purchased; (iv) the date on which, and the port from which, the regulated substances were exported from the United States or its territories; (v) the country to which the regulated substances were exported; and (vi) a copy of the bill of lading and the invoice indicating the net quantity (in kilograms) of regulated substances shipped and documenting the sale of the regulated substances to the purchaser. The full list of required information in a RACA can be found at §84.17.

C. What is the Process for Issuing Application-specific Allowances?

This section discusses how EPA will implement subsection (e)(4)(B)(iv) of the AIM Act, which directs the Administrator to allocate allowances necessary to meet HFC demand for six specified end uses, or "applications." The Act directs EPA to issue "the full quantity of allowances necessary, based on projected, current, and historical trends." The Act also includes a limitation on application-specific allowances in subsection (e)(4)(B)(iii). This provision reinforces the requirement in subsection (e)(2)(A) that a person receiving an allocation may not produce or consume a quantity of regulated substances that exceeds the number of allowances

held by them. Further, (e)(4)(B)(iii) reinforces that application-specific allowances are to be part of the annual production and consumption caps. (See subsection (e)(2)(B))

To carry out this statutory direction, EPA is creating, as proposed, a category of allowances called "application-specific allowances" that can be expended to either produce or import HFCs. These allowances may be used for either produced or imported HFCs because end users in the statutorily identified applications may not know in advance how they will procure HFCs, and this method provides flexibility to ensure that end users receive the "full quantity of allowances necessary." To ensure that these application-specific allowances are provided from within the overall annual production and consumption caps, EPA is subtracting the amount of application-specific allowances allocated from both the production and consumption general allowance pools as discussed previously.

As part of the docket to the NODA that preceded this rule, EPA released reports characterizing the Agency's understanding of the market for five of the six applications (86 FR 9059; February 11, 2021). EPA updated the reports for the proposed rule and provided data on projected, current, and historical trends for the use of HFCs in each application. They provide an overview of the applications (other than mission-critical military end uses) and EPA has again updated them to incorporate comments received on the proposal. The most recent versions are in the docket for this final rule.

1. Who is EPA Issuing Application-specific Allowances to?

The Act does not specify who should be issued application-specific allowances, so the Agency considered allocating either directly to the entity manufacturing the product listed in the application (end user) or to the producer or importer who supplies the bulk HFC to that entity.

EPA proposed to issue application-specific allowances to the end user of the HFC who is manufacturing the product listed in subsection (e)(4)(B)(iv) of the Act or the DOD, in the case of mission-critical military end uses.

Commenters were generally in support of allocating allowances directly to the end user, with some commenters agreeing with EPA's rationale that doing so would allow end users the flexibility to change suppliers when necessary. Some commenters disagreed with this proposal and suggested that EPA instead allocate to the HFC producer, with one arguing this would be consistent with the rest of the proposed rule. This commenter expressed concern that allocating to the end user would result in end users importing HFCs directly from manufacturers outside of the United States and that this would negatively affect domestic manufacturing, could slow growth of the semiconductor industry due to difficulty in new facilities receiving raw materials, and would be challenging for EPA to obtain a complete list of end users (as compared to obtaining information from the few HFC producers), which may result in EPA being unable to provide sufficient allocations.

EPA is finalizing the proposed approach of allocating application-specific allowances to the end users in the statutorily listed sectors. EPA has experience under the essential use exemption, as implemented under title VI of the CAA, with issuing allowances directly to end users. In that instance, EPA issued essential use allowances directly to MDI manufacturers, for example, who then conferred those allowances to a company for the production or import of a specified regulated substance. One advantage of this system was that it ensured that those companies manufacturing MDIs had the allowances needed and they could choose which producer or importer they would confer their allowances to. This allowed the MDI manufacturers

to make a competitive choice in a more open market for the material and price best suited to their needs, or import the material directly themselves. Another advantage was that it helped to ensure that the allowances would be expended only for an essential use.

Congress's expressed intent is to provide entities operating in these sectors with the regulated substances "necessary." EPA can best meet this intent by allocating directly to the end user and providing them the flexibility to determine the best source of HFCs for their application and flexibility to switch suppliers. End users should also be the best positioned to estimate projected future needs for their company, and therefore EPA will work with end users in determining allocation levels to provide necessary levels of regulated substances. There is nothing in the statute to suggest that these end users should be encouraged to obtain domestically manufactured HFCs, just that EPA ensure they were able to access "necessary" amounts of regulated substances.

EPA is also addressing comments on streamlining the process of conferring allowances to decrease disruption to the current supply chain, regardless of whether the HFCs used in these applications are currently produced or imported.

EPA has modified the definition of "confer" in recognition that there may be multiple steps in the supply chain between the producer or importer and the end user issued the allowances. Allowances may be re-conferred as needed through the chain. For conferrals of application-specific allowances, the conferrer must include a signed document from the conferee certifying that HFCs produced or imported with these allowances will only be conferred for the same application they were initially allocated for.

EPA notes the commenter's concern that the semiconductor industry could have difficulty receiving raw materials. However, several semiconductor manufacturers and industry associations representing semiconductors did not share this concern. In fact, some from the semiconductor manufacturing industry expressed support for EPA's approach of allocating directly to the end user. Most end users that commented on this point supported receiving the allowances directly.

EPA also notes a limited number of commenters' concern that EPA would experience challenges in obtaining a complete list of end users to provide sufficient allocations, but through stakeholder outreach, requests for information, and information provided historically to the GHGRP, EPA has been able to identify end users in the application-specific industries. EPA listed all identified end users for each of the applications listed in subsection (e)(4)(B)(iv) of the Act during the NODA and proposed rule stages. EPA also held five workshops on March 11–12, 2021, focusing on five of the six applications (not including mission-critical military end uses). In response to this proposal and continued outreach efforts, EPA received data from more than 30 entities that appear eligible and the DOD. EPA has reviewed the data and to the extent it has been verified intends to issue application-specific allowances for 2022 to eligible companies by October 1, 2021. Companies provided data indicating approximately 1–3 MMTEVe of HFCs were purchased annually for non-mission-critical military end uses between 2018 and 2020. EPA intends to issue allowances by October 1 to those companies. EPA expects there may be additional companies eligible for application-specific allowances. To the extent EPA has missed any end users, such entities would be eligible to seek allowances through the set-aside pool or procure HFCs through the open market similar to how they are acquiring HFCs now. EPA

intends to continue reaching out to companies that may be eligible and associations that may represent them.

Several commenters asked EPA to expand the scope of the applications for which EPA gives the "full quantity of allowances necessary." For MDIs, one commenter stated that the application of HFC use as a propellant in metered dose inhalers should be amended to encompass all medical devices. EPA is not accepting this recommendation. The statutory language in subsection (e)(4)(B)(iv) directs the Agency to provide necessary allowances for "exclusive use" as "a propellant in *metered dose inhalers*" (emphasis added). EPA notes that if the commenter believes there is another end use that should be eligible to receive allowance levels "necessary," there is a process by which entities can petition the Agency under (e)(4)(B)(ii).

As discussed in Section V, EPA is amending the final definition of "onboard aerospace fire suppression" to include some military aircraft because they may be built using commercial aircraft designs that are modified for military use or built to commercial specification and then modified for military use ("commercial derivatives"). In the situation of these commercial derivatives, it may be impractical to provide allowances that distinguish between military and civilian use. EPA acknowledges that under this approach, manufacture of military aircraft (and their onboard aerospace fire suppression systems) may be eligible for application-specific allowances from mission-critical allowances or the onboard aerospace fire suppression allowances. Where such overlap exists, EPA intends to only provide a single set of application-specific allowances necessary to cover manufacture of military aircraft, to prevent double-

allocating the "necessary" amount under both mission-critical and aerospace application-specific allowances.

For structural composite preformed polyurethane foam for marine use and trailer use, some commenters supported a broad and inclusive definition of trailer use but did not explain what that means in the context of this rule. For this application, EPA considers trailers to be refrigerated trailers for transportation of perishable goods, including either refrigerated intermodal containers transported on trailers or insulated cargo space designed with a refrigeration system in a truck or trailer-mounted system.

As noted previously in this section, EPA will allocate application-specific allowances to the end user. The end user generally refers to the entity manufacturing the product listed in the application, but this may look different for each application and is not limited to products. EPA is clarifying these entities here:

- Defense sprays: The end user is the entity manufacturing or contracting out the manufacturing of defense sprays. This would generally be the company filling the defense spray with an HFC propellant or paying another manufacturer to fill the defense spray on their behalf.
- Structural composite preformed polyurethane foam: The end user is an entity that manufactures structural composite preformed polyurethane foam for use in boats and trailers.
- Propellants in MDIs: The end user is the entity manufacturing or contracting out the manufacturing of MDIs using HFCs. This would generally be the company filling the

MDI with an HFC propellant or paying another manufacturer to fill the MDI on their behalf.

- Onboard fire suppression: The end user is the entity manufacturing, servicing, or paying someone else to perform servicing (whether it is in cash, credit, goods, or services) of onboard aerospace fire suppression equipment. This would include the company manufacturing a self-contained fire extinguisher, such as a handheld unit, or servicing, including testing and recharging, of such self-contained fire extinguishers, as well as the company filling the pressurized system cylinder that is an integral part of a total flooding fire suppression system, such as lavatory trash receptacle fire suppression systems, or the company servicing, including testing or recharging, of such system cylinders.[49]
- The etching of semiconductor material or wafers and the cleaning of chemical vapor deposition chambers within the semiconductor manufacturing sector: The end user is a semiconductor manufacturer that uses HFCs in the etching of semiconductor material (including cleaning of wafers) and the cleaning of chemical vapor deposition chambers within the semiconductor manufacturing sector.
- Mission-critical military end use: EPA is directly allocating application-specific allowances to the DOD for mission-critical military end uses.

2. How is EPA Addressing Transfers of Application-specific Allowances?

EPA is allowing limited transfer of application-specific allowances, as proposed. Specifically, end users within a specific application may transfer their allowances only with

[49] EPA notes that in the case of total flooding systems, the Agency is allocating to the company filling a specific type of bulk container (i.e., a pressurized fire suppression cylinder). These cylinders may be made by the same company making the rest of the fire suppression system used for onboard aerospace applications and are intended to be connected to the fire suppression system when fully assembled.

another end user that will use the application-specific allocation for that same application. These could be viewed as "intra-application transfers." EPA is prohibiting transfers with companies in other applications. EPA received many comments supporting the proposal to allow limited transfer of application-specific allowances only among end users within the same application and did not receive comments from those opposed.

Section (e)(4)(B)(iv) of the AIM Act states that application-specific allowances are provided "for the exclusive use" of HFCs "in an application solely for" those in the statutory list. These transfer provisions help to ensure that, after EPA allocates the full quantity of allowances necessary for each application, the full quantity remains available to fully supply that application and ensure that the application-specific allowances are being exclusively used solely for one of the six listed applications.

EPA is also prohibiting the transfer of application-specific allowances back into the larger market for production and consumption allowances, as proposed. The AIM Act specifies that the allocation is for the exclusive use of one of the listed applications. It follows that an application-specific allocation cannot be transferred to produce or import HFCs for a use that was not enumerated.

EPA is establishing similar restrictions to the sale of HFCs acquired by expending application-specific allowances, as proposed. HFCs produced or imported by expending application-specific allowances must be used solely for the application it was produced or imported for. EPA is therefore also prohibiting the sale of that HFC for use in a different application from the one that was intended. This is an outgrowth of the statutory restriction placed on application-specific allowances that they be for the exclusive use in the application for

which the allowance is provided. If an entity could procure HFCs with the application-specific allowance, but then freely sell that HFC on the open market, that would seem to create a loophole to the restriction placed on the use of the application-specific allowance. EPA is allowing the intra-application sale of material (i.e., among companies within the same application), since such a sale would be consistent with the exclusive use limitation.

3. What Criteria is EPA Using to Evaluate Application-specific Allowance Requests?

This section explains how EPA will evaluate application-specific allowance requests for five of the six applications: propellants in MDIs; defense sprays; structural composite preformed polyurethane foam for marine use and trailer use; etching of semiconductor material or wafers and the cleaning of CVD chambers within the semiconductor manufacturing sector; and onboard aerospace fire suppression. The approach for mission-critical military end uses is discussed in the next subsection of this notice. As discussed earlier in this section, EPA has been collecting information from entities that use HFCs in the applications listed in the AIM Act, including a detailed description of how the HFCs are used so EPA can determine whether the use is consistent with the definition of the application. EPA will use that information to determine the full quantity of allowances necessary, based on projected, current, and historical trends, for the production or consumption of HFCs for the exclusive use of the regulated substance for each application, on a company-specific basis. Starting with allocations in October 2022 for calendar year 2023, and in further future years, a company's calculated use in a given year would be based on the quantities acquired in that year for application-specific purposes minus amounts sold to or transferred to another entity for their application-specific use plus the decrease (or minus the increase) in inventory for application-specific uses from the prior year. For the initial

five years after enactment of the AIM Act, EPA is finalizing its proposed approach of issuing application-specific allowances by multiplying the company's HFC use in the prior year by the higher of:

- the average growth rate of use for the company over the past three years; or

- the average growth rate of use by all companies requesting that type of application-specific allowance (e.g., for MDIs) over the past three years.

As discussed further below, EPA is taking a slightly different approach for the initial allocation in 2022. For companies that experienced negative growth based on their submitted data from 2018 to 2020, in an application that also experienced a negative growth rate, the Agency will allocate allowances equal to the highest quantity of HFCs reported over the three years from 2018 to 2020. As further explained later in this section, EPA is also finalizing its proposal to allow for consideration of individual circumstances factually documented to the Agency (e.g., when a company projects growth due to acquiring another company or it installs new manufacturing capacity that will open in the following year). EPA also took comment on whether to consider gross domestic product or United States population growth rates in determining allocation levels.

One commenter from the defense spray industry stated that the information request for 2018–2020 data gave an incomplete picture of their usage history and would not accurately depict their usage over the next five years. They requested instead that EPA consider the time period of 2015–2020 as it is more representative of historical and future HFC usage. EPA responds that for EPA's final approach, allocation requests will be considered annually based on the most recently available data and the Agency will consider certain individual circumstances

that are factually documented. This approach will provide a more accurate estimate of future growth than relying on five years of data to support projections for future growth. Combining a three-year timeframe with consideration of individual circumstances provides a more accurate projection as it reflects change in near-term growth and will be more sensitive to changes in growth than a longer time horizon.

Several commenters, particularly from MDI, semiconductor, and structural composite preformed polyurethane foam manufacturers, stated that consideration of only gross domestic product or population growth would not fully capture the different types of growth within each of the applications. The commenters requested that EPA also consider company-specific factors or individual circumstances. Specifically, comments from semiconductor manufacturers stated that historical linear growth does not account for unique growth patterns. Some of these commenters referred specifically to increased demand, construction of new fabrication plants, expansions at existing facilities, and newer and more complex semiconductor technologies that increase HFC usage on a per-wafer production basis. MDI manufacturers commented that EPA should consider broader factors such as disease prevalence.

As stated previously, EPA proposed that it could consider individual circumstances factually documented to the Agency. The Agency agrees with the commenters that supported this approach and is finalizing the proposal that EPA may consider individual circumstances when allocating application-specific allowances. This will inherently be a fact-driven and case-specific inquiry. EPA is establishing the following circumstances as potentially meriting an increased allocation to an individual company beyond historical growth rates: (1) additional capacity will come on line in the next year, such as a new manufacturing plant or expanded manufacturing

line; (2) a domestic manufacturer or some of its manufacturing facilities has been acquired; and (3) a global pandemic or other public health emergency increases demand for use of HFCs in an application, such as an increase in patients diagnosed with medical conditions treated by MDIs. These scenarios could provide reasons to increase allowance allocations to affected companies in the affected years. If a company wants to make a claim that it is deserves individualized treatment due to one of these exceptional circumstances, those circumstances must be shown to the Agency with sufficient documentation. Ultimately, accommodating individual circumstances that are fully documented and proven will help the Agency fulfill Congress's mandate that EPA "allocate the full quantity of allowances necessary."

A couple of commenters asserted that EPA's proposed approach to issuing application-specific allowances seems overly generous. The comments suggested that EPA should not over-allocate, and instead consider releasing any unused application-specific allowances as set-aside allowances for heating, ventilation, air conditioning, and refrigeration (HVACR) uses that may have trouble transitioning to reduced HFC use and consider unused allowances in the evaluation of future allowance allocations to the six application-specific uses. EPA agrees that it should not over-allocate application-specific allowances, but, for the reasons provided elsewhere in this section, has determined that the approach being finalized in this rule is appropriate to meet the Congressional directive to allocate the amount necessary for these applications based on historical, present, and future needs. EPA recognizes that it is possible that companies could be eligible for general pool and application-specific allowances. To avoid overallocation, EPA will take into account any allowances a company receives from the general allowance pool when issuing application-specific allowances. If a company historically imported HFCs for its own use

in an application listed in subsection (e)(iv)(B) of the AIM Act, EPA would decrease the number of application-specific allowances allocated to that company by an amount equal to their general pool allowances. This process helps to ensure companies are not overallocated allowances for application-specific use.

Since application-specific allowances will be allocated on an annual basis, it is not feasible to collect and reissue "unused" allowances or place those in a set-aside pool. If an application-specific end user does not use all allowances allocated to them, those allowances will expire at the end of the calendar year. To the extent that an end user does not use all allowances allocated, or has regulated substances for application-specific use stockpiled in inventory at the end of the calendar year, EPA intends to take these factors into account in the following year's allocation. Further, if all companies within the same application have a negative growth rate over the prior three years (with the exception of the initial allocation), the company's allocation would decrease.

One commenter asked that EPA create a separate additional pool of allowances that would be available only to the semiconductor manufacturing sector to accommodate growth, new mid-year entrants, and under-allocation of application-specific allowances. EPA responds that an additional set-aside is unnecessary because the Agency is allocating the full quantity of allowances necessary, based on projected, current, and historical trends, for the production or consumption of HFCs in each of the statutorily identified applications. The Agency is basing application-specific allowances on the average annual growth of a company or sector multiplied by the use of HFCs in the prior year, as well as accounting for unique circumstances. Over-allocating or setting additional allowances aside just in case reduces the allowances available to

general allowance holders and will reduce how much HFC can be imported or produced if there are unexpended allowances. As noted above, one of EPA's considerations when establishing the allocation system is to avoid issuing allowances to companies that cannot or will not use them. EPA is finalizing a reasonable approach to provide amounts necessary based on historical, current, and future trends.

With regard to the concern about under-allocations, EPA responds that the Agency is allocating allowances annually, rather than over multiple years, and based on a company's annual submissions of purchase and inventory data. This reduces the risk of under-allocating in comparison to projecting needs over longer periods, in which the impact of inaccurate growth rates would grow each year. EPA can also learn from the implementation of this program and can consider adjusting its methodology for subsequent application-specific allocations if the Agency has determined it has taken either an overly generous or restrictive approach. Further, there is nothing prohibiting a company from accessing HFCs from the open market and then requesting allowances for the next year. If a company did use more HFCs in a given year, that increased use would be reflected in the next year's allocation.

Some commenters requested a process that gives companies an opportunity to challenge EPA's application-specific allowance allocations if they believe the Agency has erred in its calculation or made an improper allocation. One commenter asked EPA to establish a process for companies to quickly challenge (and for the Agency to reconsider) any application-specific allocation. Another commenter asked that EPA automatically grant all allocation appeals and then work with those companies to ensure that all appeals are supported with reasonable data.

EPA intends to issue application-specific allowances on October 1 of each year, including allocating application-specific allowances for 2022 on October 1, 2021, which is the same day the Agency will allocate general pool allowances. This timing is consistent with the statutory timeframe for determining the quantity of production and consumption allowances for the following calendar year and is intended to provide all companies with sufficient notice of their allocation levels before the start of the calendar year. EPA has proposed, taken comment on, and is now finalizing the process by which it will determine the allocation level "necessary" for each application-specific company. Entities have the opportunity for judicial review of this framework methodology if they file a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit. If an application-specific end user disagrees with how EPA applies that framework in a future individual allocation determination, that individual allocation is also subject to judicial review. EPA disagrees with the commenter that suggested EPA should allocate to each application-specific user whatever they ask for, and later determine how to support that allocation with data. Congress charged EPA with determining what is necessary for the statutorily identified end uses, and EPA is using its discretion to establish the reasonable approach described in this rule for making those determinations.

EPA will endeavor to provide companies with "necessary" levels of allowances according to the framework provided in this section, but if unforeseen events occur such that EPA's determination is inaccurate, companies can obtain application-specific allowances through other means, such as through transfers. If a company's actual demand for HFCs exceeds the amount of application-specific allowances allocated to them, any company that uses HFCs in one of the six listed applications has other avenues for acquiring HFCs. The company may

acquire application-specific allowances or HFCs from another application-specific allowance holder in their end use. If a company still seeks additional HFCs beyond the application-specific amounts, the company can also acquire calendar-year allowances from the general pool or purchase HFCs produced or imported with calendar-year production or consumption allowances. EPA is requiring reporting of additional material purchased beyond the amounts associated with application-specific allowances so that future year projections and allowances will reflect that historical use. EPA will make application-specific allocations on an annual basis, so each company's allocation will be revisited each year and may be adjusted upward (or downward) as appropriate.

With regard to the semiconductor industry, some commenters requested a "loss allowance" or multiplier to adjust for HFC losses during the purification process. Commenters provided different estimates of how much regulated substance is lost in the purification process, which ranged from five to 10 percent. EPA agrees that such a multiplier is appropriate for allocations to semiconductor manufacturers. Semiconductor manufacturers will need to confer their allowances up a supply chain, and it is appropriate for them to have sufficient allowances to cover the full amount of regulated substances that must be imported or produced such that after the purification process (during which a certain percentage of the regulated substance is lost) the semiconductor manufacturer is given the amount of regulated substances necessary for their manufacturing process. Such an approach would allow semiconductor manufacturers to receive the "full quantity of allowances necessary." Therefore, EPA is finalizing a 10 percent purification loss allowance, the higher end of the range, to ensure they receive the amount that is

necessary. This purification process is unique to the semiconductor industry and therefore a similar multiplier is not needed for the other applications listed in the AIM Act.

EPA requested comment on whether the Agency should distinguish between misuse and proper use when evaluating "the full quantity of allowances necessary" for defense sprays. Recent news reports indicate there may be use that is inconsistent with the labeling in the product (i.e., use of bear spray on people instead of bears).[50] One commenter stated that allowances provided for defense sprays should be limited to an amount sufficient only for "appropriate uses." Another commenter acknowledged news reports indicating potential product misuse of bear sprays, but stated that this misuse cannot be addressed through this rulemaking. EPA is not finalizing an approach to allocating application-specific allowances for defense sprays that bases estimates of "necessary" allowance levels only on proper use, as it does not have sufficient information on misuse of defense sprays in order to adjust the allocation approach at this time. EPA will continue to monitor this issue and will consider whether use inconsistent with the labeling can be better documented and accounted for when allocating allowances for this application.

For the initial 2022 application-specific allocations, EPA is finalizing the following approach to issuing application-specific allowances to companies: for companies that experienced positive growth based on their submitted data from 2018 to 2020, the Agency will (1) calculate a company's growth rate from 2018–2019; (2) calculate a company's growth rate from 2019–2020; (3) average the growth rates calculated from steps 1 and 2; (4) multiply the

[50] Briley, John. "Bear Spray Is Showing up at Protests and Riots. Here's Why, and How It Affects Humans." *The Washington Post*, 19 Mar. 2021. Available at *www.washingtonpost.com/lifestyle/wellness/bear-spray-pepper-riot-dangerous/2021/03/19/053c3870-87fb-11eb-bfdf-4d36dab83a6d_story.html*

average growth rate by the company's 2020 purchases of EVe-weighted regulated substances for application-specific use to determine an estimated level of allowance need for 2021; and (5) multiply the estimated level of 2021 need by the average growth rate to estimate need for 2022. The number calculated in step 5 will generally be used to allocate application-specific allowances to a company for 2022. EPA determined a company's historic HFC usage based on responses to EPA information requests, invoices, sales records, GHGRP reporting, supplier data, and other information available to the Agency. This amount was used to estimate both the growth rate and 2020 purchases of regulated substances for each company. For companies that experienced negative average annual growth based on their submitted data from 2018 to 2020, in an application that also experienced a negative growth rate, the Agency will allocate allowances equal to the highest quantity of HFCs on an EVe-weighted-basis reported over the three years. EPA also took into account information provided on individual circumstances (e.g., public health emergency). EPA will use this approach for 2022 because the Agency recognizes that 2020 was an unusual year given economic disruptions due to the global pandemic. For 2023–2025, EPA will use the approach detailed at the top of this section for all companies requesting application-specific allowances. Under this approach, if a company and all the companies that apply for allowances in that application experience negative growth, a company would receive fewer allowances than in the prior year.

For the calculation of average growth rate, EPA will use the average annual growth rate formula, which is the growth rate between the first and second year plus the growth rate between the second and third year, divided by two. EPA will look at growth rate by using purchase data for application-specific uses for the initial allocation given that the Agency received disparate

numbers on company use data. In the future, EPA intends to adjust for net change in inventory from purchase data as the Agency is requiring reporting on annual inventory data prospectively.

Some commenters cautioned against allocating allowances based on unsubstantiated data. EPA has gone through a rigorous process to verify data that will be used for 2022 allocations and intends to continue to verify data used to determine application-specific allocation levels. If future information reveals a company applying for application-specific allowances has provided false, inaccurate, or misleading information, EPA reserves the right to adjust allowances downward (in the same year or a subsequent year) at a greater level than the number of application-specific allowances allocated, prohibit companies from receiving future allowances if it has made false, inaccurate, or misleading statements to the Agency or there is noncompliance with relevant legal and regulatory requirements, and pursue any other appropriate enforcement action. One commenter asked EPA to clarify that a company submitting false data is also subject to criminal liability and to make clear that the Agency can prohibit a company submitting false information from receiving future allowances. If a company has made false, inaccurate, or misleading statements to the Agency, EPA can apply administrative consequences consistent with the discussion in Section IX.A. Regardless of whether or not EPA applies an administrative consequence, EPA may also pursue any and all appropriate enforcement action.

4. How is EPA Issuing Application-specific Allowances for Mission-critical Military End Uses?

EPA proposed to issue application-specific allowances for mission-critical military end uses directly to DOD. EPA also stated in the proposal that the approach described earlier in this section would be for the other five applications covered by subsection (e)(4)(B)(iv), recognizing an inherent difference with the way the regulation would apply to mission-critical military end

uses. EPA requested information from DOD on its preliminary estimates of annual usage quantities of HFCs for mission-critical military end uses including historical and projected trends in usage, to the extent this information is available. DOD's response to that letter was included in the docket for the proposed rule and states that due to the Armed Forces' multiple sources of supply for HFCs used in mission-critical applications, there is no consolidated and comprehensive HFC usage data for DOD. The different sources of supply include Defense Logistics Agency industrial gas support contracts; contractor-supplied material from numerous acquisition, procurement, maintenance, and repair contracts; and local purchases from commercial sources. The letter further provided information on historical estimates of mission-critical annual usage and preliminary estimates of projected need over the next five years, and noted that DOD would continue collecting information to close data gaps, reduce data uncertainty, and identify any additional HFCs that may have been missed in the initial data collection.

EPA is finalizing its proposal that all mission-critical military application-specific allowances will be allocated to DOD. Therefore, only DOD may request allowances for such uses, unless the use is covered by one of the other five application-specific uses authorized in subsection (e)(4)(B) of the AIM Act. EPA did not receive adverse comment on this proposal. EPA is also clarifying that while the allowances would be allocated to DOD, those allowances may be conferred to DOD's contractors and, in the case of Direct Commercial Sales, companies manufacturing military equipment. In addition, DOD may confer application-specific allowances for a mission-critical military end use to another agency of the Federal Government responsible

for national defense for that agency's mission-critical military end use without being subject to the offset required of transfers of allowances in that section.

Given the complex nature of the way DOD sources and uses HFCs for mission-critical applications, EPA's proposed approach for the other applications would not be appropriate for DOD. DOD's April letter identified mission-critical refrigerant and fire suppression uses spanning multiple services. The use occurs at multiple sites and by multiple entities (e.g., at federally run and contractor facilities). This network of use is significantly larger and more complicated than for the companies that are eligible for application-specific allowances in other end uses.

Additionally, DOD's data on historical uses is less robust and more complicated to compile than for companies in the other end uses. DOD will need to track and manage its use of HFCs more comprehensively going forward, but basing its allocation on growth over the past three years is not feasible at this time. There are also national security implications that may necessitate a different approach (e.g., if there is an unexpected conflict where equipment using HFCs is needed).

Recognizing these factors, EPA is finalizing a different approach to determining the number of allowances needed for mission-critical military end uses. EPA is requiring that DOD request allowances annually on the same timeline as other application-specific allowance holders. DOD needs to provide the amount of HFCs needed for mission-critical military use by chemical and specify the broad categories of use similar to what they provided in their April 7, 2021, letter. EPA and DOD will work together to ensure the amount necessary is available for mission-critical military applications, discuss key drivers for any change in the amounts needed,

and understand DOD's plans for managing inventory and deploying recycled and/or reclaimed HFCs in mission-critical military end uses, where appropriate. EPA is also finalizing different auditing and recordkeeping and reporting provisions to account for DOD-specific considerations, including potential national security concerns. A full discussion of auditing requirements can be found in Section IX.D, and a full discussion of recordkeeping and reporting requirements can be found in Section X.

D. What are the Provisions for Transferring Allowances?

Subsection (g) of the AIM Act directs EPA to issue rules that govern the transfer of allowances. EPA is establishing transfer provisions in §84.19 as proposed.

In order to transfer allowances, the transferor must first provide EPA with a transfer claim setting forth the following: the identities and contact information of the transferor and the transferee; the type of allowances being transferred (i.e., production, consumption, or application-specific allowance); the quantity (in EVe) of allowances being transferred; the total cost of allowances transferred; the remaining quantity of allowances held by the transferor; and the quantity of the offset. For transfers of application-specific allowances, the transferor must also include a signed document from the transferee certifying that HFCs produced or imported with these allowances will only be used for the same application they were initially allocated for.

EPA will then certify with records in its possession that the transferor has unexpended allowances sufficient to cover the transfer claim. Based on comments received on the proposed administrative consequences (see Section IX.A), EPA will also ensure that both parties to the transfer are not subject to an administrative consequence that would preclude them from transferring or receiving allowances. EPA will issue either an objection notice or non-objection

notice to the transferor and transferee within three working days of receiving a complete transfer claim. The transfer cannot proceed until EPA issues a non-objection notice. If after issuance of a non-objection notice the Agency finds that the transferor did not have sufficient unexpended allowances to cover the transfer and required offset, the transferor and transferee, where applicable, will be held liable for any violations of the regulations of this subpart that occur as a result of, or in conjunction with, the improper transfer.

In cases where EPA issues an objection notice disallowing the transfer, either the transferor or transferee may file a notice of appeal, with supporting reasons, with the relevant Agency official within 10 working days after receipt of the objection notice. The official may affirm or vacate the disallowance. If no appeal is filed electronically by the tenth working day after notification, the disallowance shall be final on that day.

EPA does not intend to broker transactions but rather confirm that the transferor has sufficient allowances to cover the transfer and neither party is disallowed from engaging in transfer activity. As proposed, EPA is collecting information on the price of allowances transferred to inform future analyses of rule costs and provide additional insight into the market when assessing potential regulatory changes and future allocation options. As discussed in Section X.C.2, EPA will not release individual or transactional price data.

Subsection (g)(2) of the Act requires that the regulations the Agency is required to promulgate governing the transfer of allowances "ensure that the transfers under this subsection will result in greater total reductions" in the production or consumption "of regulated substances in each year than would occur during the year in the absence of the transfers." In other words, the transfer of allowances must result in less overall production or consumption than would have

occurred absent the transfer. The AIM Act specifies that the transferor's allowances be reduced by an amount greater than the amount of allowances being transferred. EPA is finalizing use of a mandatory offset on all transfers to accomplish this statutory directive.

EPA proposed to allow transfers of allowances for HFCs provided the transferor's remaining allowances are reduced by the amount it transferred plus five percent of the amount transferred (i.e., an offset). EPA took comment on a range of offset values from one percent to 10 percent for the transfer of production and consumption allowances. Some commenters recommended that EPA maximize the environmental benefit of this provision by establishing an offset of 10 percent. Others commented that the offset should be 1 percent or 0.1 percent so as to not restrict the trade of allowances as determined by the market. Some said that the added "tax" or "fee" on transferring allowances could lead to fewer tolling agreements and thus less efficient production of HFCs. Some commenters suggested these lower values are appropriate because they follow past practice with transfers of ODS.

EPA is finalizing a five percent offset as proposed on the transfer of production and consumption allowances. The AIM Act provides significant discretion to EPA in choosing an appropriate offset level. EPA has considered the public comments on this issue and has determined that five percent is the right value to balance the interest from some commenters in a net environmental benefit without implicating other commenters' concerns of creating an overly burdensome requirement that would discourage trading necessary to meet market demands. A 10 percent offset could result in less net environmental benefits than a five percent offset by discouraging trading because an offset could be so high that no trading occurs and thus no allowances are offset.

As discussed in the proposal, an EPA analysis of HCFC inter-company transfer data for 2010 through 2018 found that between five percent and 30 percent of consumption allowances were transferred each year. If this level of transfer activity holds under this allowance allocation program, a five percent offset would likely result in a reduction in the total allowances in the general pool by 0.25 percent to 1.5 percent. Given that small size, EPA's consideration for the size of the offset, at this time, pertains more to the effect on an individual company and less on the impact to the market overall. As the phasedown progresses, EPA may revisit the size of the offset.

EPA disagrees with the reasons raised by commenters for using a lower offset level. While commenters made broad claims that a five percent offset requirement would be overly burdensome on trades or cause market disruptions, such claims were unsubstantiated, and EPA received no data from commenters that a five percent offset will prevent an allowance holder from engaging in the transfer of allowances. Allowances are issued to companies at no cost; transferors retain 95 percent of the value of something provided for free if they choose to transfer those allowances. Furthermore, allowances are not a property right of the allowance holder and EPA has been directed by Congress to require an offset if companies choose to transfer those allowances. EPA is sensitive to the concern that this could negatively impact tolling agreements. Existing tolling agreements are already reflected in the allocation because the allocation is based on what a company produced, irrespective of whether it was produced for the producing company or as part of an arrangement (e.g., tolling agreement) with another company. EPA will continue to monitor whether there is an impact on future tolling agreements as the market shifts to a different mix of lower-GWP HFCs.

With regard to the comment that EPA should use 1 percent or 0.1 percent since those were the offsets in the ODS phaseout, EPA responds that looking at past practice under the CAA is informative, but not controlling for a rulemaking under the AIM Act. The AIM Act does not specify a percentage nor does it provide criteria for establishing the offset. EPA has considered the effects of HFCs on public health and welfare, the impact of offsets on the transferring parties, and the impact of offsets on the supply of HFCs to the market, and finds that a five percent offset is reasonable. Further, unlike the chemical-specific allocation system for HCFCs, EPA is issuing allowances on an exchange value-weighted basis thereby negating the need to transfer allowances between regulated substances. This is an important distinction from the ODS phaseout, where such transfers were required to repurpose allowances across chemicals regardless of whether the allowance transfer took place within a company or with another company.

EPA proposed to establish a lower offset level for application-specific allowances, given that these allowances are intended to be allocated based on end users' need. EPA intends to provide application-specific end users with the level of allowances "necessary" in the initial allocation, but in the event an entity needs to transfer away or acquire additional application-specific allowances, EPA has determined that it is appropriate to allow that to happen with a lower offset level. Therefore, EPA is finalizing as proposed an offset of one percent for transfers of application-specific allowances.

Commenters stated that application-specific uses should have no offset or an offset of 0.1 percent given the importance of these end uses. EPA agrees that the AIM Act prioritizes these end uses, but also interprets subsection (g) to apply generally to all transfers of allowances. EPA

does not have the ability under the statutory language to allow application-specific allowance transfers to occur without any offset transfer. An offset of 0.1 percent would not provide sufficient environmental benefit while a 1 percent offset would while also not being so burdensome as to discourage trading. Because EPA is issuing the full quantity of allowances necessary to each end user, the Agency anticipates that the amount of allowances transferred will be minimal.

One commenter asked EPA to allow for transfers of application-specific allowances without an offset in the event a subsidiary spins off of a parent company and continues to use HFCs in a specific application. EPA agrees that requiring a transfer and an offset in such a situation would not be needed. EPA's experience is that this type of activity is rare. Historically, under CAA title VI, the Agency treated this type of situation as a change in company name and/or ownership. An authorized official at the company transferring the allowances would have to make a formal request to EPA for the transfer. This approach would apply for any change in company ownership. However, EPA retains discretion to deny such requests based on the circumstances of the particular request or to request additional information before granting the request. Circumstances where EPA would consider denying such requests include but are not limited to if a company requests this treatment more than rarely, if the new company has overlapping ownership, if the allowance holder receives allowances consistent with this final rule as a new market entrant, or if there are indications of fraud. As discussed, application-specific allowances can be conferred to an importer, producer, or intermediaries in the supply chain without any offset. The conferral of allowances is not a transfer but rather an actualization of the allowance (i.e., a use of the allowance for production or consumption) by an end user that is not

a producer or importer. Because Congress made clear in subsection (e)(4)(B)(iv) of the Act that the statutorily listed applications should receive the amount of allowances necessary, based on projected, current, and historical trends, EPA is allowing these conferrals as part of the inherent process of ensuring end users can receive the necessary amount of HFCs.

E. How is EPA Establishing the Set-Aside Pool of Allowances?

EPA proposed to establish a small set-aside pool of allowances for a limited set of end users and importers that would not otherwise qualify for allocations, in light of the relatively new and novel nature of the HFC allocation phasedown framework established in this rulemaking. While it is reasonable for this initial allocation period to largely allocate allowances to companies that are currently in the market of producing or importing HFCs, this approach could be a barrier to new market entrants. In addition, the AIM Act is still relatively new legislation and not all entities already operating in the HFC market, particularly those that have not been historically required to report to the GHGRP, may have been immediately aware of Congress's direction to begin regulating the HFC market. These entities may not have responded to EPA's multiple data requests. It is therefore appropriate, as a transitional measure, to establish a set-aside pool of consumption and production allowances as proposed.

EPA proposed to issue 5 to 15 MMTEVe of allowances for this set-aside pool. Based on comments and review of submitted data, EPA is finalizing a set-aside pool of 7.5 MMTEVe (less than 3 percent of allowances to be allocated for 2022) to accommodate the potential requests for application-specific allowances that were not timely received and the high level of interest in allowances for new market entrants. As noted previously, EPA is establishing an allowance allocation framework in this final rule for 2022 and 2023, but will promulgate another

rulemaking for allowances for 2024 and beyond based on the Agency's experience implementing this rule and stakeholder feedback.

1. Who is Eligible for Allowances in the Set-Aside Pool?

The set-aside pool is restricted to three groups of companies: (1) end users in applications identified for allocations under subsection (e)(4)(B)(iv) of the AIM Act that EPA has not identified for the initial allocation of allowances (i.e., the allocation called for by October 1, 2021); (2) importers of HFCs that have not been required to report through the GHGRP under 40 CFR part 98, where EPA has not learned of their past imports in time to issue allowances as part of the general pool despite the Agency's best efforts; and (3) importers that are new market entrants.[51] EPA is finalizing its proposal not to establish a set-aside pool for companies looking to newly enter as producers of HFCs because the Agency does not wish to encourage the construction of new HFC production capacity in light of the statutory HFC phasedown.

Multiple commenters supported the set-aside generally and one commenter opposed the general concept of a set-aside pool of allowances, in particular a pool of allowances for new market entrants. The commenter asserted that a set-aside pool is neither authorized by the AIM Act, nor was EPA's rationale for its creation supportable. The commenter stated that implementing the AIM Act in a similar manner to title VI of the CAA would provide for a seamless transition, and that EPA's rationale for a set-aside where a distinction can be drawn between a phaseout under title VI of the CAA and a phasedown under the AIM Act is incorrect, as there are certain exemptions available under title VI of the CAA that in practice, do not

[51] EPA proposed that new market entrants must be small businesses as defined by the Small Business Administration. For reasons explained later in the preamble, the Agency is broadening the eligibility criteria for new market entrants.

demonstrate a phaseout. The commenter concluded that if EPA were to promulgate a set-aside pool, that it should be limited to no more than 5 MMTEVe as a one-time allocation and limited in scope and duration.

As noted elsewhere in this notice, Congress provided broad authority to EPA to establish an allocation system to phase down HFC production and consumption, and EPA concludes that creating a limited set-aside pool is within the scope of its discretion under the Act to determine a reasonable approach for allocating allowances. While EPA has noted in many instances that it is appropriate to rely on and build from the Agency's experience in implementing the ODS phaseout under title VI of the CAA, there is nothing in the AIM Act to suggest that EPA is required to create an identical allowance allocation system. For reasons explained previously, it is appropriate in this first implementation phase to allocate the majority of allowances to producers and importers that are currently in the HFC market. However, for the reasons discussed in this section, it is also reasonable to set aside a small quantity of allowances for those who may have been caught unawares or are new market entrants. Long term, EPA will revisit whether additional set-asides are needed in future years. After reviewing comments on the creation of a set-aside pool of allowances, EPA is finalizing the set-aside pool for these three types of entities.

a. Application-specific End Users

EPA is finalizing the proposal to provide priority access to the set-aside pool to end users in the applications identified in subsection (e)(4)(B)(iv) of the Act. Not all end users may be aware of EPA's regulatory activity regarding HFCs, and providing a set-aside pool will help end users in the statutorily identified applications access the necessary allowances. EPA did not

receive any comments that opposed providing priority access to application-specific end users to the set-aside pool of allowances. Therefore, EPA is finalizing the structure that provides priority access to companies operating within one of the application-specific uses. EPA will calculate a company's allocation of application-specific allowances from the set-aside pool in the same manner as the allocation of application-specific allowances from the general pool as shown in Section VII.C. EPA will issue only 2022 allowances to these application-specific end users from the set-aside pool. EPA expects these entities to apply for 2023 application-specific allowances in the same manner as all other application-specific allowance holders.

b. Previously Unidentified Importers

EPA explained in its proposed rule that the Agency would provide second priority access to allowances from the same set-aside pool to importers that currently import HFCs, but were not previously required to report to GHGRP and were not identified in time to be included in the general allowance pool. EPA proposed to not include producers because all HFC producers were required to report to the GHGRP. EPA did not receive significant adverse comments against its proposal, so is finalizing the creation of a set-aside pool from which allowances may be issued for these previously unidentified importers of HFCs to the extent EPA can verify their historical import levels. Similar to the application-specific allowances, allowances for these importers from the set-aside pool will be allocated in a level equivalent to what the importer would have been eligible to receive through the general pool of allowances in accordance with Section VII.B. Consistent with the proposal for general pool allowances, companies that did not import in 2020 will not be considered under this group. However, they can apply to be a new market entrant. EPA will issue only 2022 allowances to these importers from the set-aside pool. These entities

will receive allocations through the general pool for 2023 in a manner and level that is consistent with other general pool allowance holders.

c. New Market Entrants

After allocations to the two previously discussed groups, EPA proposed to provide access to any remaining allowances in the set-aside pool to new market entrants seeking to import HFCs in line with the criteria described later in this subsection. EPA is finalizing the approach of establishing a set-aside pool and granting tertiary access to consumption allowances to new importers of regulated substances. EPA proposed to limit the set-aside pool of allowances to owners of companies, not operators or designated agents, and that businesses applying to be a new market entrant cannot be a subsidiary of or have any common ownership stake or familial relationship with another allowance holder. One commenter suggested that EPA expand the subsidiary, common ownership stake, and familial relationship exclusion proposal for new market entrants to cover companies that were recently affiliated with existing allowance holders, as this would prevent existing allowance holders from attempting to unfairly manipulate the system by re-acquiring a new market entrant. EPA agrees and is finalizing this criterion alongside the others described in this paragraph.

EPA proposed that allowances will be issued to these new market entrants for both 2022 and 2023 at the same time in the same quantity for both years. EPA is clarifying that allowances will be issued on October 1, 2022 for calendar year 2023. As noted elsewhere, EPA intends to revisit the overall process for allocating allowances for 2024 and beyond.

As explained previously, EPA recognizes that in allocating the vast majority of allowances based on historical activity in the HFC market, EPA may inadvertently create market

barriers to companies looking to newly enter the HFC market. There is no prohibition in general on a new entity importing HFCs, but they would need to have an allowance in order to do so. EPA is providing these allowances free of charge to historical HFC market participants for 2022 and 2023, but absent a set-aside pool, new entrants would need to acquire a transferred allowance, which they would likely have to purchase. During the HCFC phaseout, EPA heard from some small businesses that they had been unable to source material from domestic suppliers in sufficient quantity and/or at a competitive price. EPA heard similar concerns from small and large businesses during the comment period. To mitigate the potential for similar challenges and allow businesses experiencing such challenge to import HFCs directly without the additional step of purchasing allowances, EPA proposed to establish a new market entrant set-aside pool. Given that the AIM Act contemplates continued production and consumption of HFCs following the mandated phasedown of HFC production and consumption in the United States, EPA finds that it is appropriate to facilitate participation by new market entrants in the HFC import business, at least at this early stage as the HFC market transitions to the Congressionally mandated phasedown. However, it is also reasonable to facilitate participation only by entities who show a demonstrated interest and ability to make use of allowances.

Several commenters expressed support for, and an interest in, applying to EPA's new market entrant set-aside pool. One commenter noted that in certain niche end uses, such as fire suppression, access and supply of necessary HFCs with higher GWPs from producers or importers may be unavailable and/or prohibitively expensive as the phasedown continues. The commenter stated that qualifying as a new entrant would provide the flexibility to import needed HFCs directly and ensure future availability.

EPA proposed limiting access to the new market entrant set-aside pool to small businesses, but is not finalizing this limitation. All types of businesses that are new entrants and meet the other criteria being finalized here will be eligible to apply for allowances from the set-aside pool. EPA reviewed comments received on this issue and did not see a strong basis in the record to limit access to small business participants. One commenter noted that they would be interested in applying to the new market entrant set-aside pool but were not a small business so they would not be eligible under EPA's proposed approach. EPA has determined that it is not appropriate, at this time, based on public comments received, evidence available in the record, and the Agency's knowledge of the HFC market, to limit access to the new market entrant set-aside pool to only businesses that meet certain characteristics. However, the Agency will continue to monitor the HFC market and if there are distortions or barriers to entry for certain types of businesses or individuals, EPA retains the discretion to target allowance allocations more narrowly in the future.

To support the proposed rulemaking, EPA conducted a preliminary review of HFC importers and HCFC allowance holders (available in the docket) and solicited comment on whether any individuals have experienced structural barriers inhibiting their earlier access to the HFC import market, including if there was difficulty entering the HFC import market based on criteria such as business location, employment of socially or economically disadvantaged individuals, or other criteria related to business ownership, employee characterization, or business location. As explained in the proposal and reiterated here, the Agency is concerned that certain businesses historically have and could continue to experience difficulty entering the HFC market because of barriers in the form of systemic racism or sexism, and the Agency continues

to be interested in collecting the information requested in this paragraph to better understand whether such issues are affecting entry into this market and to explore future opportunities to ensure a more equitable marketplace. In reviewing comments received during the public comment period, EPA has not identified records that would indicate that certain businesses have historically and could continue to experience difficulty entering the HFC market as a result of structural barriers or social or economic inequities.

Broadening the eligibility for new market entrants seeking to import HFCs does not mean that EPA is dismissing certain groups and/or giving deference to other groups. Consistent with our position in the proposed rule, EPA encourages applications from businesses that had challenges entering the HFC import market due to systemic racism, market-access barriers, or other challenges particularly faced by minority- and woman- owned small businesses. EPA is mindful of the Executive Order on Tackling the Climate Crisis at Home and Abroad (Executive Order 14008), which calls for "undertaking robust actions to mitigate climate change" and "developing programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related, and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts…." (86 FR 7619, February 1, 2021). EPA will monitor and evaluate the market dynamics of the set-aside pool in 2022 and 2023, and if it appears that certain potential participants are experiencing barriers in accessing the new market entrant pool, or if information is identified and/or provided documenting such structural barriers specific to the HFC market, the Agency may revisit additional eligibility criteria for new market entrants in subsequent rulemakings.

In the proposed rulemaking, EPA sought comment on whether the Agency should limit new entrants to companies that have never previously imported HFCs. Several commenters provided suggestions on how EPA should define a "new" entrant. Some commenters urged EPA to consider new entrants as those who began importing HFCs after 2016, and others requested that EPA treat any company that had not imported for at least three full years prior to 2020 as new entrants. EPA responds that the provisions for new market entrants are, in part, intended for companies that are seeking to import HFCs for the very first time or only began or restarted importing HFCs after January 1, 2020. As explained elsewhere, EPA is allocating allowances for the general pool to companies based on the average of three high years in EVe from 2011–2019, provided that the company was still active in 2020. EPA's treatment of partial or incomplete years of data is explained in Section VII.B. A lack of a full three years of imports does not by itself indicate that the company is a new market entrant for purposes of access to the set-aside pool.

Several commenters urged EPA to exclude companies that had exited the import business that are now trying to re-enter via the set-aside pool, noting that allowing such companies to participate as new market entrants would be contrary to the goal of supporting entities that had not previously imported HFCs. One commenter recommended that EPA evaluate what it means to exit the market on a case-by-case basis. For example, a company may not have been actively importing in 2020 but may have still been in business and operating from previous inventory. Based on a number of factors, EPA is determining that a new market entrant seeking to import HFCs may also be one that had previously imported HFCs in any prior year but exited the business by 2020 and who did not otherwise qualify to receive allowances (e.g., from the general

pool). The factors supporting this determination include: the general eligibility criteria for company ownership and relationships; the 0.2 MMTEVe limit on allowances per new entrant (discussed in section VII.E.2. below) that effectively prevents a specific company or specific type of company from importing a disproportionate amount of HFCs; and the information required as part of the new entrant application process, including an HFC import plan with a named prospective foreign exporter.

EPA received comment expressing concern about allowing new entrants who may have no experience with U.S. environmental or customs laws. They note that new entrants have proliferated in Europe and that there are administrative challenges associated with tracking their imports and monitoring their compliance. EPA recognizes these concerns and is requiring that among other information, the company submit a plan for importing in its application, as well as provide the name and contact information for the prospective foreign exporter that the company intends to work with (see Section VII.E.4 for full discussion). Since these elements are required as part of the application process for new market entrant allowances, companies without a detailed import plan and a prospective foreign exporter will not be eligible to receive new market entrant allowances from the set-aside pool. EPA is also requiring companies include in their applications a certification that the information they have submitted is complete, accurate and truthful and companies must certify that they understand the regulatory requirements established in this rule and will comply with those requirements. Companies participating in the new market entrant pool will be subject to all the same requirements as other importers (e.g., third-party independent auditing by a Certified Public Accountant (CPA), recordkeeping and reporting

requirements, administrative consequences, batch testing and labeling requirements for imported HFCs, data transparency).

d. Suggested Additional Entities Eligible for Set-Aside Allowances

Some commenters urged EPA to create additional set-aside pools of consumption allowances, up to 50 MMTEVe, to incentivize environmentally and/or climate friendly businesses. While multiple commenters made this point to EPA, none of them clearly defined the range of entities or activities that would meet this suggested new category other than being reclaimers and/or low-GWP refrigerant blenders.

Other commenters asserted that the proposed rule failed to satisfy the Agency's statutory obligations under the AIM Act in that EPA had not meaningfully considered ways to increase opportunities for reclaiming HFC refrigerants, which commenters claimed was required by subsection (h)(2)(A) of the Act. Commenters suggested that EPA could fulfill its obligations, in part, by creating a separate set-aside pool of consumption allowances accessible only to reclaimers with specific suggestions for how those allowances should be managed and distributed. As explained in previous sections, EPA has determined that it is appropriate to allocate the majority of allowances to historical producers and importers in the HFC market with a small set-aside available to facilitate new entrants to the HFC import market. There are several reclaimers that import HFCs and thus are included in the general pool, while other reclaimers would be eligible for the new market set-aside pool. The commenters did not explain why it would be appropriate to take a significant share of allowances away from the general pool, and EPA is concerned that adopting this suggestion would inevitably lead to significant and potentially adverse disruptions in the HFC market. Abruptly shifting a large quantity of

allowances from companies that are in the business of producing and importing HFCs to those that are not will strand existing supply chains, at least temporarily. While it is clear Congress has determined it is appropriate to phase down HFC production and consumption in the United States, it also opted to do so under a gradual schedule, presumably to allow the market time to transition into substitute chemicals.

EPA disagrees with some commenters' characterization of the language in AIM Act subsection (h)(2)(A) that the provision places a mandatory duty on EPA to prioritize helping reclaimers' needs over all others. The statutory language notes that "[i]n carrying out this section, the Administrator shall *consider* the use of authority available to the Administrator under this section to increase opportunities for the reclaiming of regulated substances used as refrigerants" (emphasis added). The Agency need not determine in this rulemaking whether this provision applies to this action—much less whether it establishes a requirement that may apply to other actions taken under the AIM Act—because even assuming that the commenters are correct that this provision creates a statutory obligation that applies to this rulemaking, the Agency has undertaken such consideration throughout this rulemaking process. Nothing in this statutory language requires that the Agency reach a certain result or use a certain mechanism; rather, it requires no more than that the Agency consider the potential to increase opportunities for reclamation of regulated substances used as refrigerants—and the Agency has done that in the context of this rulemaking, including in its consideration of these comments and potential responses to them. EPA notes that the HFC phasedown in and of itself will result in an increased reliance on reclaimed HFCs, regulated substances or blends with lower exchange values, as the volume of newly manufactured or imported HFCs continues to reduce consistent with the

Congressionally mandated schedule. In particular, reclaimed material can be acquired through the expenditure of potentially zero allowances, given the AIM Act excludes reclamation from the definition of "produce." Creating other set-asides, whether for reclaimers, Original Equipment Manufacturers (OEMs), or others, would also require determining details about scope, eligibility, and implementation that EPA does not have sufficient information at this time to consider such requests. The Agency is not prepared to do so without explicitly requesting comment—and receiving public input—on these topics. The Agency intends to evaluate further how it could continue to increase opportunities for reclamation under the AIM Act's authority in subsection (h)(2)(A) in future actions. EPA expects that it would evaluate options for increasing the supply of recovered HFCs for reclamation, as well as the demand for reclaimed HFCs. EPA will also review actions related to reclamation that are underway in California to see if similar types of regulation could be appropriate nationwide. In light of all of these considerations, EPA has determined that it is not appropriate at this time to create additional set-aside pools.

2. How Large is the Set-Aside Pool, and What are the Applicable Limits for Applicants?

EPA based the proposed size of the set-aside pool on an analysis of new market entrants in 2017–2019 compared to 2011–2013. EPA stated in the proposal that it would be appropriate to establish a pool that roughly estimates the market shifts EPA has seen over this timeframe with additional allowances to accommodate for businesses that would have met EPA's criteria to be eligible for general or application-specific allowances, but were not identified in time. Accordingly, EPA proposed to establish a set-aside pool of 5 MMTEVe of consumption allowances taking comment on a range up to 15 MMTEVe for 2022. EPA also proposed to set

aside 1 MMTEVe of production allowances, which can be used as application-specific allowances, for 2022.

Some commenters supported the concept of a set-aside pool of allowances but urged EPA to either retain the proposed 5 MMTEVe of consumption allowances, or decrease it to 3 MMTEVe. The latter suggestion was provided by a commenter as fully meeting the needs of the eligible applicants, while also providing additional stability to companies in the general pool. Many commenters requested that EPA expand the set-aside pool of consumption allowances to 15 MMTEVe. EPA has considered two related factors for informing our final decision. Based on information and data received from companies in the application-specific end uses, EPA may have underestimated the number of companies that were unaware of the HFC regulatory landscape and did not have an opportunity to submit relevant data in time for the Agency to consider for 2022 allowance allocations. In conjunction with the number of comments received on the proposal from companies that would be eligible as new HFC importers, EPA anticipates greater participation in the set-aside pool than initially contemplated. To improve the utility of the set-aside pool of allowances in meeting the objectives to accommodate the needs in order of priority for application-specific end users, previously unidentified importers, and new market entrants, EPA is finalizing the set-aside pool of consumption allowances at 7.5 MMTEVe. Given the number of companies that may be eligible for application-specific allowances, the Agency is also finalizing 2.5 MMTEVe of production allowances in the set-aside pool as EPA anticipates a higher number of application-specific allowances may be needed for 2022. EPA did not have data to support expanding the level of the pool further, and the Agency does not want to unnecessarily remove allowances from the general pool that will not be used. While some

commenters suggested expanding the pool to 15 or even 50 MMTEVe, those commenters generally also suggested expanding the eligibility criteria to participate in the set-aside pool or creating multiple set-aside pools. As explained elsewhere in this section, the Agency is only allowing access to the pool for the following entities: (1) application-specific end users not identified in time for the initial allowance allocation; (2) historical importers not previously required to report to GHGRP that would have been eligible for an initial allocation, but were not identified in time for the initial allowance allocation; and (3) new market entrants.

As previously discussed, EPA is first issuing allowances within the set-aside pool to end users that are eligible for application-specific allowances in an amount equal to what EPA determines that end user would need. Second, EPA will issue allowances to historical importers that were not required to report to the GHGRP previously and would have been eligible for general pool allowances according to the formula shown in Section VII.B. Companies receiving allowances under this component of the set-aside will receive allowances as if they were in the general pool.[52] While anyone requesting allowances under this condition must have been below the 25,000 $MTCO_2e$ reporting threshold, there is not a discrete numerical cap on allowances that will be allocated for these companies per se, unless the full set-aside is exhausted by application-specific requests, which is unlikely. For the new market entrants of the set-aside pool, EPA proposed that each would be eligible for up to 0.2 MMTEVe in allowances. This value is based on the aggregated median quantity of AIM Act-regulated HFC imports (highest of 2017–2019

[52] In the general pool, each company will receive the same percentage reduction from their high-year average determined in section 84.11. For set-aside allowances, EPA will determine each company's high value based on the approach described in Section VII.B and will then apply the same reduction percentage that all other general pool allowance holders receive from their high value to companies who are eligible from this component of the set-aside pool.

for "new" importers that did not also import in 2011–2013) reported to the GHGRP and scaled based on a common HFC blend, in $MMTCO_2e$. EPA sought comment on whether it should finalize a higher limit for companies other than those seeking application-specific allowances, up to 1 MMTEVe. While several commenters requested that EPA increase the maximum amount that new market entrants would be eligible for to the full 1 MMTEVe, or remove the limit altogether, EPA did not receive analysis or data that would reliably support a rationale to increase the maximum amount. A 0.2 MMTEVe consumption allowance limit should help to prevent any specific company or type of company from taking an undue share of the allowances available in the new market entrant pool and should retain a balance of allowances as available for several new market applicants. As noted earlier, EPA also wants to ensure that it is only allocating allowances to entities that are able to actually make use of the allowances in the quantity provided. Given that these entities are all new to the HFC import market, keeping their allowance allocation relatively modest is appropriate. Therefore, EPA is finalizing, as proposed, that each new market entrant in the set-aside pool would be eligible for consumption allowances of either 0.2 MMTEVe, or if the number of applications would lead to an exceedance of the remaining amount of allowances available, each applicant would receive consumption allowances on a pro rata basis. EPA notes again that nothing precludes entities from obtaining regulated HFCs that may be needed or desired from the open market or receiving transferred allowances from another entity.

3. How Will Transfers and Unused Allowances be Treated in the Set-Aside Pool?

EPA proposed a restriction that allowances issued from the set-aside pool are nontransferable, but is clarifying that this provision applies only to new market entrants. The

Agency proposed this to ensure that applicants to the set-aside pool only request allowances they are able to use, and do not simply participate in the pool in order to sell the allowances on the open market. Some commenters voiced general support for the proposal, while others suggested that application-specific allowances should not be transferable, but previously unidentified importers and new market entrants should be allowed to participate in allowance trading, just like the general allowance holders.

EPA will allow application-specific allowance holders and previously unidentified companies that imported HFCs in 2020 and were not required to report under 40 CFR part 98 to transfer their allowances consistent with other application-specific and general pool allowance holders, respectively. The criteria for transfers are discussed further in Section VII.D.

There were also commenters that recommended EPA allow for transfer and sale of allowances from the set-aside pool for new market entrants, citing that having a restriction on sales or transfers would have two unintended consequences: small businesses may try to immediately purchase HFCs to capitalize the value of allowances before they expire, and small businesses may have to purchase and stockpile HFCs for future use before cashflow may justify it. EPA responds that an allowance is a temporary privilege for production and/or consumption. The purpose of the set-aside for new market entrants is to issue allowances to companies that wish to import HFCs and would not otherwise receive allowances under the general pool. EPA strongly encourages companies to request a quantity of allowances that they can successfully import by December 31, 2022. While EPA appreciates that importing would likely be new for these companies, that is why the Agency is requiring prospective new market entrants provide a detailed plan for importing HFCs and name a prospective foreign exporter that those companies

intend to work with. Companies will have to consider the lead time, cost, and overall investment needed to import HFCs prior to submitting an application. Further, EPA is not reducing allowances to new market entrants in 2023 for failing to use all the allowances issued in 2022. Allowing for transfers for new market entrants on the other hand, would create an opportunity for a company to request allowances with the sole interest of selling them to another company, and not entering the import market. That outcome would be completely inconsistent with the purpose of the proposed set-aside for new market entrants, and therefore EPA is finalizing, as proposed, that allowances for new market entrants are not transferable.

EPA also proposed that if there were fewer applicants for allowances such that 2022 allowances remain in the pool, EPA would redistribute them to the general pool of existing allowance holders on a pro rata basis by March 31, 2022. Alternatively, EPA stated in the proposed rulemaking that it could auction the remaining allowances by March 31, 2022.

Several commenters opposed an auction approach and cited that an auction system would represent a disproportionate burden on smaller allocation holders who may already be at a competitive disadvantage, and that an auction system could raise legal issues. On the other hand, several commenters supported an auction approach, citing that an auction system promotes transparency and ensures that all interested parties have an equal chance of access to unused allowances. EPA continues to be interested in how an auction structure for distributing allowances could potentially be integrated into future rulemakings. However, the cumulative efforts and resources that would be necessary to build, test, and successfully administer and implement an auction system by March 31, 2022, are not feasible. As a result, EPA is finalizing

that any remaining allowances in the set-aside pool will be redistributed to the general pool of existing allowance holders on a pro rata basis by March 31, 2022.

4. What is the Deadline to Apply for Allowances from the Set-Aside Pool, and What Information is Required?

EPA proposed that companies would have until November 30, 2021, to apply for allowance allocations from the set-aside pool. The proposal also prescribed that entities that fall within the six statutorily identified applications in subsection (e)(4)(B)(iv), but did not initially receive application-specific allowances from EPA, would need to apply to EPA in the same manner as other application-specific end users by November 30, 2021. Similarly, EPA proposed that unidentified importers of HFCs who imported in 2020 and were below the GHGRP threshold of 25,000 $MTCO_2e$ would have to report their historical import and export, if applicable, data to the electronic Greenhouse Gas Reporting Tool (e-GGRT) by November 30, 2021.[53]

EPA proposed that new market entrant applicants must submit the following: (1) name and address of the company and the complete ownership of the company (with percentages of ownership); (2) contact information for the owner of the company; (3) the date of incorporation and state in which the company is incorporated and state license identifier; (4) a plan for importing HFCs; and (5) a prospective foreign exporter that the applicant anticipates working with.[54] To prevent fraud and to ensure that these allowances go to new entrants in the HFC import business, EPA sought comment on whether there are other data it should request. EPA

[53] Forms available at https://ccdsupport.com/confluence/display/help/e-GGRT+and+HFC+Data+Reporting+related+to+AIM

[54] EPA also proposed to include demographic data related to the ownership and employees at the company. EPA is not finalizing these requirements.

did not receive comments during the public comment period to support a record to alter our proposed provisions and requirements, and therefore the Agency is finalizing, as proposed, the information necessary to apply for allowances in the set-aside pool as a new market entrant.

EPA proposed that if future information reveals a company provided false, inaccurate, or misleading information or did not disclose financial or familial relationships between a new entrant and another allowance holder, EPA reserves the right to revoke allowances and require the company to retire a greater number of allowances than those received through the set-aside pool. EPA is finalizing this proposal, adjusting what it means to provide false information, consistent with the discussion in Section IX.A. As noted earlier, EPA is expanding the subsidiary, common ownership stake, and familial relationship exclusion for new market entrants to cover companies that were recently affiliated with existing allowance holders. Therefore, any future false, inaccurate, or misleading information, or not disclosing financial or familial relationships between a new market entrant and a recently affiliated allowance holder, could also result in EPA revoking allowances and requiring the company to retire a greater number of allowances than those received through the set-aside pool.

Recognizing that there may be some delay between signature of this final rulemaking and publication in the *Federal Register*, and that publication in the *Federal Register* serves as the official record and notification to potentially affected parties, EPA is finalizing that the deadline for applications to the set-aside pool of allowances is November 30, 2021. Consistent with the proposal, EPA is also finalizing the process that will allow the Agency to review all relevant data, conduct follow-up verification as needed, and issue allowances to applicants that meet the applicable criteria for each program no later than March 31, 2022.

VIII. What Other Elements of the AIM Act is EPA Addressing in this Rulemaking?

A. How is EPA Addressing International Trades or Transfers of HFC Allowances?

Subsection (j) of the AIM Act, titled "International Cooperation," addresses the trade or transfer of production allowances between entities in the United States and foreign countries.[55] International transfers of production allowances allow for the production of a chemical to be consolidated at fewer plants in order to achieve economies of scale as demand shrinks and the HFC phasedown progresses. To implement this subsection, EPA must determine whether a country has "enacted or otherwise established … the same or similar requirements or otherwise undertaken commitments regarding the production and consumption of regulated substances as are contained in" the AIM Act. Under subsection (j)(4), EPA is required to promulgate a rule carrying out this subsection by December 27, 2021, and to review that rule at least annually and, if necessary, revise it.[56]

The statute uses the terms "trade" and "transfer" with respect to allowances in many parts of both subsections (g) and (j). While EPA has considered whether Congress intended "trade" and "transfer" to signify different actions with respect to allowances in these provisions, neither term is defined in the AIM Act and EPA cannot discern a consistent difference in how the terms are used in this context. EPA is therefore interpreting them as being used interchangeably.

In most instances, subsections (g) and (j) use "transfer" (either exclusively or alongside the term "trade") to describe the exchange of allowances between two entities. Subsection (j)

[55] Subsection (j)(1) also addresses exports. In particular, after January 1, 2033, it prohibits the export of a regulated substance to a person in a foreign country if EPA determines that the country has not undertaken certain actions regarding the production and consumption of regulated substances. Given the timing of this prohibition, EPA does not address this aspect of subsection (j)(1) in this rulemaking.

[56] These reviews will be completed through an internal procedure, but EPA would engage in notice and comment rulemaking to revise the regulations.

uses the phrase "trade or transfer" throughout the subsection. However, (j)(2) and (3) exclusively use "transfers" in the paragraph titles, while using both "trade or transfer" and "transfer" in the text of both paragraphs. For example, (j)(2) permits the "trade or transfer of a production allowance … if, at the time of the transfer" certain conditions are met. There is one instance in subsection (g)(2)(C) where the AIM Act references trade alone in requiring that EPA's rule provide for "the trading of consumption allowances in the same manner as is applicable [for] the trading of production allowances." In all other places in subsection (g), the term "transfer" is used exclusively, for example in (g)(1), which requires EPA to issue a rule that "governs the transfer of [production] allowances." As Congress uses the term "transfer" more frequently when only one term appears in subsections (g) or (j), EPA finds it to be appropriate to use the term "transfer" in the AIM Act implementing regulations for all instances where the AIM Act contemplates "trades" or "transfers." Hereinafter, EPA refers to "trade or transfer" as used in subsection (j) of the AIM Act as "transfers" for simplicity.

In relevant part, subsection (j)(1) of the Act prohibits any company subject to the AIM Act's requirements from transferring a production allowance to a company in a foreign country that, as determined by EPA, has not established the same or similar requirements within a reasonable time from the Act's enactment or otherwise undertaken commitments regarding the production and consumption of HFCs as are contained in the Act. Subsection (j)(2) describes specific conditions that must be satisfied for a company in the United States to transfer a production allowance to—or from—a company in a foreign country. Such a transfer to a company in a foreign country may occur if at the time of the transfer EPA revises the number of production allowances for the United States so that the aggregate national production of the

regulated substance to be transferred is equal to the least of three different levels, which are described below. Similarly, such a transfer may occur from a company in a foreign country to a company in the United States if, at the time of the transfer, EPA finds that the foreign country has revised its domestic production limits of the regulated substance in the same manner. EPA also has discretion under subsection (j)(3) to reduce the United States' production limits as a prerequisite to a transfer to a company in a foreign country, or to increase the United States' production limits to reflect production allowances transferred from a company in a foreign country to a company in the United States.

The regulations that EPA is finalizing to implement the AIM Act's international transfer provisions are structured similarly to the provisions governing international transfers under the ODS phaseout (see 40 CFR 82.9(c) and 82.18(c)). When a transfer request is submitted, EPA will review whether the foreign country where the foreign company is located meets the conditions of subsection (j)(1) and is therefore eligible to participate in transfers of production allowances to or from the United States.[57] If the foreign country does not meet the conditions in subsection (j)(1), EPA would notify the requestor in writing that no transfers to or from the country can occur.

If EPA determines that the foreign country meets the conditions in (j)(1) of the Act, it will consider whether the applicable requirements in subsection (j)(2) of the AIM Act are met. For transfers to a foreign country, a company in the United States may engage in the transfer

[57] In the ODS context, EPA developed a list of countries that had domestic regulatory requirements in place regarding the production and consumption of ODS. Given the limited number of international transfers of production allowances that EPA saw under CAA title VI, EPA does not presently anticipate that a list will be necessary to implement these provisions. EPA may consider whether to implement such a list at a future time, such as when the Agency starts implementing the January 1, 2033, export prohibition in subsection (j)(1).

under subsection (j)(2)(A) if at the time of the transfer EPA revises the number of production allowances such that the aggregate national production of the regulated substance to be transferred is equal to the lesser of three values listed in subsection (j)(2)(A)(i)-(iii):

- the maximum production level permitted under the AIM Act for the applicable regulated substance in the year of the international transfer minus the production allowances transferred;
- the maximum production level for the applicable regulated substances that are allowed under applicable law minus the production allowances transferred; or
- the average of the actual national production level of the applicable regulated substances for the three years prior to the date of the transfer minus the production allowances transferred.

In relevant part, subsection (j)(2)(A)(i)-(iii) of the AIM Act refers to the "applicable regulated substance" and "applicable regulated substances," such as in the phrase "the maximum production level permitted for the applicable regulated substance in the year of the transfer …, less the production allowances transferred." Since EPA is issuing allowances as an exchange value-weighted amount and not as a chemical-specific quantity, allowance holders could use all their allocated production allowances for any one chemical. As such, if a company transfers production allowances to a foreign country, EPA considers the "maximum production level permitted for the applicable regulated substance in the year of transfer" to be the same as the maximum allocation listed in §84.7(b), which is an exchange value-weighted amount. EPA will take the same approach of weighting amounts based on exchange values when considering the levels consistent with (j)(2)(A)(ii) and (iii). As the production allowances transferred would also

be accounted for in terms of the exchange value-weighted units, the reduction would be appropriately reflected in the total.

EPA is finalizing the process wherein a company in the United States seeking to transfer allowances (i.e., the "transferor") must provide EPA with a signed statement requesting that EPA revise the number of production allowances consistent with the requirements of subsection (j)(2)(A)(i)-(iii). EPA will determine which is the lesser of the three values. The transferor also needs to submit information on the contact person and foreign country authorizing the transfer; the chemical and quantity being transferred; documentation that the foreign country possesses the necessary quantity of unexpended production rights; and the calendar year for that transfer.

EPA sought comment on whether it should additionally require approval by a foreign country or some other documentation from the foreign country verifying it can increase allowable production in the relevant calendar year if EPA approves the transfer, or whether an application for such reduction or other official government communication from the foreign country's embassy in the United States is sufficient. For these transfers, the allowance revisions for the company in the United States would be reflected at the individual transferor level, which would have the effect of revising the number of allowances for production under subsection (e)(2) of the Act for the United States, and which reflects EPA's interpretation of requirements under subsection (j)(2)(A). EPA received one comment in favor of requiring prior approval from the foreign country to ensure the country is informed and avoid what the commenter called environmental dumping. EPA responds that the Agency will not require prior approval of an official representative of the foreign country because there are some countries that require EPA to make a decision before they consider the request. EPA disagrees that the foreign country will

not be informed of the transfer as an official representative at the foreign embassy in the United States must approve of the transfer.

In reviewing submissions for transfers to a company in a foreign country, EPA will consider whether the transfer and revised production limits meet the requirements in subsection (j), as discussed above. EPA is also defining other factors the Agency could take into account in considering whether to approve such transfers. Under the CAA title VI implementing regulations in 40 CFR part 82, subpart A, EPA has the discretion to take factors into account relating to possible economic hardships created by a transfer, potential effects on trade, potential environmental implications, and the total amount of unexpended allowances held by entities in the United States. For the AIM Act regulations, there is value in having discretion to consider the environmental implications, since there could be an environmental benefit or cost associated with the international transfer that could influence EPA's decision making. EPA is finalizing its proposal to consider environmental benefit and the total unexpended allowances held by entities in the United States, given that EPA cannot approve a transfer if there were insufficient allowances to transfer.

Two commenters urged EPA to include the same considerations as in title VI of the CAA when making a decision to approve an international transfer of production allowances and one recommended that consideration of at least economic hardships and environmental implications be mandatory and not discretionary. One of those commenters, expanding on environmental considerations, suggested that EPA limit transfers to where production capacity is consolidated (e.g., a specific production line turned off in location A and capacity increased from an existing production line in location B). Nor, the commenter said, should EPA allow the transfer of excess

HFC allowances from a country exceeding its phasedown schedule into the United States as that would lead to an overall increase in production. EPA responds that it is finalizing regulatory text giving the Agency discretion to consider, as appropriate possible economic hardships created by a transfer, potential effects on trade, potential environmental implications such as the ones raised by the commenter, and the total amount of unexpended allowances held by entities in the United States. EPA is retaining its discretion to consider these factors rather than making them mandatory as they may not all be appropriate in all circumstances.

For transfers from a foreign country, subsection (j)(2)(B) of the Act provides that the company in the United States may engage in the transfer if EPA finds that the foreign country has revised their domestic production limits of the regulated substances in the same manner as for transfers by a company in the United States. Accordingly, EPA is finalizing its proposal to require the company to submit a signed document from an official representative in that country's embassy in the United States stating that the appropriate authority within that country has revised the domestic production limits for that country equal to the least of:

- The maximum production level permitted under the AIM Act for the applicable regulated substance in the year of the international transfer minus the production allowances transferred;
- the maximum production level for the applicable regulated substances that are allowed under applicable law (including the country's applicable domestic law) minus the production allowances transferred; or

- the average of the country's actual national production level of the applicable regulated substances for the three years prior to the date of the transfer minus the production allowances transferred.

Consistent with subsection (j)(2)(B) of the Act, these three situations are intended to align with the provisions in subsection (j)(2)(A)(i)-(iii) of the Act. As noted above, subsection (j)(2)(A)(i)-(iii) of the AIM Act refers to the "applicable regulated substance" and "applicable regulated substances," such as in the phrase "the maximum production level permitted for the applicable regulated substance in the year of the transfer …, less the production allowances transferred." As proposed, if the country uses an exchange value-weighted system similar to what EPA is finalizing in this action, this phrase should have the same meaning as for transfers from the United States to another country. If a foreign country has established chemical-specific production levels, this phrase is interpreted to mean the production level for the particular regulated substance involved in the transfer. In such a scenario, the production allowances transferred will be translated into exchange value-weighted amounts for purposes of tracking compliance with obligations under the AIM Act. EPA will take the same approach when considering the levels consistent with (j)(2)(A)(ii) and (iii). If the foreign country has established a different domestic regulatory approach, EPA will need to consider on a case-by-case basis how best to review this condition to ensure that requirements of the AIM Act are met.

Language in (j)(2)(A)(i) that establishes one of the thresholds for determining the reduction in production allowances refers to the maximum production level permitted "under this section" for the applicable regulated substance in the year of the international transfer. As proposed, EPA is interpreting this language as restricting international transfers from a foreign

country to situations in which the country has revised their production limits to establish a phasedown schedule at least as stringent as that in the AIM Act. As noted above, under subsection (j)(2)(B), EPA must find that the country has revised the domestic production limits "in the same manner" as provided for transfers by a company in the United States to a company in a foreign country for the transfer to occur. One requirement for such transfers to a foreign country in (j)(2)(A) is that the number of allowances for production under subsection (e)(2) of the Act must be revised downward such that national aggregate production is equal to the lesser of one of three values, one of which is the maximum production level permitted "under this section" for the applicable regulated substance in the year of the international transfer. EPA is finalizing its proposed interpretation that subsections (j)(2)(A) and (j)(2)(B) be read together to mean that Congress intended for the international transfer provisions only to apply to countries that have revised their production limits to establish a phasedown schedule at least as stringent as the AIM Act's. All commenters on this topic agreed that in order to meet the environmental goals of the AIM Act, transfers must only be with countries that have phasedown schedules that are the same or more stringent than in the AIM Act.

For international production allowance transfers to a company in the United States, the company must provide EPA with a request that includes: the contact person and foreign country authorizing the transfer; the chemical and quantity being transferred; the calendar year for that transfer; and a signed statement describing whether the increased production is intended to allow the company in the United States to serve the export market or to serve the United States market. This information is helpful to EPA because once the transfer is complete, the Agency will treat production allowances transferred from a foreign country the same way as all other production

allowances issued by EPA. As such, a production allowance and a consumption allowance must be expended for each unit of HFC produced, though if the amounts are later exported, the consumption allowances may be reimbursed.

For both transfers from and to foreign countries, EPA, following review, will notify the requestor in writing that the appropriate production allowances were either granted or deducted and specify the affected year(s), provided EPA determines the request meets the required conditions. In approving an international transfer, EPA will notify the transferor in writing of the appropriate revisions to a transferor's allowance balance at the time of approval. For transfers from a foreign country, the Administrator will notify the requestor in writing that the allowances of that company are revised to equal the unexpended production allowances held by the company plus the level of allowable production transferred from the foreign country. EPA will not adjust available allowances until the foreign country's representative has confirmed the appropriate number of allowances were deducted in the foreign country.

The AIM Act does not limit the quantity of production allowances that may be transferred to a foreign country. EPA sought comment on whether to include a provision like the one used under the implementing regulations for international transfers for ODS under CAA title VI giving the Administrator the option to disapprove the proposed transfer if the transfer is not consistent with domestic policy. EPA also sought comment on what policies might be relevant in this context. Additionally, EPA proposed that it would deny the transfer if the transferor did not possess sufficient allowances to permit the necessary reduction in aggregate domestic production to be reflected in the transferor's revised production limits. EPA did not receive comments on these points and is finalizing provisions allowing EPA to disapprove the proposed transfer if the

transfer is not consistent with domestic policy or if the transferor does not possess sufficient allowances.

If EPA approves the proposed transfer, EPA will establish revised production limits for the transferor so that the aggregate national production permitted reflects the effect of the transfer of production allowances. In certain circumstances, following a transfer of allowances to another country, the AIM Act requires that the total United States production of the HFC to be transferred be reduced by an additional amount beyond a simple deduction of the number of allowances transferred to another country. For instance, if the average actual United States production during the three-year period prior to the date of the transfer is less than the total allowable United States production for that substance under §84.7(b), then by the time of the transfer, United States production would need to be revised downward to equal the three-year average minus the amount transferred. This additional reduction would also need to be reflected in the revised production limit.

EPA requested comment on whether there are any other scenarios where a greater reduction would be needed. EPA did not receive comments on this point. Thus, EPA is finalizing as proposed to conclude that it would be appropriate for the required reduction in United States production to be allocated among all the transferors participating in international transfers in the same calendar year in proportion to the number of allowances transferred by each entity. This approach is fair, as it treats every company equally based on the total number of allowances transferred. To ensure EPA does not need to revise allowances if companies submit their requests at different times, e.g., one company submits a request by February 1 and another on September 1, EPA is finalizing its proposal that all requests for international transfers of

production allowances be submitted by October 1 of the year prior to the year the transferred allowances would be usable. If there is only one transferor, the reduction will be applied exclusively to that company. EPA will notify each transferor of the revised production limit before January 1 and the allowances will be usable as of January 1 for the full calendar year. The transfers will be deemed to occur as of January 1, the date the transferor's production limit is revised and the allowances are usable, for purposes of determining the three-year period under this analysis. The transferor will then be able to make timely market decisions with the remaining production allowances. EPA will rely upon the three most recent calendar years' worth of data. For example, if a request were submitted by October 1, 2022, EPA will rely upon data from January 1, 2019, through December 31, 2021, to determine the average of the actual national production level over the last three years (as specified in subsection (j)(2)(A)(iii)). While the AIM Act states the Agency should use the average production level for the "three-year period ending on the date of the transfer," such data for the year ending on the date of transfer would generally not be reported until 45 days after the end of the quarter, and then would need to be reviewed by EPA for accuracy. Further, EPA does not know the timing for the availability and/or release of another country's data. Thus, EPA is implementing this provision through the three most recent calendar years' worth of data.

To determine the transferor's balance of production allowances after a transfer to a company in a foreign country, the Administrator will determine which of the values under (j)(2)(A) of the Act leads to the lowest value and adjust allowance balance(s) accordingly.

Given the discussion at the start of this section explaining how "transfers" is used in (g) and (j) of the Act, and that EPA is interpreting references to that term as synonymous with

references to "trade," the Agency is also applying the requirement in subsection (g)(2) to international transfers. Subsection (g)(2) of the Act specifies that EPA's regulations shall ensure that transfers "will result in greater total reductions in the production of regulated substances in each year than would occur during the year in the absence of the transfer." The Agency concludes that it is reasonable to view (g)(2) of the Act as applying equally to all transfers. This is consistent with the requirement under (g)(1) that EPA promulgate a regulation that "governs the transfer of allowances for the production of regulated substances under subsection (e)(3)(A)" of the Act. As the international transfers under (j)(2) would affect the production allowances issued under subsection (e)(3)(A), it is reasonable to apply those requirements to international transfers as well. This approach will also result in an additional benefit for the environment than would occur absent the transfer, consistent with (g)(2).

B. What HFC Destruction Technologies is EPA Approving?

The AIM Act in subsection (b)(7) defines the term "produce" to exclude the destruction of HFCs if the destruction occurs through use of a technology approved by the Administrator. This section lists destruction technologies that would be considered approved for purposes of the AIM Act.

Many destruction technologies previously approved by EPA to destroy ODS have also been found capable of destroying HFCs to a minimum destruction and removal efficiency (DRE) of 99.99 percent.[58] There are three broad categories of destruction technologies: thermal oxidation (incineration), plasma, and conversion (other, non-incineration) technologies. EPA

[58] 2018 TEAP Report, Volume 2: Decision XXIX/4 TEAP Task Force Report on Destruction Technologies for Controlled Substances. March 15, 2021. Available *at https://ozone.unep.org/sites/default/files/2019-04/TEAP-DecXXIX4-TF-Report-April2018.pdf*

finds that technologies that destroy HFCs to a DRE of 99.99 percent are appropriate to list for approval under the AIM Act. As proposed, EPA is finalizing two lists of destruction technologies: one for HFCs other than HFC-23, and one for all HFCs including HFC-23 given that HFC-23 is harder to destroy than other HFCs. Commenters supported the creation of two lists, noting that not all destruction technologies need to be able to destroy HFC-23 as it is rarely contained in mixtures with other HFCs.

There are twelve destruction technologies capable of destroying HFCs other than HFC-23 to a DRE of 99.99 percent. They are:

- Incineration (6 technologies): cement kilns, gaseous/fume oxidation, liquid injection incineration, porous thermal reactor, reactor cracking, and rotary kiln incineration.
- Plasma (3): argon plasma arc, nitrogen plasma arc, and portable plasma arc.
- Conversion (3): chemical reaction with hydrogen (H_2) and CO_2, gas phase catalytic de-halogenation, and superheated steam reactor.

Eight of those technologies are capable of destroying HFC-23 to a DRE of 99.99 percent. They are:

- Incineration (4): gaseous/fume oxidation, liquid injection incineration, reactor cracking, and rotary kiln incineration.
- Plasma (2): argon plasma arc and nitrogen plasma arc.
- Conversion (2): chemical reaction with H_2 and CO_2 and superheated steam reactor.

These technologies provide a variety of technological options for the destruction of HFCs and are capable of either destroying HFCs at a DRE of at least 99.99 percent or converting them

into non-regulated substances. The Agency intends to consider approving additional destruction processes in the future if further technologies are developed.

C. What is EPA Requiring for HFC-23 Emission Controls?

As discussed in the Section V, the creation of a regulated substance beyond insignificant quantities inadvertently or coincidentally created in five specific circumstances[59] is considered "production." Such production, whether intentional or unintentional, would generally require the expenditure of production and consumption allowances unless the regulated substance is timely destroyed. This subsection discusses narrowing this general approach for HFC-23. Specifically, as further explained in this section and the proposed rule, given the extremely high exchange value of HFC-23, EPA is exercising its significant discretion to determine that production and consumption allowances cannot be expended for HFC-23 production if that HFC-23 is emitted rather than being captured and either destroyed or sold for consumptive use. Put another way, if a facility produces HFC-23 and emits that HFC-23 onsite beyond the numerical standard established in this final rule, production and consumption allowances cannot be expended to cover the generation of the HFC-23, and the facility will be deemed to have undertaken production of HFC-23 without an accompanying expenditure of allowances in violation of the AIM Act and the regulations established in this rulemaking. Instead of being emitted, HFC-23 must be captured and controlled to a specific standard stated later in this subsection. Entities can

[59] EPA received comment that HFC-23 can be incidentally created at some semiconductor manufacturing facilities. EPA understands that the amounts of HFC-23 generated at semiconductor manufacturing facilities are very small and would meet the threshold of what EPA intended to exclude from production as an "insignificant quantit[y]." As explained further in that section, EPA is finalizing regulatory language that "insignificant quantities" of regulated substances inadvertently or coincidentally generated at semiconductor manufacturing facilities are excluded from the definition of "production" under the AIM Act.

either destroy the HFC-23 or expend production and consumption allowances to capture, refine, and sell it for consumptive uses.

One commenter noted that EPA is relying on its discretion as opposed to direct statutory language in the AIM Act for the HFC-23 controls being finalized here. EPA responds that the AIM Act itself provides EPA with discretion in how to establish an allowance allocation system. EPA is exercising this discretion to only allow production and consumption allowances to be expended for HFC-23 if the HFC-23 is refined and sold for consumptive uses, such as in semiconductor etching or refrigeration at very low temperatures. EPA understands that some HFC-23 is unintentionally created as a byproduct in chemical production processes and vented to the atmosphere.[60] EPA is finalizing its proposal that allowances created through the AIM Act cannot be expended for HFC-23 that is vented. The AIM Act makes clear in subsection (e)(2)(D)(ii) that a production allowance is a "*limited* authorization for the production … of a regulated substance" (emphasis added). An entity that creates HFC-23 would need to capture the HFC-23 and 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. After reviewing public comments, EPA is finalizing this approach as proposed, and is not finalizing the alternative proposal.

This approach is consistent with Congress's intent for phasing down, maximizing reclamation, and minimizing the release of regulated substances under the AIM Act. Congress identified HFC-23 as a regulated substance under the AIM Act. In the Congressionally provided

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

table in subsection (c) of the Act, HFC-23 is assigned the highest exchange value of any regulated substance (14,800), indicating that Congress was well aware of the potential impact of this substance and intended for it to be regulated on that basis. This exchange value is almost 5,000 more than the next closest regulated substance (HFC-236fa at 9,810). As further outlined in a memo to the docket, EPA has data available through the GHGRP indicating that there are at least four facilities that intentionally manufacture regulated substances or substances controlled under title VI of the CAA and emit HFC-23. Existing data suggest that absent control, there may be significant emissions of HFC-23 at facilities that incidentally generate HFC-23. A new production line or new chemical manufacturing process in the future could generate HFC-23, which absent regulation could be vented in an uncontrolled manner. Because HFC-23 has a significantly higher exchange value than any other regulated substance under the AIM Act, EPA is finalizing the prohibition on expenditure of production and consumption allowances on HFC-23 that is emitted.

EPA acknowledges that it is not possible for owners and operators to control their facilities such that no HFC-23 is emitted. EPA further understands that facilities that do not currently control their HFC-23 sufficiently will need time to install and calibrate necessary equipment to capture and control HFC-23 being produced on facilities' lines. Therefore, through this rule EPA is requiring facilities to control HFC-23 to what the Agency has determined to be a level and on a timeline that is practicable. As explained further in the supporting documentation provided in the docket, facilities that are anticipated to be covered by this regulatory requirement are already taking steps to control, capture, and/or destroy their HFC-23 emissions. As further documented in the memo to the docket, some facilities are already controlling at or below the

standard EPA is requiring in this rulemaking. EPA used this real-world experience, in addition to conversations with the known affected facilities, analysis of available control technologies, and analysis of expected costs of controls provided in the RIA, to determine that the numeric emission standard finalized here is practicable. Specifically, EPA is finalizing a requirement that beginning on October 1, 2022, as compared with 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. Put another way, no more than 0.1 kg of HFC-23 may be emitted per 100 kilograms of the primary chemical produced by such facility line. After such point, emissions of HFC-23 byproduct that exceed the 0.1 percent will be treated as violations of an applicable emissions limitation in violation of federal law and subject to any appropriate enforcement action.

One commenter expressed confusion about how the chemicals would be measured to determine whether the emissions standard was met. EPA responds that the 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.

One commenter suggested that EPA codify this numeric emission limitation by defining the specific chemicals that are intentionally produced along with the HFC-23 in its regulations. EPA responds that HFC-23 is unintentionally produced at a few different facilities that are intentionally producing different chemicals. It is also possible that in the future, HFC-23 could be produced during a currently unknown chemical manufacturing process. Therefore, EPA is keeping the requirement generic, and not limiting it to specific chemicals, in order to cover

production of HFC-23 at any chemical manufacturing facility. For similar reasons, EPA is not adopting the commenter's suggestion that EPA provide a more specific metric for measuring the required level of emissions by using a standard based on relative measurement of emissions.

Another commenter suggested that EPA revise its standard to be based on a reduction in total emissions volume, as opposed to a standard that is related to intentional chemical production. The commenter noted that the orientation of the emission standard is such that the public may lack an ability to track and evaluate what is happening, based on EPA's historical approach to withhold data on chemical production. EPA responds that the Agency is finalizing the emission standard as proposed because if the emission limit was just framed in terms of a set reduction from a certain historical point, the facility could simply reduce production on a line to meet the emission target, as opposed to installing more stringent controls on the production line. Conversely, if a facility increased production of the intended chemical, they would not be limited in that production change by a much more stringent emission limit. Tying the limit to intentional chemical production should ensure the facility is held to a consistent standard regardless of whether production of the intended chemical increases or decreases in a given year. An emission reduction standard also would not address future facilities that may produce HFC-23 in future chemical manufacturing processes. As discussed further in Section X.C.1, EPA is making a determination that production data collected under the reporting requirements established in this rule is not entitled to CBI treatment. This should alleviate the commenter's concern about public access to the information needed to calculate whether facilities subject to the HFC-23 emission standard are meeting the requirements. Additionally, EPA will explore ways to provide data on

its website to allow stakeholders to determine whether the HFC-23 standard finalized here is being met at all chemical manufacturing facilities that produce HFC-23.

EPA received a comment questioning what requirements would apply between January 1, 2022, and the emission standard compliance date, and whether allowances would be needed to cover HFC-23 produced and emitted before the compliance date. The commenter noted that the proposed rule was clear that allowances may not be expended for HFC-23 emissions, but still suggested that EPA allocate allowances to cover HFC-23 emissions between January 1, 2022, and the emission standard compliance date. EPA is not accepting the commenter's suggestion, and the Agency does not plan to provide allowances to cover HFC-23 emissions at any point. Such an approach is also counter to the Agency's prohibition on the expenditure of allowances for HFC-23 emissions. It would be impracticable to provide allowances from the general pool to cover such emissions given the incredibly high exchange value of HFC-23 and the very high level of historical emissions at the commenter's facility. The Agency's intent is that production and consumption allowances are not required—or even allowed—to be expended to cover HFC-23 that is generated and emitted until the emission standard compliance date. Put another way, starting January 1, 2022, production and consumption allowances must be expended for HFC-23 that is produced, refined, and sold for consumptive purposes (such as semiconductor etching and very low temperature refrigeration). Production and consumption allowances are not to be expended for any other HFC-23 produced. Starting October 1, 2022 (unless a compliance deferral is granted), HFC-23 emissions must be controlled to the specific numeric emission standard—as compared with 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. A facility that meets these

two requirements will be in full compliance with the AIM Act regulations being finalized in this rule.

As noted previously, HFC-23 that is captured can either be sold for a consumptive use after the producer expends necessary production and consumption allowances, or the HFC-23 must be timely destroyed (such that the producer would be exempted from needing to expend allowances for the HFC-23 production, as described in Section VIII.C). If a producer intends to be exempt from expending allowances because HFC-23 is destroyed, such destruction must occur using a technology approved by EPA as provided in section VIII.B. of this rulemaking and 40 CFR 84.29(b).

While October 1, 2022, should provide adequate time, circumstances could arise that make it impracticable for an individual facility to install and begin operating the necessary controls by October 1, 2022. Therefore, for companies that can sufficiently demonstrate to EPA that at the relevant facilities they have taken concrete steps to start to improve their HFC-23 control, capture, and destruction (such as purchase and installation of necessary equipment), are reporting under GHGRP, and provide information to EPA regarding their plans to meet the 0.1 percent HFC-23 emissions limit, EPA is finalizing that the Agency may grant a six-month deferral. EPA maintains the discretion to provide a one-time additional six-month extension, but anticipates granting a second deferral only in limited circumstances where a company has demonstrated immense hurdles in meeting the first deferral date. Companies must request a deferral by August 1, 2022, and EPA will make a determination on an application within 30 days. EPA's determination will be based on whether the company has demonstrated good-faith efforts to comply with the HFC-23 emissions reduction requirement, whether there are reasons

that have necessitated compliance deferral, and whether there are clear plans for the company to come into full compliance by the deferred date. If a company would like to seek a second deferral, such application must be received no later than February 1, 2022. A second deferral will be granted only in extreme circumstances. EPA intends to publicly announce any compliance deferrals granted under this process.

One commenter, who owns a chemical manufacturing facility that produces HFC-23 and currently has emissions above the standard being established in this rulemaking, expressed support for the extension approach EPA is finalizing here. Two commenters asked that EPA not provide any compliance date extensions, but did not provide sufficient technical analysis to explain why EPA providing extensions under the framework outlined was not justified or why it was improper to allow flexibility if a company experiences documented unavoidable delays in installing and calibrating control equipment. Therefore, the Agency is finalizing the deferral approach discussed in this section.

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 (onsite) or offsite at another plant. In instances where captured HFC-23 is destroyed offsite, transportation to and destruction at the offsite plant will be considered in calculating compliance with the 0.1 percent emissions standard.

One commenter suggested that EPA also prohibit the release of HFC-23 during the manufacture of HCFC-22 under CAA authority. The requirements finalized here relate to any production of HFC-23, whether it is produced alongside generation of another regulated substance or alongside generation of ODS, such as HCFC-22, or some other chemical in the

future. The requirements flow from the production of HFC-23, which is a regulated substance under the AIM Act, and the emission standard finalized herein is not limited to instances where the chemical intentionally produced is also a regulated substance under the AIM Act. The EPA Administrator has signed a proposed rule with similar action to regulate HFC-23 emissions created during the production of HCFC-22 in a separate action using CAA authority. Any action EPA might take under the CAA is out of scope here.

IX. What Enforcement and Compliance Provisions is EPA Finalizing?

Based on EPA's experience with the ODS phaseout in the United States,[61] the global experience phasing out ODS,[62] and the recent experiences in countries that have begun phasing down HFCs,[63] the incentive to illegally trade HFCs will likely increase as HFC production and consumption become regulated and as allowances that authorize import and production of HFCs decline. It is EPA's intent to establish a comprehensive system of mechanisms that together and by themselves discourage and prevent illegal production, import, and subsequent sales of

[61] See, e.g., Goldberg, Carey. "A Chilling Change in the Contraband Being Seized at Borders." *The New York Times*, The New York Times, 10 Nov. 1996. Available at *www.nytimes.com/1996/11/10/us/a-chilling-change-in-the-contraband-being-seized-at-borders.html* and "Enforcement Actions under Title VI of the Clean Air Act." *EPA*, Environmental Protection Agency, 17 Dec. 2020. Available at *www.epa.gov/ozone-layer-protection/enforcement-actions-under-title-vi-clean-air-act#2011*

[62] See, e.g., Montzka, S.A., Geoff S. Dutton, G.S., Yu, P., Ray, E., Portmann, R.W., Daniel, J.S., Kuijpers, L., Hall, B.D., Mondeel, D., Siso, C., Nance, J.D., Rigby, M., Manning, A.J., Hu, L., Moore, F., Miller, B.R., and Elkins, J.W. (2018) "An unexpected and persistent increase in global emissions of ozone-depleting CFC-11" *Nature* 557: 413-417. Available at *https://www.nature.com/articles/s41586-018-0106-2*; WMO (World Meteorological Organization), *Scientific Assessment of Ozone Depletion: 2014*, World Meteorological Organization, Global Ozone Research and Monitoring Project-Report No. 55, 416 pp., Geneva, Switzerland, 2014. Available at *https://www.esrl.noaa.gov/csd/assessments/ozone/2014/report.html*; Environmental Investigation Agency (EIA) (2018) Blowing It: Illegal Production and Use of Banned CFC-11 in China's Foam Blowing Industry. Available at *https://eia-global.org/reports/20180709-blowing-it-illegal-production-and-use-of-banned-cfc-11-in-chinas-foam-blowing-industry*; and Rigby, M. et al. "Increase in CFC-11 emissions from eastern China based on atmospheric observations" *Nature* 569 7757: 546-550. Available at *https://www.nature.com/articles/s41586-019-1193-4*

[63] "Doors Wide Open." *Eia-International.org*, Environmental Investigation Agency, Apr. 2019. Available at, *https://reports.eia-international.org/doorswideopen*; "Resources." *Alliancepolicy.org*, The Alliance for Responsible Atmospheric Policy, 1 Nov. 2020. Available at, *www.alliancepolicy.org/ref-imports/resources-2*

illegally produced or imported HFCs. EPA intends for, and has designed, these provisions to each stand independently from the others and to provide significant stand-alone benefits to deterring and identifying potential violations, while also recognizing that these separate provisions work together as a comprehensive system to deter noncompliance, incentivize future compliance, and ensure that companies that are complying with statutory and regulatory obligations are not put at a competitive disadvantage. These provisions also help to ensure the environmental benefits of the HFC phasedown are fully realized.

In developing these provisions, EPA reviewed in detail the challenges faced by the European Union (EU) in preventing illegal imports of HFCs. Assessments available in the docket from HFC producers, industry associations, and environmental non-governmental organizations provide evidence of significant noncompliance with the EU F-gas rule (Regulation (EU) No. 517/2014), which establishes a schedule to phase down HFC production and consumption over time, similar in concept to the HFC phasedown in the AIM Act, albeit on a different schedule. These assessments suggest that noncompliance in the EU occurs primarily through illegal imports, which can be grouped into two categories: (1) "open smuggling" through the normal customs channels (e.g., correct commodity codes without proper allowances to do so) and, (2) "traditional smuggling" where the importer seeks to avoid the typical customs channels altogether or where HFCs are concealed (e.g., mislabeling). Reports show significant awareness in the industry of illegal activity. A 2019 report by the Environmental Investigation Agency (EIA)[64] provided results of surveys conducted with industry stakeholders in Europe. More than 80 percent of companies surveyed were aware of or suspected illegal HFC trade and 72 percent

[64] "Doors Wide Open." *Eia-International.org*, Environmental Investigation Agency, Apr. 2019. Available at *https://reports.eia-international.org/doorswideopen*

had seen or been offered refrigerants in disposable cylinders—a common feature of illegally imported HFCs given the EU requirement that HFCs be sold in refillable containers.

The review of European customs data presented in the EIA report and other studies support this perception. EIA found that "bulk HFC imports in 2018 were too high for compliance with the 2018 quota."[65] EIA estimated that the amount of HFCs placed on the market in 2018 could be 16.3 $MMTCO_2e$ (or 16 percent) above the quota amount (i.e., the amount allocated) through "open smuggling of HFCs (i.e., imports openly shipped through customs without quota)."[66] Honeywell estimated that illegal imports were equivalent to more than five percent of the total CO_2-weighted quota in 2015.[67] The law firm King & Spalding, on behalf of the Alliance for Responsible Atmospheric Policy, found that reported imports to European customs officials exceeded the quota amount by 16 percent in 2019 and 33 percent in 2020.[68] The European FluoroCarbons Technical Committee (EFCTC) cited analysis of customs records performed by Oxera, which found a significant disagreement in trade data on HFCs shipped from China to the EU. Oxera created a database using data from the EU statistics agency Eurostat, the United Nations' trading statistics database Comtrade, and Chinese export data to calculate the amount of HFCs that were illegally imported (above the quota amount). They found that what was reported

[65] Ibid.
[66] Ibid.
[67] "10m Tonnes of Illegal F-Gas Enters Europe." *Cooling Post*, 1 May 2016. Available at *www.coolingpost.com/world-news/over-10m-tonnes-of-illegal-F-gas-enters-europe*
[68] See King & Spalding, on behalf of the Alliance for Responsible Atmospheric Policy, Side Event presentation at COP12/MOP32 (November 23, 2020). Available in the docket and online at *https://www.alliancepolicy.org/site/usermedia/application/10/Bradford%20KS%20HFC%20Presentation%2023%20Nov%202020%20v4.pdf*

as exported from China alone was 16 percent higher than the amounts reported as imported into the EU during 2016, six percent higher in 2017, and 21 percent higher in 2018.[69]

These reports also indicate the likelihood of more covert smuggling activity, though the scale is not fully known. Reported seizures of illegally imported material in EU member states between 2018 and 2020 range from a few cylinders to more than 76 MT of HFCs.[70] These reports show significant growth in legal HFC imports from China into countries neighboring the EU. King & Spalding cites a 2020 report by Oxera showing a 40 percent increase in HFC exports from China to EU neighbor countries from 2016–2018.[71] They note the dramatic increase in 2018 coincides with a stepdown under the EU's HFC allocation program, and that the increase in legal imports to neighbor countries could be associated with smuggling HFCs into the EU. They also "noted that various reports found smuggled imports [into the EU] were 20 to 30% of the quota."[72]

While not definitive, the reports note this growth may be because the HFCs are being illegally imported into the EU through neighboring countries, such as with fraudulent import declarations, disguised as something else, or through shipment in hidden compartments. The reports also note that illegally imported HFCs that are caught are shipped primarily in disposable

[69] "The Black Market for HFC Refrigerant Gas Is Thriving across Europe." Webinar on Illegal Trade of HFCs - 2020.06.26, European Fluorocarbons Technical Committee, 17 Sept. 2020. Available at *www.youtube.com/watch?v=qqO8IuEt7eg* and *https://stopillegalcooling.eu/wp-content/uploads/Oxera-webinar-slides.pdf*

[70] See EFCTC, Tracking, Training, Tracing: Trade Enforcement on Illegal HFC Imports, Side Event presentation at COP12/MOP32 (November 23, 2020). Available in the docket and online at *https://www.alliancepolicy.org/site/usermedia/application/3/Angelica%20Candido%20EFCTC%20Alliance%20Side%20Event%202020.pdf*

[71] See King & Spalding (on behalf of Arkema Inc., The Chemours Company, Honeywell International Inc., and Mexichem Fluor Inc.), Comments Regarding Foreign Trade Barriers to U.S. Exports of Hydrofluorocarbons, submitted to the Office of the United States Trade Representative (October 26, 2020). Available in the docket.

[72] Ibid.

cylinders. King & Spalding cites a report from an international investigation agency called Kroll, which was hired by the EFCTC to investigate HFC trade in the EU. In addition to finding that illegal HFCs travel through EU neighbor countries, illegal shipments are often sold through online market platforms or arrive through misdirected transhipments, allocation abuse, open smuggling, and counterfeit material.[73]

In summary, there is significant evidence of noncompliance with HFC quotas in the EU, which suggests that similar attempts will be made to evade legal requirements in the United States. By comparison, if the United States were to see similar noncompliance of 16 to 33 percent[74] of the total United States allocation, that would equate to 43–90 MMTEVe of additional consumption than should happen under the statutorily provided phasedown step for 2022 alone with accompanying long-term emissions and environmental and public health costs associated with that level of consumption. This level of noncompliance would put businesses complying with regulatory requirements at a competitive disadvantage and could inhibit companies from investing in research and development to identify new alternatives. In addition, illegal imports of HFCs have consequences for other federal agencies, such as CBP, that collect duties on imports of HFCs.

Consistent with the documented experience in the EU, EPA has also seen situations where material that appears to be illegally imported is advertised as one chemical, but the contents of the container are something different. EPA recently identified imports of CFCs that

[73] See EFCTC, New Kroll findings reveal how illegal imports of HFCs continue to enter EU (April 15, 2020). Available in the docket and online at *https://www.fluorocarbons.org/wp-content/uploads/2020/04/2020-04-15_Press-release-Kroll_final_website-1.pdf*

[74] Based on reports documenting potential noncompliance in the three most recent calendar years for which data is available (2018 through 2020).

were advertised as "Cool Penguin F-12" (or CFC-12) in small cans for use in motor vehicle air-conditioners.[75] While the cans contained some CFC-12, they also contained an inconsistent mixture of numerous other chemicals, including R-40 (chloromethane) which is toxic and has the potential to explode. Given this experience with imports of fluorocarbons that are mislabeled, there are consumer and worker safety concerns.

Since the 1990s, there also have been important enforcement efforts to ensure the phaseout of ODS in the United States. Of note are two specific trade operations targeting illegal imports of CFCs and HCFCs: Operation Cool Breeze and Catch-22.

Operation Cool Breeze was designed to respond to the growing illegal trade of CFCs, after the 1996 phasout of certain CFCs listed under the CAA as class I ODS. EPA estimated that 7,500 to 15,000 MT of illegal CFC-12 were imported between 1994 and 1995. Operation Cool Breeze highlighted the importance of national coordination, cross-agency information sharing, customs trainings and awareness, and criminal prosecution. As a result, close coordination between EPA, CBP, and U.S. Department of Justice resulted in 44 prosecutions and the seizure of more than 862 MT of CFCs. The United States also relied on cooperation with counterparts in Mexico, Canada, China, and Russia to support international efforts to halt the illegal trade of CFCs.

Catch-22 was an outgrowth of Operation Cool Breeze. Catch-22 was an interagency trade operation to identify and prosecute those found to be illegally smuggling HCFCs into the United States. Similar to Operation Cool Breeze, Catch-22 relied on the cooperation and communication of several entities including EPA, CBP, DOJ, industry stakeholders, and counterparts in other

[75] See Mobile Air Climate Systems Association (MACS), Safety Alert: Online Sales of Cool Penguin F-12 in Action (November/December 2020). Available in the docket.

countries. Catch-22 resulted in multiple criminal convictions including sentences of imprisonment, significant criminal fines, and forfeiture of illegal proceeds. Those prosecuted for knowing violations of federal law included bulk importers, wholesale purchasers, freight forwarders, importers of HCFC pre-charged appliances, as well as those falsely claiming import of reclaimed HCFCs.

The experience in the U.S. with regard to ODS, in the EU for HFCs, and the grounded belief that a similar scenario could come to fruition for HFCs in the United States calls for robust enforcement, compliance, and transparency provisions to ensure EPA can meet the statutory directive in AIM Act subsection (e)(2)(B) that "the Administrator shall ensure that the annual quantity of all regulated substances produced or consumed in the United States does not exceed" the levels prescribed in the AIM Act. This directive, as well as the prescriptive schedule established in subsection (e) of the AIM Act and the inclusion of application-specific allowances within the overall cap, are indications that Congress intended for the statutorily required reductions in HFC consumption and production to occur. EPA is accordingly establishing comprehensive compliance and enforcement measures to help ensure that it can implement the allowance program so that it achieves these reductions.

EPA is finalizing strong enforcement and compliance measures at the outset of this new regulatory program to prevent and identify noncompliance, to ensure the Agency can meet the statutory directive in subsection (e)(2)(B), and to create a level playing field for the regulated community. Failure to prevent or identify illegal activity in the United States and ensure compliance with the obligations under the AIM Act could significantly harm the environment, the United States economy, and consumer and worker safety. These provisions were chosen to

address specific challenges with enforcement and compliance experienced in the United States and abroad. While each provision functions independently from the other provisions, the requirements also complement and often reinforce each other to create a holistic approach to ensuring EPA can meet the statutory directive in the AIM Act. EPA is finalizing a multifaceted approach that utilizes a variety of tools to deter, identify, and penalize illegal activity. Each element is intended to complement the others to create a robust enforcement and compliance system. The key components of this system include:

- Administrative consequences for allowance allocations to deter noncompliance separate and in addition to traditional enforcement to address the impacts of noncompliance;
- Requiring use of refillable cylinders;
- Increased oversight of imports including requiring consumption allowances to import heels (residual amounts of HFCs remaining in containers used to transport such substances), petitioning to import regulated substances for transformation or destruction processes, reporting of transhipments, and prohibiting the import of virgin HFCs for disposal;
- Establishment of a comprehensive certification ID tracking system using QR codes to track the movement of HFCs, including requiring anyone that imports, sells or distributes, or offers to sell or distribute HFCs to be registered in the system;
- Recordkeeping and reporting;
- Third-party auditing; and
- Data transparency.

In the proposed rule, EPA stated its intention to work with CBP to establish an automated electronic mechanism to check in real-time if an importer has sufficient allowances for a particular shipment. EPA is working with CBP to develop such a mechanism and as discussed later in this section is finalizing complementary reporting provisions in this rule to allow for this to occur. EPA and CBP have established working relationships regarding the imports of various goods subject to domestic regulation, including ODS. To align with CBP's data systems, EPA intends to modify the Agency's electronic database monitoring HFC allowances such that the most current available information is up to date to allow for real-time or near real-time electronic confirmation for CBP of whether a company seeking to import HFCs is an allowance holder and has sufficient allowances for that specific import.

To support effective enforcement and compliance, EPA proposed to prohibit the sale or distribution, or offer for sale or distribution, of regulated substances that were illegally produced or imported. EPA is finalizing these prohibitions as proposed. These prohibitions are designed to curtail demand for regulated substances that were produced or imported in violation of the regulations and to meet the statutory directive to ensure that the annual quantity of all regulated substances produced or consumed in the United States does not exceed the levels prescribed in the AIM Act.

The prohibitions against selling or offering to sell illegally produced or imported regulated substances provide EPA with broad authority to hold any entity that substantially facilitates or contributes to bringing about or effectuating a sale of illegally produced or imported regulated substances liable. This includes, but is not limited to, parties who transfer ownership, transfer custody, advertise, facilitate online sales, or broker the sale of illegally produced or

imported regulated substances. The prohibition against distributing illegally produced or imported HFCs into commerce also provides EPA with broad authority to hold any entity liable that engages in activity that is central to the products' distribution in commerce. Distribution is not confined to the actual transportation of illegally produced or imported HFCs, but includes the whole transaction of which such transporting is a part. A company that provides the means by which individuals are able to list and sell the prohibited products or that exerts control over these sales, including companies that own or operate platforms for eCommerce transactions, will be considered distributors under this rule.

The final rule also prohibits the sale or distribution, or offer for sale or distribution, of regulated substances that are contained in non-refillable cylinders or that do not meet the registration and certification identification (certification ID) requirements. When these prohibitions become effective, EPA will have the same broad authority to implement these prohibitions that the Agency has to implement prohibitions relating to the sale or distribution, or offer for sale or distribution, of regulated substances that were illegally produced or imported.

These prohibitions impose broad liability to encourage all regulated parties involved in the sale, distribution, and storage of regulated substances to take the steps to verify that the HFCs they sell, offer for sale, or distribute were legally produced or imported.

The AIM Act provides in subsection (k) that section 113 of the CAA applies to rules and regulations promulgated under the AIM Act as though the AIM Act were included in title VI of the CAA. Accordingly, EPA's enforcement authorities, including penalties, and associated regulations (e.g., 40 CFR part 22) apply to this and any other AIM Act regulations.

A. What Potential Administrative Consequences are Available to EPA with Respect to Allowances?

The AIM Act makes clear in subsection (e)(2)(D)(ii) that a production allowance, consumption allowance, and application-specific allowance do "not constitute a property right," and are a "limited authorization." The AIM Act gives the Administrator significant authority to determine an appropriate allowance system, which EPA finds includes the authority to adjust allowance allocations at the discretion of the Administrator if EPA determines that a person failed to comply with certain requirements relating to the HFC allowance allocation and trading program. Further, establishing a set of administrative consequences for allowances is an appropriate exercise of EPA's authority to define further how the limited authorization of allowances will be implemented. These administrative consequences do not supplant or replace any potential enforcement action taken under the AIM Act. Instead, such consequences would be in addition to any available enforcement action.

EPA proposed to retire, revoke, or withhold allowances as well as potentially ban a company from receiving future allowances as administrative consequences. In general, commenters supported strong enforcement of these regulations, including the proposal to adjust allowances. Some commenters raised concerns that the distinctions between retiring, revoking, and withholding allowances were unclear and potentially overlapping. These commenters requested EPA clarify what would trigger different administrative consequences. One commenter stated that EPA lacks authority to issue such enforcement measures nor does the Agency have discretion to invalidate allowances. The commenter also stated that it is unfair for EPA to issue consequences for alleged, rather than proven, violations.

In regard to the comment about the Agency's authority, these administrative consequences function as an adjustment to allocations that the Agency has made. Since EPA was given authority and discretion to create the allowance system, and EPA allocates all allowances initially, EPA also has the authority to alter allowance allocations if those holding the allowances have failed to comply with regulations relating to the HFC allowance allocation and trading program, have provided false or misleading information to the Agency to receive those allowances, or meet the other conditions described in this section.

EPA is clarifying in this final rule how the administrative consequences operate and what actions would trigger them. More specifics on the types of actions that warrant administrative consequences is included later in this section.

A withheld allowance is one that is retained by the Agency until an allowance holder that has failed to meet a requirement comes back into compliance, at which point EPA allocates it to the allowance holder. An example of when an allowance may be withheld is when a company fails to provide necessary reports. For example, if an allowance holder does not conduct an independent audit, EPA could withhold allowances until the Agency receives the audit results. This also applies to quarterly reports and other records requested or required consistent with implementation of the AIM Act. If an allowance holder fails to come into compliance by the date specified by EPA, the Agency could revoke and redistribute the allowances.

1. What are the Administrative Consequences?

Based on comments that the proposal was unclear, EPA is further explaining in this final rule how the different administrative consequences operate and what actions would trigger them. The three ways that EPA may adjust allocations as an administrative consequence are to retire,

revoke, or withhold allowances. A retired allowance is one that must go unused and expire at the end of the year. A revoked allowance is one that EPA takes back from an allowance holder and redistributes to all the other allowance holders. A withheld allowance is one that is retained by the Agency until an allowance holder that has failed to meet a requirement comes back into compliance, at which point EPA allocates it to the allowance holder. A withheld allowance could become a revoked allowance if the allowance holder fails to come back into compliance.

EPA also proposed that there may also be circumstances where the potential administrative consequence could be a ban on a company and/or its owner(s) receiving future allowances. EPA is finalizing this proposal. In this scenario, the company and/or its owner(s) would not be eligible to receive or obtain allowances by way of allocation or transfer, and such a ban would effectively render the company and/or owner(s) unable to produce or import HFCs. If EPA were to ban the company, any allowances that the company has already received would be revoked and redistributed on a pro rata basis to the general pool. If EPA were to ban the owner(s), any remaining allowances that the owner(s) has already received, either through the company at fault or a different company, would be revoked, and any allowances that the owner(s) might have otherwise received in the future, either through the company at fault or a different company, would be withheld and redistributed on a pro rata basis to the general pool. This consequence serves as a deterrent to prevent illegal production and import, as well as a method to ensure that bad actors are removed from the HFC allocation system such that EPA can ensure production and consumption caps are met moving forward in line with the AIM Act's Congressional directive.

2. What Action Could Merit an Administrative Consequence?

EPA has identified the following types of practices that could warrant the Agency exercising its discretion to adjust allowances as an administrative consequence: submitting false, inaccurate, or misleading information; failing to disclose information that, if disclosed, would have barred a company from being an allowance holder; noncompliance with the AIM Act or prohibitions under §84.5; and noncompliance with DOC and CBP relevant statutory and regulatory requirements affecting HFC trade.. The following paragraphs provide examples of situations that could merit an administrative consequence. Depending on the severity of the noncompliance, EPA could also ban a company and its owner(s) from receiving future allowances for such practices.

a. Submitting false, inaccurate, or misleading information

Submitting false, inaccurate, or misleading information may warrant allowance revocation or withholding. For example, if future information reveals that a company applying for application-specific allowances has provided false information, EPA reserves the right to revoke allowances and/or withhold allowances at a greater level than the number of application-specific allowances allocated. Similarly, failing to disclose relevant information as described in the preamble Section VII.E.4 could also warrant EPA revoking or withholding allowances. If the company receiving set-aside allowances is later determined to be ineligible for the set-aside program, EPA could apply these provisions regarding revoking, withholding, and retiring allowances as well as banning all the companies and owner(s) involved from receiving future allowances.

b. Noncompliance with the AIM Act

Unlawful production or import of HFCs, or attempts to unlawfully produce or import HFCs, may warrant EPA action to retire, revoke, or withhold allowances depending on whether that allowance holder currently has allowances or was anticipated to have allowances issued to them in the future. EPA can also ban a company and its owner(s) from receiving future allowances for such action, depending on the severity of noncompliance.

This administrative consequence need not be contingent on an enforcement action. Instead, it would be based on information available to EPA, such as allowance availability at the time of production or import, evidence from the certification ID tracking system, or results from an independent audit that a company is selling material that was produced or imported without allowances.

These potential administrative consequences are designed to deter illegal production and import. Illegal production and import undermine EPA's ability to meet the AIM Act requirement that EPA ensure that HFC production and consumption in the United States do not exceed the statutorily defined cap. These administrative consequences are directly related to and support EPA's ability to meet the statutory obligation in subsection (e)(2)(B) of the AIM Act and further clarify how EPA views its role in adjusting allowances for failing to comply with 40 CFR part 84, subpart A. Under the AIM Act, some companies will face burdens and costs associated with the Congressionally mandated phasedown; those increased burdens and costs unfortunately create economic incentives to avoid compliance. That reality increases EPA's statutory and policy imperative to identify and apply tools that counter those incentives to increase the rate of compliance. Given the serious concerns about potential noncompliance and the undermining of Congress's directive to ensure reductions in production and consumption occur consistent with

the statutory schedule, there is an imperative to use every reasonable tool at our disposal to ensure compliance and thus the objectives of the AIM Act. Retiring allowances also ensures there is an environmental benefit to account for noncompliance that could result in production and/or consumption above the permitted levels.

Additionally, any practice or combination of practices specified in the regulatory text, including in §84.5 "Prohibitions for regulated substances" may warrant EPA exercising discretion to apply one or more administrative consequences for allowances. This could include, for example, the sale or use of HFCs produced or imported with application-specific allowances for a non-qualifying use.

c. Violating Department of Commerce and U.S. Customs and Border Protection Trade Laws

EPA is concerned about companies not complying with other similar HFC trade provisions, such as Anti-Dumping/Countervailing Duties, as violations of such provisions may create an unequal framework for fair distribution of HFC allocations under the AIM Act.[76] Dumping refers to "when a foreign producer sells a product in the United States at a price that is below that producer's sales price in the country of origin ("home market"), or at a price that is lower than the cost of production."[77] Foreign governments may subsidize industries by providing financial assistance to benefit the production, manufacture, or exportation of goods, thereby unfairly undercutting domestic producers. The DOC attempts to eliminate the unfair pricing or subsidies and the injury caused by such imports by imposing additional duties, termed countervailing subsidy duties. The amount of subsidies the foreign producer receives from the

[76] This rule does not change any obligation or liability that an entity may have under other laws and regulations, as applicable, such as requirements under U.S. customs law.

[77] "U.S. Antidumping and Countervailing Duties." *Trade.gov*, International Trade Administration. Available at *https://www.trade.gov/us-antidumping-and-countervailing-duties*

government is the basis for the subsidy rate by which the subsidy is offset, or "countervailed," through these higher import duties. Anti-dumping and countervailing duties are two ways that the United States Government addresses dumping and unfair foreign subsidies. The United States Government can require that foreign companies involved in dumping and/or benefiting from subsidization are charged antidumping and/or countervailing duties collected by CBP each time they import products into the United States. This helps negate the value of the dumping/subsidization for foreign manufacturers and creates a fairer competition for manufacturers in the United States. In findings of dumping, DOC issues an order that requires importing entities to pay AD/CVD for goods covered by the order (e.g., in this case, certain HFCs and HFC blends). EPA has placed a memo in the docket summarizing actions taken to date, as well as the HFC-relevant AD/CVD orders that it is aware of.

As proposed, any entity importing HFCs subject to an AD/CVD order issued by DOC that is receiving allowances for 2022 or 2023 must provide documentation of payment of the AD/CVD duties for HFCs imported from January 1, 2017, through May 19, 2021, the date of the proposed rule, or provide evidence that those imports were not subject to AD/CVD for those years. Companies that do not provide sufficient documentation may be subject to administrative consequences from EPA, such as withholding or revoking allowances. Also as proposed, EPA is not allocating allowances to companies in 2022 or 2023 that CBP determines are not in compliance with or are otherwise in arrears with payment of AD/CVD during those years. After an entity is issued allowances, including for 2022, if it has not paid the required AD/CVD within the required time frame, EPA may apply administrative consequences.

The Agency understands that there are two events related to AD/CVDs where there could be non-payment. The first is when an importer is required to pay a cash deposit at the time of entry as an estimate of AD/CVD duties. The second is liquidation, which is the final computation or ascertainment of duties on entries for consumption or drawback entries. The final amount of duties owed is not determined until Commerce conducts an administrative review to establish the final AD/CVD rates on past entries. In other words, the final duties are assessed retrospectively on prior entries. The final AD/CVD amount may increase, decrease, or remain unchanged from the AD/CVD cash deposit paid at the time of entry. After DOC sends instructions to CBP on the final AD/CVD rate for the entry, CBP will assess this final duty. CBP will issue a bill for any increase in duty plus interest or refund any overpayment plus interest as a result of a decrease of a duty. On average, this entire process, from the date of importation, takes approximately three years. Failure to pay on the timeline specified by CBP could result in EPA applying administrative consequences.

Because the time frame for payment of AD/CVD to CBP could occur after the year of import, after consulting with CBP, EPA may revoke or retire that company's allowances for the year payment is due (and not paid) or may reduce future allowance allocations. After consulting with CBP, EPA may also ban a company from receiving future allowances.

As proposed, EPA finds that the Agency has the discretion to revoke, retire, or withhold allowances for companies that fail to use the correct Harmonized Tariff Schedule (HTS) codes[78] with each shipment of HFCs or HFC blends. Incorrectly declaring the HFC or HFC blend in a

[78] For purposes of this regulation and the regulations established at 40 CFR part 84, subpart A, the terms "Harmonized Tariff System code," "HTS code," and "commodity code" have the same meaning and are used interchangeably.

shipment is one way importers may attempt to illegally import HFCs without allowances or with fewer allowances. Likewise, findings of other violations of other laws, including but not limited to, the False Claims Act (31 U.S.C. §§ 3729 – 3733), that govern the importation of goods into the United States, the making of false statements or claims to the United States, the collection of the revenue of the United States from imports, or the number of allowances needed, could also be subject to the administrative consequences finalized in this rule. EPA intends to work with CBP to institute an automated electronic mechanism to check in real-time if an importer has sufficient allowances for a particular shipment. Errors on Customs forms inhibit EPA's ability to conduct this cross-check to ensure accuracy in and compliance with EPA's allowance system. The Agency also has the discretion to ban a company or the company owner(s) from receiving future allowances if the company repeatedly misreports HTS codes.

These situations are not meant to be exhaustive, but instead are intended as examples of when EPA might exercise discretion to apply one or more administrative consequences for allowances. In response to the proposal's request for comment on whether there are additional non-compliant activities, one commenter recommended applying consequences to entities that have previously underreported HFC production or consumption under the GHGRP. EPA responds that the Agency is not retroactively applying consequences for behavior that occurred prior to the effective date of this rule. However, EPA has already discussed in this section that failure to report to EPA is grounds for an administrative consequence. Future non-reporting or underreporting to the GHGRP would be equivalent to not reporting under the AIM Act as EPA is working to align the two reporting systems for HFC reporting.

3. How would EPA Apply the Administrative Consequences?

EPA proposed that it may exercise discretion to add a range of premiums (between 20 percent and 200 percent) based on the case-specific factors such as the egregiousness of the action and whether they are repeated. One commenter stated that EPA should only apply a 200 percent premium in cases of repeat or egregious violations and a 100 percent premium should be applied in all other instances in which a producer or importer exceeds their allowances.

The proposal did not specify how these premiums would apply under the different methods of adjusting allowances. Based on the comments and on the Agency's desire to streamline the implementation of administrative consequences, EPA is removing some discretion to adjust specifying in this rule the premiums for the first time a company is subject to different administrative consequences. EPA is retaining discretion to determine premiums for a company's subsequent actions triggering an administrative consequence.

An example of when an allowance may be retired is when a company exceeds their allocation. EPA is issuing allowances to new entrants for 2022 and 2023 through this rule. If that new entrant imported more HFCs than they had allowances for in 2022, EPA could require the company to retire some portion of their 2023 allowances. Those 2023 allowances could not be used, sold, or transferred, and EPA would not redistribute them to other allowance holders. Retiring allowances is an important outcome when an allocation is exceeded because it is a direct response to improper excess consumption of regulated substances.

EPA is finalizing a 50 percent premium in first instances where allowances are retired. In the example above, if a company has 100 allowances and imports 110 MTEVe that year, the amount of allowances retired in the next available year would be 15 MTEVe (i.e., 150 percent of the exceedance).

An example of when an allowance may be revoked is when those allowances were acquired by providing false, inaccurate, or misleading information. EPA is issuing allowances based on historical 2011–2019 data through this rulemaking. If the Agency determines that those data were inflated, EPA could revoke the allowances acquired as a result of providing incorrect information to the Agency and redistribute them pro rata to other allowance holders. Revoking allowances is an important outcome when there are distributional effects of an allowance holder's action, as the allowances are redistributed. In situations such as where the Agency learns of new information after the allowances have been expended, EPA could revoke and then may redistribute the allowances that are to be allocated in the next year.

EPA is finalizing a 50 percent premium in first instances where allowances are revoked. In the example above, if a company gains 100 allowances through that false, inaccurate, or misleading information, EPA would revoke 150 allowances. If the company was not entitled to any allowances (e.g., hid that a new entrant is owned by a company receiving calendar-year allowances from the general pool), EPA could revoke all of their allowances and may ban them from receiving future allowances.

Submitting false, inaccurate, or misleading information may warrant allowance revocation or withholding. If future information reveals that a company applying for application-specific allowances has provided false, inaccurate or misleading information, EPA reserves the right to revoke allowances and/or withhold allowances at a greater level than the number of application-specific allowances allocated. Similarly, failing to disclose relevant information as described in Section VII.E.4 could also warrant EPA revoking or withholding allowances. For example, if the company receiving set-aside allowances is later determined to be financially

connected or have a familial relationship with another company receiving set-aside allowances or another allowance holder, EPA could apply these provisions regarding revoking, withholding, and retiring allowances as well as banning all the companies and owner(s) involved from receiving future allowances.

Administrative consequences could be applicable when an entity fails to comply with any provision in 40 CFR part 84, subpart A, including any practice or combination of practices specified in the regulatory text in §84.5 "Prohibitions for regulated substances."

An example of when an allowance may be withheld is when a company fails to provide necessary reports. For example, if an allowance holder does not conduct an independent audit, EPA could withhold allowances until the Agency receives the audit results. This also applies to quarterly reports and other records requested or required consistent with implementation of the AIM Act).

For administrative consequences that would lead to the withholding of allowances, EPA is finalizing that it will hold back 20 percent of that allowance holder's allocation until the situation is corrected. In the example above, if a company has 100 allowances, EPA would withhold 20 allowances. EPA anticipates that these situations would be resolved quickly, but if not resolved within 30 days, EPA could revoke the allowances instead and redistribute them. Depending on the timing, those allowances could be revoked in the following calendar year.

4. What is the Process for Notifying and Responding to Proposed Administrative Consequences?

EPA proposed a process for implementing the administrative consequences provisions. A few commenters expressed concern that there is no ability to appeal an allowance adjustment. In response to the comment that EPA must provide an appeals process, EPA notes that the

established process does include an opportunity for information exchange before the Agency makes a final decision on an administrative consequence. If EPA does ultimately determine to issue an administrative consequence, that would be a final agency action and as such would be subject to judicial review. EPA is not providing for a further administrative appeal process at this time.

EPA is finalizing the following process, which is largely as proposed. Upon evidence of practices including but not limited to the examples provided in this section, EPA would provide a company notice of the impending allowance adjustment or ban that would set forth the facts or conduct that provide the basis for the action. The notice would also state the specific administrative consequence triggered by the conduct. EPA will provide such notice no less than 30 days before the impending action. During this 30-day period the company will not be allowed to expend or transfer its allowances.

Any company that receives notice of an impending action may provide any information or data to support why EPA should not adjust allowances or prohibit the company from receiving or obtaining future allowances. The company must provide information within 14 days of the date of the Agency's notice. If EPA does not receive a response within 14 days, the impending action would be effective on the date specified in the notice, but not sooner than the expiration of the 14-day window.

After review of the supporting data or information provided by the company receiving notice, EPA could decide to rescind the notification, modify the notification, or continue with the allowance adjustment or ban. EPA's decision would occur within 30 days of the date of the Agency's notice. EPA could also decide it needs to gather additional data and extend the timeline

for withholding or making a final decision. Should EPA rescind its notification, the company's allowances would be unfrozen; and, should EPA continue with its impending action, the company's allowances would remain frozen until the effective date of the retirement, revocation, withholding, or permanent ban. Once the Agency issues a final decision, there is no additional administrative appeal to modify the decision. A company would have the ability to challenge EPA's decision in court given it is a final agency action.

B. How is EPA Transitioning to Refillable Cylinders?

EPA proposed to prohibit the sale of regulated substances contained in disposable cylinders, effective January 1, 2025. To facilitate the transition from using both disposable and refillable cylinders to only using refillable cylinders, EPA proposed to prohibit importing or filling disposable cylinders domestically beginning July 1, 2023, eighteen months before the prohibition on sales. This section discusses EPA's authority to prohibit disposable cylinders, describes how it will be implemented, and responds to some of the major comments on the proposal. After considering the public comments, EPA is providing additional time for the transition to using only refillable cylinders in the United States. EPA is finalizing the compliance date of January 1, 2025, for importing or filling disposable cylinders and January 1, 2027, for prohibiting the sale and distribution of disposable cylinders, thus allowing more than five years for this transition. This two-stage approach first prohibits additional disposable cylinders from being added to the market, and subsequently prohibits sales two years later. EPA is also making minor changes to accurately reflect how the prohibition will be implemented and is updating the RIA to account for data provided by commenters.

1. Background

Compressed gases such as HFCs can be stored and transported in a variety of different types of containers. These containers can hold as little as sixteen ounces or as much as a ton (or even more in the case of railcars and ISO tanks). The size and type of the container depend in large part upon the intended use of the regulated substance. OEMs and companies that prepare refrigerant blends often are supplied with HFCs from large containers. Fire suppression system cylinders tend to be smaller and are refillable. HFC refrigerant sold to technicians servicing existing equipment is predominantly contained in disposable cylinders certified to Department of Transportation (DOT) specifications. These cylinders are often called DOT-39 cylinders because the cylinders are certified to meet DOT specification 39 requirements.[79] A DOT-39 cylinder is designed for a single use and is strictly not refillable. As such, a DOT-39 cylinder tends to be less expensive and weigh less than refillable refrigerant cylinders. Disposable cylinders have their own unique shape and are also often shipped packaged in a box while refillable cylinders are not. Refillable refrigerant cylinders are more durable and can be used for up to 20 years. The two primary shapes of refillable refrigerant cylinders are akin to a propane tank or a cylindrical scuba tank and have a two-way valve that can be adjusted to allow pressurized gases in or out.

2. What is EPA's Authority for Prohibiting Disposable Cylinders?

The AIM Act charges the Agency in subsection (e)(3) to issue regulations that phase down the production and consumption of regulated substances through an allowance allocation and trading program. Inherent in this charge is not only the need to issue allowances and a system for their allocation, but also the responsibility to ensure that the statutorily required phasedown occurs. Subsection (e)(2)(B) states that "the Administrator shall ensure that the

[79] See 49 CFR 178.65 - Specification 39 non-reusable (non-refillable) cylinders.

annual quantity of all regulated substances produced or consumed in the United States does not exceed the" prescribed phasedown steps. This Congressional direction provides the Agency authority to establish complementary measures such that the Agency can meet the statutory reduction steps and enforce the requirement that regulated substances may only be produced or consumed when the necessary allowances are expended. The direction to stand up the regulatory program in 270 days and in the first year to start by allocating allowances equal to 90 percent of the baseline rather than 100 percent indicates how urgent the phasedown of HFCs is to Congress.

As noted above, EPA is concerned about the significant potential for noncompliance with the HFC consumption limits established by Congress. EPA anticipates that there will be attempts to evade the requirement to expend a consumption allowance to import HFCs into the United States. Any level of illicit import of HFCs may cause the consumption limit to be exceeded as EPA is allocating the full amount of allowances to producers, importers, and application-specific allowance holders. EPA does not find it appropriate to hold allowances in reserve to accommodate HFCs that are imported illegally. If a similar level of noncompliance seen in the EU over the last three years were to occur in the United States, EPA estimates that 43–90 MMTEVe[80] of imports above the statutorily required phasedown step could occur. Imports on such a scale will have significant long-term environmental and public health costs and put businesses that are complying with regulatory requirements at a severe competitive disadvantage.

[80] This range is based on recent reports documenting potential noncompliance with the production and consumption limits required by the EU F-Gas regulation in 2018 through 2020. Those reports, discussed earlier in Section IX, document a range of 16 to 33 percent potential noncompliance.

The prohibition on disposable cylinders is a strong component within the suite of enforcement and compliance tools that will deter illegal activity in the HFC market and allow EPA to enforce the program as directed by Congress.

Requiring the use of refillable cylinders has a proven track record of facilitating the detection and interdiction of illegal HFCs. The visual differences allow Customs officials and law enforcement personnel to easily distinguish a disposable cylinder from a refillable cylinder. Quickly identifying the type of cylinder is important because the vast majority of illegal imports of HFCs in other countries have been shipped in disposable cylinders. Disposable cylinders are favored for illicit trade because they are cheaper, easier to transport, and difficult to trace. Several studies have found that illegal HFCs are entering European markets in disposable cylinders.[81] EPA has placed a summary of some key studies and evidence into the docket, which include the following highlights:

- At least 500 incidents of illegal HFC imports have been reported to the Montreal Protocol's Ozone Secretariat from 2018–2020, and close to 90 percent of these instances are noted to involve the use of disposable cylinders;[82]
- there were 13 major seizures of illegal HFCs in Europe in 2020, the largest of which contained over 7,000 disposable cylinders; [83] and

[81] "Illegal Refrigerant Imports Could Be as Much as One Third of EU Market." *Fluorocarbons.org*, The European FluoroCarbons Technical Committee, June 26, 2020. Available at *www.fluorocarbons.org/wp-content/uploads/2020/09/EFCTC_Press-Release_EN-2.pdf*
"Doors Wide Open." *Eia-International.org*, Environmental Investigation Agency, Apr. 2019. Available at *https://reports.eia-international.org/doorswideopen*
[82] United Nations Environment Programme (UNEP), Information on illegal trade reported by the parties (2021). Available at *https://ozone.unep.org/countries/additional-reported-information/illegal-trade*
[83] European Anti-Fraud Office (OLAF), *76 tonnes of illicit refrigerant gases detained in Romania thanks to OLAF intelligence* (2020). Available at *https://ec.europa.eu/anti-fraud/media-corner/news/05-08-2020/76-tonnes-illicit-refrigerant-gases-detained-romania-thanks-olaf_en*

- in July 2021, Greece customs officials in one port seized 1,352 illegal disposable cylinders containing 17,200 kg of HFC refrigerant.[84]

EPA has consulted with counterparts in the European Commission, Canada, and Australia, all of which have instituted similar prohibitions on disposable cylinders. Staff implementing the HFC phasedown in these governments confirmed that prohibiting disposable cylinders is an effective mechanism for identifying illegal HFCs. The review of the data reported to the United Nations Environment Programme (UNEP) is telling in that disposable cylinders make up the overwhelming number of cases taken against illegal imports. These documented enforcement actions, combined with feedback from other government representatives, demonstrate that prohibiting disposable cylinders is an effective mechanism for identifying illegal HFCs and therefore is an important mechanism to fulfill Congress's directive in subsection (e)(2)(B) to ensure that the phasedown limits are met. After the initial phase-in and transition from disposable cylinders to refillable cylinders is complete, a disposable cylinder will be a red flag to inspectors to further investigate an entity or to distributors to not purchase the material.

3. How is EPA Implementing the Transition to Refillable Cylinders?

EPA proposed a two-step process for implementing the transition to only refillable cylinders. EPA proposed to restrict the import and placement of HFCs in disposable cylinders by July 1, 2023, followed by a prohibition on the sale of HFCs in disposable cylinders January 1, 2025. EPA's reasoning was to stop the placement of disposable cylinders on the market and allow 18 months for any remaining inventory of disposable cylinders to be sold. EPA proposed

[84] Cooling Post, *10m Tonnes of Illegal F-Gas Enters Europe* (2016). Available at https://www.coolingpost.com/world-news/over-10m-tonnes-of-illegal-f-gas-enters-europe

to require that all refillable cylinders have a unique etched serial number. EPA also discussed establishing a limited sell-through provision that would allow for six more months of sale of remaining disposable cylinders so long as they are registered with EPA.

Based on the comments received and as discussed in the next section, EPA is providing additional time before prohibiting disposable cylinders. Importing or domestically filling disposable cylinders with HFCs will be prohibited as of January 1, 2025. This delay will address many of the points raised by commenters discussed below. EPA is retaining the two-step process as a mechanism to sell through inventory and is prohibiting the sale or distribution of HFCs in disposable cylinders effective January 1, 2027. EPA is not establishing a process for registering remaining disposable cylinders with EPA for continued sale after January 1, 2027. Delaying the prohibition on sale and distribution to more than five years from the date this rule is signed is a simpler way of ensuring inventory is sold than establishing a 6 month sell-through of registered cylinders.

The final rule also clarifies what actions are prohibited. The proposed rule stated that no person may "import or place a regulated substance in a nonrefillable cylinder." EPA is finalizing the phrase "import or domestically fill" disposable cylinders to clarify what the Agency meant by placing a regulated substance in a disposable cylinder. Second, the proposed rule states that "no person may sell or offer for sale" regulated substances contained in a disposable cylinder. EPA is finalizing a broader prohibition to say that "no person may sell or distribute or offer for sale or distribution" regulated substances contained in a disposable cylinder. This addresses other types of transactions and movement in commerce, as described above, which the Agency has seen in the context of ODS.

4. What are the Costs of Prohibiting Disposable Cylinders?

A prohibition on the use of disposable cylinders will directly impact companies that sell, distribute, or repackage HFCs including producers, importers, exporters, reclaimers, fire suppression recyclers, blenders, repackagers, wholesalers, and distributors of refrigerants.

EPA initially estimated that transitioning from allowing both disposable cylinders and refillable cylinders to only allowing refillable cylinders in the United States would cost $18.2 million annually. If that annual cost were applied to every year from 2022–2050, total costs of transitioning fully to refillable cylinders are estimated to be $349 million at a 3 percent discount rate, in 2020 dollars, discounted to 2022. The Agency assumed that 4.5 million disposable cylinders of HFCs and HFC blends are sold each year in the United States, that refillable cylinders are three times as expensive as disposable cylinders, that each refillable cylinder is used 1.5 times per year (reducing the number of cylinders needed by a third), and that refillable cylinders are in use for 20 years. EPA also assumed twice as many trips for refillable cylinders as for disposable cylinders (i.e., one trip from the producer/importer to the distributor/user and one trip back) and due to weight limits for each shipment, about 25 percent fewer cylinders could be shipped in each truckload.

EPA reviewed previous studies, including those referenced in comments, and consulted with other governments that require the use of refillable cylinders, and has updated the analysis in the RIA. After consideration of all comments, EPA's updated cost analysis, available in the docket, shows that the expected cost of the prohibition on disposable cylinders is $441 million (2020 dollars, discounted to 2022) at a three percent discount rate through 2050, including transportation costs of $104 million. Average annual costs during that timeframe are $22 million

per year at a three percent discount rate. However, after 2027 when the requirements have fully phased in, EPA expects a net annual savings per year resulting from the need to purchase significantly fewer cylinders each year.

EPA revised its key assumptions as follows: that refillable cylinders are only sold once per year, that industry would need to build a fleet of cylinders twice as large as total annual sales (i.e., 9 million refillable cylinders) to prevent shortages, that the cost of refillable cylinders is more than 5 times higher than disposable ones, and that cylinders are refurbished every five years as part of the recertification process. Additional sensitivity analysis is included in the RIA. EPA retained the assumption that 4.5 million disposable cylinders are sold in a year. While additional cylinders are sold currently, the Agency estimates those additional cylinders are filled with ODS and non-HFC alternatives. EPA also retained the assumption that fewer refillable cylinders would be shipped per truckload and that refillable cylinders can be reused for 20 years.

Further discussion of these costs can be found in the RIA. Comments related to the RIA can be found later in this section of the preamble.

5. What are the Additional Benefits of Transitioning to Only Refillable Cylinders?

There are secondary benefits of transitioning to refillable cylinders beyond preventing the import of HFCs outside of the allowance allocation and trading program. Disposable cylinders tend to release more of their contents into the environment than do refillable cylinders. Losses from cylinders can occur under a variety of circumstances during transport, storage, and disposal, the frequency and severity of which depend in part on the type of cylinder. HFC losses are most likely to occur and in the most significant quantities from disposable cylinders.

Every cylinder when "empty" still retains a residual amount of its contents, and some cylinders contain more than a heel if not all the contents are used. Removing this "heel" or remaining HFC requires the use of recovery equipment, like that used to recover refrigerant from an appliance. Unfortunately, that is not common practice. Technicians are instructed to dispose of an empty disposable cylinder by checking that the cylinder pressure is released to zero pounds pressure and then rendering the cylinder useless by puncturing the rupture disk or breaking off the shutoff valve. The intent of this disposal practice is to prevent the unsafe practice of reusing a disposable cylinder. Some HFCs in that cylinder are released to the atmosphere in that process and ultimately all are released when the cylinder is crushed for scrap metal recycling. Releases would also occur if a disposable cylinder is sent to a landfill instead of recycled for scrap metal. Even if not punctured, the seal on the cylinder will degrade over time and eventually break, resulting in emissions of whatever is left in the cylinder. Refillable cylinders avoid this disposal process by being returned, heel included, to the distributor. Technicians are incentivized through a deposit system to return cylinders rather than discard them.

Another difference between a refillable and a disposable cylinder that affects their emissions is the mechanism used when a cylinder is over pressurized. While not particularly common, a cylinder that is overfilled or overheated if left in the sun can develop unsafe internal pressures. Disposable cylinders have a rupture disk that will discharge the whole contents of the cylinder before the pressure reaches unsafe levels. Refillable cylinders have resealable safety release valves that relieve the pressure by releasing at most 20 percent of the cylinder contents.

EPA initially estimated that replacing disposable cylinders with refillable cylinders in the United States would prevent the release of up to 5.2 $MMTCO_2e$ of HFCs per year. EPA's

assumptions were that 95 percent of disposable cylinders had a heel and that the heel was 5 percent of the full cylinder. EPA reviewed previous studies, including two done at Congress's behest and those referenced in comments, and has updated the analysis in the RIA. Based on revised assumptions, EPA estimates the prohibition on disposable cylinder use with HFCs would prevent the release of 29 $MMTCO_2e$ of HFCs between 2022 and 2050. These figures assumed that 4.5 million 30-pound disposable cylinders sold each year are replaced in a 2:1 ratio with refillable cylinders, and that HFCs are not recovered from the disposable cylinders 75 percent of the time. The Agency also assumed that the average residual heel is 4 percent, which is approximately the midpoint of the 2011 ICF study conducted for the California Air Resources Board (CARB). EPA includes additional sensitivity analyses in the RIA looking at higher and lower heel and recovery assumptions. While some companies may recover heels from cylinders, there is no evidence that this practice is widespread. The assumption that heels are released from 75 percent of disposable cylinders may therefore be an underestimate of the potential emissions reduction opportunity.

The reductions in emissions from transitioning to refillable cylinders is not a primary basis for EPA's action, nor is it a part of the fundamental rationale or related to the authority upon which EPA is relying. To the extent the reuse of HFCs in heels increases the supply of available HFCs in a given year, it would also decrease the cost of transition in that year.

6. How is EPA Responding to Public Comments?

EPA received many comments on the proposal to prohibit the use of disposable cylinders. Comments generally pertained to the Agency's authority to prohibit disposable cylinders, the ability to source and/or produce enough cylinders to meet the proposed timeline, the

environmental benefits, and the costs. Many of those comments are discussed here, and all other comments are addressed in the Response to Comments document, the RIA, and relevant technical memoranda in the docket.

Authority

Some commenters asserted that EPA lacks authority to prohibit disposable cylinders under either the AIM Act or the CAA. For the reasons discussed at the outset of this section, EPA disagrees. A program to control the production and import of HFCs is only achievable to the extent it can be enforced. Restrictions designed to deter and identify illegal imports, and enforce against those who are violating import controls, are a necessary component to such a program. The importance of compliance assurance is reflected in Congress's direction to EPA in subsection (e)(2)(B) that "the Administrator shall ensure that the annual quantity of all regulated substances produced or consumed in the United States does not exceed the" prescribed phasedown steps.

Under the AIM Act, some companies will face burdens and costs associated with the Congressionally mandated phasedown; those increased burdens and costs unfortunately create economic incentives to avoid compliance. That reality increases EPA's statutory and policy imperative to identify and apply tools that counter those incentives to increase the rate of compliance. Given the risk of noncompliance, there is an imperative to use every reasonable tool at our disposal to ensure compliance and thus the objectives of the AIM Act. Prohibiting the filling, import, and eventually sale of disposable cylinders is directly related to and supports EPA's ability to meet the statutory obligation in subsection (e)(2)(B) of the AIM Act. Specific reasons are discussed in more detail previously (e.g., it provides a proven visual tool for Customs

officials and other enforcement personnel to easily identify illegal material). Given the serious concerns about potential noncompliance, in particular but not exclusively from illegal imports, and the undermining of Congress's directive to ensure reductions in production and consumption occur consistent with the statutory schedule, prohibiting the use of refillable cylinders will support EPA's ability to effectively implement the statute.

Some commenters agreed that prohibiting the use of disposable cylinders would help identify HFCs that are entering the market illegally. Other comments asserted that requiring refillable cylinders does not prevent illegal imports, given the EU continues to see HFC imported in disposable cylinders a decade and a half after the prohibition was put in place. EPA responds that both commenters are correct. Data from the EU show that smuggling continues. The data also show that prohibiting disposable cylinders is an effective tool for identifying and prosecuting those who attempt to illegally import regulated substances. No single element of EPA's enforcement and compliance regime is more important than the others. Prohibiting disposable cylinders in and of itself will not end the illegal importing of HFCs, but no single action can. EPA's overall approach in establishing a broad array of enforcement and compliance tools throughout the allowance allocation and trading program is to have separate requirements that work in tandem to help ensure that the HFC phasedown targets are reached.

Other commenters cited articles showing that as a result of the EU's prohibition on disposable cylinders, importers operating outside of the quota system switched to low-quality refillable cylinders. The commenters asserted that these cylinders are leak-prone and therefore pose risks to the environment, and endanger the safety of technicians, homeowners, and workers. EPA acknowledges that the practices of illicit trade will evolve, potentially including moving to

inexpensive and unreliable refillable cylinders. All cylinders must meet standards from the DOT[85] and awareness of that particular tactic allows EPA to work with DOT and CBP to monitor and address this potential issue. However, the pressure to use poor-quality refillable cylinders could also be affected by the availability of higher-quality cylinders that are compliant with domestic and international standards (e.g., from a timeline for transition that is too short). In theory, a lack of compliant, higher-quality cylinders could lead to the purchase of poorer-quality ones simply because those are the only ones available. As discussed later in this section, some commenters expressed concern about the short 18- to 20-month transition timeline in the proposed rule and the challenges with producing enough DOT-compliant cylinders in that timeline. Part of the reason EPA is finalizing a later compliance date for prohibiting disposable cylinders is to allow sufficient time for the manufacture and purchase of refillable cylinders that comply with DOT requirements.

Cylinder Supply

Various comments were submitted on supply chain issues that could occur as a result of the proposed prohibition on disposable cylinders. Some commenters raised concerns that not enough refillable cylinders could be manufactured to accommodate the marked increase in the supply needed. As such, commenters were concerned that there would be shortages of HFCs in parts of the United States. Commenters stated that the United States may experience a surge in imports of lower-cost and lower-quality refillable cylinders which would be a financial harm to the domestic manufacturer of cylinders. Commenters allege that lower-cost imported cylinders would result in financial injury.

[85] See 49 CFR Subpart C - Specifications for Cylinders.

EPA recognizes the concern raised by commenters that not enough refillable cylinders will be ready before the proposed July 1, 2023, date for the prohibition on filling disposable cylinders. For this reason, among others discussed in this section, EPA is delaying the compliance dates for this provision to January 1, 2025. The adjusted compliance date allows for a more gradual approach to mitigate concerns about the supply of cylinders. This additional time will also allow for companies to develop a plan to transition to refillable cylinders and allow companies to adjust their storage and management practices to account for empty cylinders on their way back to the original filler. EPA also acknowledges comments on the availability of potential lower-cost refillable cylinders (concerns about lower-quality cylinders have been discussed previously). The Agency is not limiting who may supply refillable cylinders in this rule. Any refillable cylinders that meet safety and other applicable standards can be used for storing and transporting regulated substances.

Environmental Benefits

Many commenters discussed the Agency's analysis of the environmental benefit of the disposable cylinder prohibition. Some organizations supported the analysis, while a few noted that the heels in disposable cylinders may be upwards of 10 percent. Other commenters asserted that EPA's estimate that up to 8 percent remains as a heel is based on outdated data or is a worst-case scenario that assumes that there have been no mitigating actions taken prior to disposal. Some commenters cited data from studies that the average heel left in a disposable cylinder is closer to 3 percent and may be less than 1.5 percent, and attributed this lower estimate, in part, to technicians recovering the heels because of the monetary value of the remaining HFC as well as complying with the venting prohibition under section 608 of the CAA.

EPA responds that there may be variations in how much HFCs remain in a disposable cylinder at its end of life. EPA used 5 percent as the amount of heel in the proposal, not 8 percent, to be conservative. EPA has reviewed multiple studies and is reanalyzing the emissions benefit using a 4 percent heel for the final rule. EPA has no evidence to support an average heel of 1.5 percent and, based on experience with compliance under CAA section 608, doubts the practice of recovering heels is widespread.

Several commenters suggested that the increased transportation and freight requirements necessary to distribute, service, and return a fleet of refillable cylinders would harm the environment. Commenters cited factors such as the increased weight per cylinder, the increased size of refillable cylinders resulting in an increased number of trips, and the travel associated with refilling cylinders as reasons why overall emissions would increase. Commenters referenced a study conducted for CARB by ICF in 2011[86] estimating that in certain parts of the country, the transportation costs and annual distance traveled could approximately double. Commenters also noted concern that prohibiting disposable cylinders for HFCs could result in imports of refillable cylinders to meet demand, which would result in increased transportation-related emissions compared to domestically sourced cylinders.

The Agency has considered added transportation costs in its analysis. EPA had considered the study estimating that travel distances for refillable cylinders would be double that of disposable cylinders at the proposal stage and has revised its estimates. Several commenters cited the study conducted for CARB in 2011, noting that the review indicated that there were limited environmental benefits associated with transitioning to refillable cylinders. EPA responds that the 2011 CARB analysis assumed full compliance with California's requirements to

evacuate refrigerant from cylinders. The report notes that "[i]n reality, compliance with [CARB's] Refrigerant Management Program is highly uncertain and difficult to enforce. Under a scenario of noncompliance with this program, net GHG emissions avoided by transitioning to refillable cylinders would be approximately 14 $MMTCO_2e$, and cost effectiveness would be \$14/$MTCO_2e$ for HFCs only" by 2050.[86] Given there is no similar national standard on recovery (it is not required under EPA's CAA section 608 regulations), this higher estimate would be more appropriate as a comparison point than the value cited by commenters.

Some commenters suggested that EPA employ other measures to achieve the same environmental outcome as a prohibition on disposable cylinders. They suggested, among other things, implementing end-of-life practices for disposable cylinders and extending existing regulations, such as the venting prohibition in section 608 of the CAA, to disposable cylinders.

EPA responds that the measures proposed by the commenters could provide environmental benefit relative to the status quo, but none of the suggestions address the primary reason EPA is prohibiting the use of disposable cylinders. Prohibiting disposable cylinders provides an easy mechanism for the flagging of potential illegal HFC activity on the border and within the United States. The environmental outcome EPA is seeking is to ensure that the statutorily directed phasedown in HFC production and consumption occurs. EPA is presenting the additional environmental benefit, and additional financial costs, of prohibiting disposable cylinders as part of the overall RIA.

Costs and Related RIA Assumptions

[86] See ICF International, "Lifecycle Analysis of High-Global Warming Potential Greenhouse Gas Destruction," (2011). Available at *https://ww2.arb.ca.gov/sites/default/files/classic//research/apr/past/07-330.pdf*

Commenters raised concerns with the costs of transitioning to refillable cylinders and stated that EPA's estimates for the conversion were too low. Several commenters cited a figure generated by the sole domestic refillable refrigerant cylinder manufacturer that converting the entire fleet to refillable cylinders would cost $2 billion, which does not factor in additional costs from converting the transport fleet, visually inspecting and testing new equipment to ensure their suitability for service, and establishing a reverse distribution system. The same refrigerant cylinder manufacturer provided an annualized cost estimate of approximately $521 million for switching to refillable cylinders. This figure was premised on the following parameters: i) producing refillable cylinders requires retooling costs at the specific cylinder production facilities; ii) EPA's estimate of the number of refillable cylinders needed was too low; iii) EPA neglected to account for periodic cylinder inspection and refurbishment costs; iv) EPA used incorrect cylinder and valve costs; and v) EPA overestimated the number of refillable cylinders that can fit in a truckload. Other commenters extrapolated figures from the 2011 CARB report estimating that a nationwide refillable cylinder system would be at least $340 million (in 2011 dollars) more expensive to implement between 2011 and 2050 than a similar disposable cylinder system. Some commenters also asserted that the necessary monetary investment would adversely affect every point in the supply chain, including but not limited to packagers, distributors, contractors, individual technicians, and consumers.

Several commenters disagreed with EPA's assumption that refillable cylinders can replace disposable cylinders on a one-to-one basis. Several commenters described the need for four times as many refillable cylinders to create the closed-loop system that is needed. Commenters stated that one refillable cylinder is at each of the following locations at any given

time: a job site with a technician or installer; in transit between filler, reclaimer, or distributor; storage with an end user or distributor; and, in the process of being filled, refurbished, or recertified. Commenters also asserted that EPA's estimate that 4.5 million disposable cylinders are sold annually in the United States is low. Instead, commenters estimated that six to seven million disposable cylinders are used annually, based on consultation with various industry stakeholders. Commenters calculated that the total number of refillable cylinders needed to replace the disposable cylinder fleet would therefore be 26 million, not including another 2.6 to 3.9 million new cylinders needed per year to replace cylinders that are damaged, lost, or at their end of life (10 to 15 percent of the fleet size).

EPA responds that the Agency's estimate of 4.5 million cylinders is limited to the number of cylinders needed for annual sales of HFCs and blends containing HFCs. This figure does not include cylinders needed for HCFCs, HFOs, or other alternatives as this rule does not affect those substances. EPA is confident in its estimate and has not adjusted this number in the final RIA. In regard to the comment that EPA underestimated the ratio of refillable to disposable cylinders, EPA acknowledges that its initial assumption of 1 refillable cylinder for every 1.5 disposable cylinder is likely an underestimate. EPA does not agree with comments that four times as many refillable cylinders are needed relative to the number of disposable cylinders sold in a given year currently to determine the total fleet size needed. In practice, a 4:1 ratio for the full fleet of cylinders compared to current cylinder sales in a closed-loop system assumes that each cylinder is only sold once resulting in a 4-year cycle on average for one cylinder to make it from the point of filling to the next time it is filled. While this could occur for some cylinders, this is counter to experiences in other countries where each cylinder is filled 1.3 to 4 times per

year. A 4-year cycle would be a very inefficient distribution chain. EPA expects that companies would deploy deposit and return systems, as companies in other countries have done, or use other mechanisms to incentivize returns at a more efficient pace than only cycling 1/4 of the cylinder fleet through the supply chain each year. EPA acknowledges that the Agency may have underestimated the ratio and has updated the estimates in the RIA to be 2:1. Thus, EPA estimates 9 million refillable cylinders may be needed to replace the current fleet of disposable cylinders. This estimate is lower than those provided by several commenters. However, this estimate aligns with at least one commenter, who estimated 7 – 10 million cylinders would be needed for the United States market, and reflects the longer lead time. The ratio required in the near term would be higher if EPA required all disposable cylinders to be replaced at once. In this final rule, EPA is instead providing five years for the transition to occur. While there will be an upfront cost with establishing a fleet of only refillable cylinders, long-term costs associated with the cylinders will likely be below current costs due to the long lifetimes of properly maintained cylinders. As noted above, some amount of the fleet needs to be replaced each year. Feedback from EPA's counterparts in the government in Australia indicates less than seven percent of the cylinder fleet is lost, retired, or damaged each year, yet few cylinders are ever beyond the ability of repair. They estimate less than two percent of cylinders are lost each year, but the cost of those cylinders is typically covered by deposit and therefore has no cost to the distributor. EPA has assumed that 5 percent of cylinders are retired each year and that every cylinder needs to be recertified (and in some cases refurbished) every five years.

7. Treatment of Small Cans with Self-sealing Valves

EPA proposed to allow the continued sale of HFCs in certain disposable containers, such as small cans of refrigerant with a self-sealing valve that meet the requirements in 40 CFR 82.154(c)(2). These containers have a mechanism in place to reduce emissions, so there would not be the same environmental benefit from their prohibition as EPA perceives in prohibiting other disposable cylinders. For a more complete discussion of the ways self-sealing valves reduce emissions of refrigerant, see 81 FR 82272 (November 18, 2016).

One commenter supported EPA's proposal to allow the continued sale of HFC refrigerants in small cans with a self-sealing valve meeting the requirements contained in 40 CFR 82.154(c)(2), noting that the development of those regulations was a joint process between one industry and state and federal regulatory bodies that resulted in success for consumers, industry, and the environment. Another commenter provided several reasons for why EPA should prohibit small cans including: small cans of refrigerant are a public safety and environmental hazard; devices that can circumvent the self-sealing valves are readily available to consumers and void the intended effects of the valves; and, the end users of small cans may not be limited only to the do-it-yourself community. The commenter also provided an alternative to the proposed exemption for small cans with self-sealing valves, whereby the filled cans contain reclaimed refrigerant, and a limit of one can per customer is enacted.

After considering these comments, EPA is finalizing, as proposed, the provision that allows the continued sale of HFCs in certain disposable containers, limited to small cans of refrigerant with a self-sealing valve that meet the requirements in 40 CFR 82.154(c)(2). EPA has previously determined that these self-sealing valves reduce emissions of refrigerant after use (see 81 FR 82272) and the commenter did not provide sufficient data to suggest that EPA's previous

finding was incorrect. In addition, EPA explicitly did not propose prohibiting small cans in the proposal. Further, some of the suggestions offered, e.g., purchase limits and composition requirements, are outside the scope of the proposal.

8. Compliance Dates

EPA proposed implementing the prohibition on disposable cylinders in two stages. First, it would be unlawful to import or fill disposable cylinders containing HFCs, effective July 1, 2023. This first stage prevents new disposable cylinders from entering the market. Second, EPA proposed to prohibit the sale or offer for sale of HFCs in disposable cylinders, effective January 1, 2025. This second stage allows time for disposable cylinders already on the market to be sold.

Regarding the first deadline, one commenter suggested an earlier compliance date of January 1, 2023, to ensure that existing stock can be sold prior to January 1, 2024. All other commenters concurred that July 1, 2023, was too short to implement such a transition. Commenters cited various reasons that the deadline is unachievable, many of which have been discussed earlier, including but not limited to costs, infrastructure and distribution requirements, and supply chain considerations. Commenters suggested a range of alternative dates ranging from January 1, 2024, to three or more years. Regarding the second deadline, commenters asserted that EPA's assumption that all inventory can be sold in 18 months was unsupported by any data, and in fact, some inventory can be maintained for multiple years.

Based on the factors cited above EPA is also finalizing a later compliance deadline than the proposed July 1, 2023, date for the prohibition on the import or placement of HFCs in disposable cylinders from, namely January 1, 2025. EPA expects that the adjusted compliance date will assist with a gradual and phased-in approach that will contribute substantially in

mitigating the supply chain issues identified in public comments and reducing the need for a larger than necessary fleet of cylinders. EPA is also finalizing a later compliance date for the prohibition of the sale or offer for sale of regulated substances in disposable cylinders (January 1, 2027, as compared to the proposed date of January 1, 2025), to accommodate for inventory sell-through.

EPA proposed to prohibit the import of HFCs in cylinders designed to hold 100 pounds or less of a regulated substance intended for use in a process resulting in their transformation or destruction. As discussed in Section IX.E of this preamble, feedstock HFCs may be imported without expending consumption allowances. This minimum size restriction is intended to prevent the submission of false information that a particular shipment of HFCs in cylinders does not require allowances because they are for transformation or destruction processes. EPA does not anticipate this proposal would affect current business practices as these HFCs are typically imported and used in large volumes at specific facilities. Commenters, including companies that import feedstock HFCs, were supportive of this proposal. One commenter requested an exemption for HFCs used for research and development purposes as these are typically needed in smaller quantities. EPA responds that the Agency does not have sufficient information to say that these research and development applications qualify as transformation or that these small quantities could not be sourced domestically.

C. What are the Labeling Requirements?

EPA proposed to require that all containers that contain a regulated substance in bulk (e.g., ISO tanks, drums, cylinders of any size, or small cans) must have an affixed label or other marking that indicates the specific HFC(s) in that container. Specifically, the proposed label

must state, legibly and indelibly, in numbers and letters at least 1/8 inch high, the common name of the HFC or HFC blend contained, and the composition and ratios of the HFCs if a blend. This font size is consistent with the DOT-39 labeling standards (see 49 CFR 178.65). EPA also requested comment on whether the label should include the quantity of HFC in the container.

Many commenters expressed concern that an EPA labeling requirement would be duplicative of existing labeling requirements. Commenters suggested that EPA defer to the labeling requirements in DOT, Occupational Safety and Health Administration (OSHA), and DOC regulations. One commenter suggested that the presence of an American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) number on a cylinder or can is sufficient to determine the composition.

EPA responds that the intent of the proposed labeling requirement was to allow EPA to take an enforcement action if an EPA or Customs official discovers an unidentified cylinder or suspects that a cylinder is misidentified. EPA is seeking to avoid contradicting the DOT, OSHA, or DOC labeling requirements. As such, EPA is not finalizing the specific lettering size requirements or the requirement that the cylinder have a serial number.

EPA also understands from comments that containers must be labeled with technical names of the contents if the proper shipping name does not specify the chemical name. EPA is finalizing a requirement that the container specify either the name of the regulated substance, the ASHRAE designation (where applicable), or the percentage composition of the regulated substances it contains.

As discussed in the proposed rule, companies without allowances have attempted to evade import restrictions by misidentifying in the Customs documentation or on the cylinders

that the imported regulated substance is a different compressed gas. ODS refrigerants have been falsely labeled as HFCs, since allowances were not required to import HFCs at that time. EPA can also conceive of allowance holders or others attempting to evade import restrictions by similarly misidentifying an HFC or blend that has a high EVe as a blend with a lower EVe, thereby reducing the number of allowances needed to be expended for the import. Under this method of illegal import, once the unidentified or misidentified regulated substance enters the United States, a domestic counterpart who knows the true identity of the compressed gas would have to relabel the cylinder with the correct substance to be commercially useful. Consistent with the proposal, EPA considers repackaging material that was initially unlabeled or mislabeled to be a knowing violation of this subpart. Preventing these violations helps EPA to meet the directive of subsection (e)(2)(B) that EPA "ensure that the annual quantity of all regulated substances produced or consumed in the United States does not exceed" the statutorily prescribed phasedown schedule.

To provide a way to check the accuracy of the label, EPA proposed to require producers and importers to batch test their product and retain records indicating the results of the batch testing. EPA received two comments on this proposal, both of which were supportive of this requirement. One commenter stated that the use of batch testing is already a common industry practice among both producers and importers and that it is a mechanism that can be used to reinforce accurate labeling of HFC content. EPA is finalizing the requirement for batch testing of all HFCs produced and imported. Records would need to be maintained to document the results of the batch testing.

EPA requested comment on whether to require that containers purporting to contain a specific HFC or an ASHRAE designated blend with an HFC component meet the specifications in Appendix A to subpart F of part 82—Specifications for Refrigerants. Currently, under the CAA section 608 regulations, reclaimed refrigerant is required to meet specifications based in large part on the AHRI 700-2016 standard for purity before it can be released into the market. Based on input from industry, EPA is now aware that virgin material potentially could include impurities or that the ratio of components in a blend may not match that required of the blend.[87] Multiple commenters supported including a requirement that all companies (not just reclaimers) comply with AHRI Standard 700 where relevant. To ensure the quality of the refrigerant entering the U.S. market is to industry specifications and to ensure the HFCs being imported and produced match the amount of allowances being expended, EPA is finalizing a requirement that all HFCs imported, filled in containers domestically, and sold as refrigerants meet the specifications in Appendix A to subpart F of part 82—Specifications for Refrigerants.

EPA is finalizing as proposed that if the bill of lading or other evidence suggests that cylinders contain HFCs but the cylinder itself is not labeled or the labeling is illegible, EPA will presume that the container is completely full of HFC-23, unless the importer verifies the contents with independent laboratory testing results and fixes the label on the container before the container is imported. As such, a company would have to expend the requisite allowances to import HFC-23 to be able to legally import the unlabeled HFCs . The company can also choose to have the shipment held at the port or in a bonded warehouse until they can arrange for testing

[87] See Air Conditioning, Heating, and Refrigeration Institute (2013). Reports of R-134a Contaminated with R-40 and Other Refrigerants [White paper]. Available at *https://www.ahrinet.org/App_Content/ahri/files/News%20Room/Press%20Releases/2013/AHRI_R_40_Contamination_white_paper.pdf*

to identify the contents and relabel the container. Only the importer may repackage (including relabeling) a container of regulated substances if it is unlabeled or the labeling is illegible. The goal of this presumption is to deter illegal activity and promote accurate and clear labeling, while also simplifying the process for EPA, in coordination with CBP for imports, to deduct a sufficient number of allowances at the point of import. HFC identifiers and a certified laboratory to verify the contents of a container may not be available at a port, so providing a clear presumption that could be used in such circumstances would facilitate compliance and enforcement efforts. This also reduces the safety risk of shipping and storing unlabeled cylinders and the potential to damage equipment resulting in the release of refrigerant and harm to the environment.

Under the AIM Act, some companies will face burdens and costs associated with the Congressionally mandated phasedown; those increased burdens and costs unfortunately create economic incentives to avoid compliance. That reality increases EPA's statutory and policy imperative to identify and apply tools that counter those incentives to increase the rate of compliance. These provisions, alongside the other provisions described in this rule, improve the enforceability of this rule and compliance with the statutory phasedown. Given the risk of noncompliance, as described throughout this section, there is an imperative to use every reasonable tool at our disposal to ensure compliance and thus the objectives of the AIM Act. Requiring limited labeling and testing requirements to ensure material imported, produced, and sold matches the label is directly related to and supports EPA's ability to meet the statutory obligation in subsection (e)(2)(B) of the AIM Act. Given the serious concerns about potential noncompliance and the undermining of Congress's directive to ensure reductions in production

and consumption occur consistent with the statutory schedule, proper labeling and testing to verify that labeling will support EPA's ability to effectively implement the statute.

D. What is EPA Requiring for Auditing?

EPA proposed to require external audits that are performed by CPAs on an annual basis for all producers, importers, exporters, reclaimers, and entities issued application-specific allowances.[88, 89] EPA proposed that the scope of the audit be of records necessary to verify that the reports provided to EPA are accurate. EPA proposed that the audits be sent directly to EPA by the auditor before the results were shared with the auditee.

To ensure the integrity of the allocation program, EPA is finalizing a requirement for annual third-party audits of producers, importers, exporters, reclaimers, and companies issued application-specific allowances. These entities affect compliance with the phasedown caps under the AIM Act or generate certification IDs. The Agency is providing additional detail on the types of certification statements that must accompany an audit report when submitted to EPA. These requirements are based on similar requirements under the Renewable Fuel Standard (40 CFR part 1090), which have helped to confirm the accuracy of reported information. EPA is also adding recyclers of HFCs used for fire suppression to the list of companies that must be audited. This is appropriate since they will be required to request certification IDs associated with the HFCs they recycle and resell in bulk. The Agency has also added reporting requirements for these companies. EPA is also amending the proposed auditing requirements for the DOD by

[88] In the proposed rule, EPA inadvertently used the term "allocation-specific allowances" in some places when it meant application-specific allowances. However, the text at proposed 40 CFR 84.33 is clear that the intent of the proposal was to cover "[a]ny person receiving…application-specific allowances," (see 86 FR 27222-27223).
[89] Entities that import HFCs for the sole purpose of destroying those HFCs will be exempt from the auditing requirement described in this section. Entities that import HFCs for the sole purpose of transforming those HFCs will not be exempt from the auditing requirement. See regulatory text for details.

requiring an internal annual review rather than requiring third-party auditing. EPA is extending the compliance date by a year and requiring the first audit be conducted in 2024 on calendar year 2023 data. More detail is provided below about auditing requirements for specific entities.

As noted elsewhere in Section IX, under the AIM Act, some companies will face burdens and costs associated with the Congressionally mandated phasedown; those increased burdens and costs unfortunately create economic incentives to avoid compliance. That reality increases EPA's statutory and policy imperative to identify and apply tools that counter those incentives to increase the rate of compliance. As described below, auditing is one of those compliance tools, as it provides an independent check on a company's reports and has a well-documented record of fostering compliance. The audits will also review records that are not routinely sent to EPA. Given the risks of noncompliance described in this rule, EPA must use every reasonable tool at our disposal to ensure compliance and thus the objectives of the AIM Act.

Many economic studies have found that third-party auditing improves company and individual compliance with the law.[90,91,92,93] EPA has used third-party auditing since at least the reformulated gasoline regulations were promulgated in 1994 (59 FR 7716, February 16, 1994). In the Renewable Fuel Standard, which uses third-party auditing, EPA noted expert consensus that well-implemented third-party auditing is a good use of limited enforcement and oversight

[90] Esther Duflo, Michael Greenstone, Rohini Pande, and Nicholas Ryan, "Truth-Telling by Third-Party Auditors and the Response of Polluting Firms: Experimental Evidence from India," *Journal of Economics* (2013), 1499–1545. Available at *https://doi.org/10.1093/qje/qjt024*

[91] Henrik Kleven, Martin Knudsen, Claus Kreiner, Søren Pedersen, and Emmanuel Saez, "Unwilling or Unable to Cheat? Evidence From a Tax Audit Experiment in Denmark." *Econometrica*, 79: 651-692. (2011). Available at *https://doi.org/10.3982/ECTA9113*

[92] Marcelo Bérgolo, Rodrigo Ceni, Guillermo Cruces, Matias Giaccobasso, and Ricardo Perez-Truglia, "Tax Audits as Scarecrows: Evidence from a Large-Scale Field Experiment," *NBER* Working Paper No. 23631 July 2017, Revised January 2020 JEL No. C93, H26, K42

[93] Keshav Choudhary and Bhanu Gupta, "Third-party Audit and Tax Compliance—Evidence from a Notched Policy in India." (2019). Available at *https://www.isid.ac.in/~epu/acegd2019/papers/BhanuGupta.pdf*

resources (79 FR 42080, July 18, 2014).[94] Independent and objective audits are a valuable tool to improve compliance and accuracy among all companies, not just those with covert malicious intent to be inaccurate in their reporting. Given that EPA is establishing a new program, it is likely that there will be inadvertent reporting errors. Audits will also assist EPA in understanding where there may be common areas of confusion among industry participants that the Agency can improve upon in subsequent rulemakings.

Commenters from environmental organizations and state agencies expressed support for the proposed auditing requirement, because they agreed that third-party auditing improves compliance with environmental rules. Several HFC importers also expressed support, although at least one such commenter requested more time to meet the requirement.

Many commenters objected to the proposed auditing requirement based on concerns for the potential cost. One commenter said that annual audits could cost them between $40,000 and $60,000 annually, not including auditee staff time or time required for the auditor to compile the report. Another expressed concern about the cost of third-party audits, relative to the low volume of HFCs that some of its members purchase. Similarly, several commentors asked that EPA exempt smaller companies from the annual third-party auditing requirement. At least one

[94] Other government programs with third party audits include Food and Drug Administration's imported food programs (see https://www.fda.gov/food/importing-food-products-united-states/industry-resources-third-party-audit-standards-and-fsma-supplier-verification-requirements) and medical device inspection program (see https://www.fda.gov/medical-devices/third-party-inspection-devices/inspection-accredited-persons-program); the Consumer Product Safety Commission's children's product safety rule (see https://www.cpsc.gov/Regulations-Laws--Standards/Rulemaking/Final-and-Proposed-Rules/Third-Party-Conformity-Assessment-Bodies); and the Federal Communication Commission's Telecommunications Certification Bodies (see https://www.nist.gov/standardsgov/telecommunications-certification-bodies-tcb-application-information). Another comprehensive discussion of third-party programs conducted by the Administrative Conference of the United States is available at https://www.acus.gov/sites/default/files/documents/Third-Party-Programs-Report_Final.pdf

commenter expressed concerns about companies' ability to furnish third-party audits during the first allocation period, which the commenter viewed as too tight a turn-around.

Based on the quantitative information that commenters submitted, EPA has updated its estimated recordkeeping and reporting costs in the RIA. Recognizing that the cost of an audit for each company will differ depending on the quantity and number of HFCs it acquires in a given year, the size of the business, and the amount of records that would need to be reviewed, EPA has increased the estimated average cost for an audit from approximately $2,500 to approximately $11,000 by adding in additional time for company staff and for the third-party auditor's time. The updated cost of the auditing requirement is still reasonable given the substantial benefit auditing has been proven to provide for overall compliance. In response to public comment, EPA is extending the compliance date by a year with the first audits due by May 31, 2024 (for calendar year 2023), rather than by May 31, 2023 (for calendar year 2022), as proposed. EPA will require auditors to review a representative sample of five percent of or 10 batch testing records, whichever is higher, rather than all records as proposed.[95] EPA has also lessened the amount of records from reclaimers that will be required to be audited (see below). These changes reduce burden while still maintaining a rigorous independent audit. Some commenters questioned the need for auditors to be CPAs, citing concerns about the cost as well as their potential lack of industry-specific knowledge. Commenters noted that it would take time to train an auditor on how this industry works, which would contribute to the cost and difficulty

[95] If a company engages in multiple types of HFC-related activity (e.g., importing, reclaiming, etc.) then a random sample must be taken for each activity. So if a company both imports and reclaims HFCs, auditors must review a five percent random sample of the import records and, separately, a five percent random sample of the reclamation records.

associated with the auditing requirements. A few comments questioned the value of independent audits and/or requested that EPA allow companies to self-audit.

EPA considered these comments but maintains that CPAs are best suited to conduct annual compliance audits of a regulatory program. CPAs are licensed by the states to ensure their independence, competency, and adherence to ethical standards. CPAs are also trained to be able to work across varied industries and understand accounting frameworks and recordkeeping obligations across sectors, and have conducted thousands of audits (called attest engagements) under the CAA fuels regulations over the last 25 years. EPA is delaying the auditing requirement by one year, for which should help give companies time to find qualified CPAs and for CPA firms to develop the industry-specific expertise. EPA disagrees with the suggestion to allow companies to self-audit as this would effectively be redundant with companies' annual and quarterly reports. Self-audits do not have the proven benefits for compliance and correcting errors as shown by third-party audits.

At least one commenter expressed concern about auditors' ability to keep their data private. EPA responds that the auditing profession has ethical norms and practices that prevent the release of confidential information learned in the course of an audit. Auditees also have the option to enter additional non-disclosure agreements with auditors. Both safeguards should provide additional assurance that CBI will be protected during audits.

One commenter asked that entities that import HFCs solely to transform them be exempted from the proposed auditing requirement. EPA disagrees with the commenter that auditing should not apply to such entities. HFCs used for transformation are regulated substances and could be a way for material produced or imported without allowances to be diverted for non-

excepted uses. Anyone importing HFCs for transformation would need to have a third-party independent audit conducted by a CPA.

Some commentors asked that entities issued application-specific allowances not be subject to the proposed auditing requirements, especially if those allowance holders would confer their allowances up their supply chains to an HFC producer or importer. These commenters provided two concerns. The first concern was the difficulty of tracing their allowance conferrals up their supply chains, since they may not know how allowances are re-conferred through the supply chain. The second concern was the potentially duplicative nature of these audits, because application-specific allowances would often be ultimately conferred to producers or importers, which are already subject to annual auditing. One commentor said that tracing their allowances could involve delving into DOD contracts, and asked that if EPA requires audits of application-specific allowances, DOD should conduct the audits themselves because of the potential complexity and security concerns involved.

EPA is finalizing different provisions regarding auditing of application-specific allowances conferred by DOD for mission-critical military end uses (see below). Regarding concerns about an application-specific allowance holder not knowing all the entities in the supply chain, EPA is not requiring entities that are issued application-specific allowances to know the activities of all the other companies in the supply chain; this information would not be covered by an audit. These audits would not be duplicative, even if the ultimate conferee of the application-specific allowance was a producer or importer as the focus is to verify data reported to EPA (e.g., allowances conferred, quantities purchased, and inventory for application use). With the exception of mission-critical military end uses, audits of application-specific allowance

holders would need to review records documenting their conferral to the most immediate company in the supply chain. EPA is establishing a reporting requirement to track conferrals for all applications other than mission-critical military end uses and will determine in the future if additional audits of application-specific supply chains are needed (see Section X for a full discussion).

As noted above, EPA is finalizing different auditing requirements for mission-critical military end uses. EPA is allocating all mission-critical application-specific allowances to the Department of Defense and therefore will rely on internal monitoring and review procedures run by DOD instead of requiring the audit be conducted by a third party. Such an approach is appropriate given that DOD is a federal government agency, and many uses of regulated substances for mission-critical needs may implicate sensitive national security information.

Producers, importers, exporters, reclaimers, fire suppressant recyclers, exporters, and entities issued application-specific allowances, aside from allowances for mission-critical military end uses, must have auditors review the reports they provide to the Agency, and the inputs for developing those reports, to ensure that they were complete and accurate. The records subject to audit will differ depending on the type of entity being audited but at a minimum, auditors should review what is listed below.

Producers, importers, and exporters:

- The amount of production and consumption allowances received from EPA;
- The amount of allowances transferred and/or received via transfer;
- Records documenting the amount of application-specific allowances received from EPA and/or received by conferral from other companies;

- Records documenting the amount of HFCs imported, exported, produced,[96] destroyed, transformed, reclaimed, and/or recycled or sent to another entity for such purpose;
- Records documenting the amount of HFCs produced with application-specific allowances and amount sold or distributed for such purpose;
- The dates and the ports from which HFCs were imported or exported, as well as the relevant HTS codes, invoices, and bills of lading;
- The number and type of railcars, ISO tanks, individual cylinders, drums, small cans, or other containers used to store and transport imported HFCs;
- The inventory of regulated substances as of the end of the prior calendar year;
- A random sample (5 percent or 10, whichever is higher) of batch testing results;
- A random sample (5 percent or 10, whichever is higher) of certification IDs requested and generated and where the associated HFCs are sold and distributed; and
- All other reports submitted to EPA under 40 CFR part 84, subpart A.

Companies issued application-specific allowances by EPA:

- Records documenting the amount of application-specific allowances received from EPA;
- The amount of allowances transferred and/or received via transfer;
- Records documenting the amount of allowances received by conferral and/or conferred to other parties;
- Records documenting the amount of HFCs received from each allowance conferral (whether in bulk or a manufactured product);

[96] These records include records and reports related to the control of HFC-23 emissions.

- The total amount of HFCs purchased for the application-specific end use, and the amount of HFCs sold to another company for application-specific use;
- The inventory of regulated substances for application-specific uses as of the end of each reporting period in the prior calendar year (i.e., December 31 and June 30);
- All other reports submitted to EPA under 40 CFR part 84, subpart A.

Reclaimers and Fire Suppressant Recyclers:

- The quantity of HFCs received for reclamation or recycling, including a random sample (5 percent or 10, whichever is higher) of records documenting the names and addresses of persons sending them material and the quantity of the material (the combined mass of refrigerant and contaminants) by HFC sent to them;
- Records documenting the quantity of HFCs reclaimed;
- A random sample (5 percent or 10, whichever is higher) of batch testing results;
- A random sample (5 percent or 10, whichever is higher) of certification IDs requested and generated and where the associated HFCs are sold and distributed; and
- All other reports submitted to EPA under 40 CFR part 84, subpart A.

The lists above may overlap in the types of records reviewed if a company fits into more than one category. As proposed, third-party auditors must electronically submit the results of their audit to EPA through e-GGRT before sending the results to the auditee. Results from the audit of a prior year's records are due to EPA no later than May 31st. EPA finds that May 31st allows sufficient time after the last report of the prior year is due to conduct an audit.

Regarding the Department of Defense and allowances issued for mission-critical military end uses, EPA is not requiring an independent third-party audit by a CPA due to the potentially

sensitive nature of some DOD applications. DOD has long monitored its use of ODS and has internal controls to ensure the regulatory requirements are followed. EPA understands that DOD intends to build on that 25-year history to establish internal controls and monitoring for HFCs. EPA is establishing a requirement that DOD data and reports for application-specific allowances for mission-critical military end uses shall be subject to internal DOD monitoring and review for accuracy as prescribed by the Office of the Secretary of Defense. The results of this review shall be reported electronically to EPA by May 31 of the year following the compliance period. This report should not include national security sensitive details. Similar to the annual application, EPA and DOD would meet to discuss the report's findings to ensure accountability.

E. Petitions to Import HFCs as a Feedstock or for Destruction

All bulk imports of HFCs into the United States either require the expenditure of consumption allowances or authorization granted by EPA through a non-objection notice. This section discusses the petition process for requesting EPA authorization to import HFCs without expending allowances. There are two types of shipments addressed in this subsection: (1) virgin HFCs that are imported for use in a process resulting in their transformation (i.e., as feedstocks) or destruction; and (2) used HFCs that are imported for purposes of disposal at a destruction facility using an approved destruction technology.

The definition of "produce" in section (b) of the AIM Act excludes the manufacture of a regulated substance that is used and entirely consumed (except for trace quantities) in the manufacture of another chemical. The process is known as transformation and the regulated substances used and consumed are called feedstocks in this rulemaking. Feedstock HFCs are exempt from production, and therefore consumption, and do not require allowances to be

produced or imported. Companies typically generate feedstocks for use within the same facility, but some feedstocks can be transported from another location or imported from abroad. EPA is calling this second-party transformation. These provisions of the rule address the risk of unlawful behavior associated with transporting and importing feedstock HFCs.

Used HFCs may need to be destroyed when they are contaminated beyond the point that reclamation is economical. Providing a pathway to import used HFCs for proper disposal within the United States can benefit the environment and the domestic destruction industry. To keep this process narrowly tailored to minimize a potential pathway for illegal imports, EPA is limiting this petition process for destruction to used HFCs. Importing virgin HFCs, even for disposal, requires the expenditure of consumption allowances. Similarly, and consistent with the discussion in section VII.A. and the proposal, importing used HFCs, including those that have been reclaimed or that are bound for reclamation, also requires the expenditure of allowances unless they are being imported for transformation or destruction consistent with § 84.25.

EPA based the proposed petition process in large part on the ones in 40 CFR 82.13(g)(5) and 82.24(c)(6) for the import of used ODS for destruction. EPA proposed that the importer of HFCs for feedstocks or destruction submit a petition to EPA at least 30 working days before the shipment's departure from the foreign port. EPA proposed the petitioner submit the following elements to verify that these imports will in fact be transformed or destroyed: (i) name, commodity code, and quantity in kilograms of each regulated substance to be imported; (ii) name and address of the importer, the importer ID number, and the contact person's name, email address, and phone number; (iii) name and address of the consignee and the contact person's name, email address, and phone number; (iv) source country; (v) the U.S. port of entry for the

import, the expected date of import, and the vessel transporting the material; (vi) name and address of any intermediary who will hold the material before the HFCs are transformed or destroyed; (vii) name, address, contact person, email address, and phone number of the responsible party at the transformation or destruction facility; and (viii) an English translation, if needed, of the export license, application for an export license, or official communication acknowledging the export from the appropriate government agency in the country of export. If at the time of submitting the petition the importer does not know the U.S. port of entry, the expected date of shipment and the vessel transporting the material, and the importer receives a non-objection notice for the individual shipment in the petition, the importer is required to notify the relevant Agency official of this information prior to the date of importation[97] of the individual shipment into the United States.

EPA proposed that within 30 working days of receiving a complete petition EPA would send either a non-objection notice or an objection notice to the petitioner. The Agency may object to the petition if the petition provides insufficient information or if it contains or is suspected to contain false or misleading information. A petitioner may re-petition once if the Agency indicated "insufficient information" as the basis for the objection notice.

EPA received three comments on the proposed petition process, all of which were opposed to the requirement to petition the Agency for importing ODS to be transformed. The

[97] EPA is using the term "date of importation" consistent with CBP's definition at 19 CFR 101.1. "Date of importation" means "in the case of merchandise imported otherwise than by vessel, the date on which the merchandise arrives within the Customs territory of the United States. In the case of merchandise imported by vessel, "date of importation" means the date on which the vessel arrives within the limits of a port in the United States with intent then and there to unlade such merchandise." This term is not identical to the term "import" as defined in 40 CFR 84.3, but is similar. Using CBP terminology will allow for the individual submitting information in ACE to better understand the meaning for this specific reporting element.

commenters stated that the petition requirements and timeframe for transformation are not logistically feasible or commercially practical. One of the commenters stated that they do not have full information requested in the petition until three days prior to departure, with other data elements being known only 14 days before departure. The commenter proposed a one-time notification to EPA for each shipment at such time as all requested information is finalized prior to export from the foreign port.

In this final rule EPA is maintaining the requirement to petition the Agency and the information requirements of the petition as proposed with two changes. To support the prohibition on importing HFCs for feedstock in cylinders designed to hold 100 pounds or less of a regulated substance (see Section IX.F.3), EPA is requiring that the petition provide (ix) the capacity of the container. To support real-time review of imports, EPA is also requiring that the importer report (x) the unique identification number of the container used to transport the HFCs as part of the petition. Given the logistical realities described by the commenters EPA is not finalizing a requirement that the petition be submitted to EPA 30 working days before leaving the foreign port. Rather, EPA is requiring that the petition be submitted at least 30 days before arriving at the U.S. port. This timing will allow the importer to provide all the necessary information and will not hold up the normal flow of imports. For companies that can submit complete information earlier, they would be able to submit once all requested information is finalized prior to export from the foreign port. EPA will issue a non-objection or objection notice within 21 days of the submission of the petition. Some companies will face burdens and costs associated with the Congressionally mandated phasedown; those increased burdens and costs unfortunately create economic incentives to avoid compliance. That reality increases EPA's

statutory and policy imperative to identify and apply tools that counter those incentives to increase the rate of compliance. EPA has determined that petitions for importing material that is exempt from the definition of production is one of those compliance tools and will help along with the other tools described in this rule to ensure material imported into the U.S. either is imported with an allowance or has prior authorization.

EPA also proposed that HFCs imported for transformation or destruction be transformed or destroyed, as applicable, within 60 days of being imported into the United States. EPA took comment on whether it is appropriate to allow longer timeframes, up to 12 months. EPA received three comments on these timeframes. With regard to the timeline for transformation, commenters stated that 60 days is impractical. One recommended 120 days while a few others recommended 12 months. One commenter also noted that it may not be possible to identify when a specific molecule of imported HFC is transformed. For the reasons provided by the commenters EPA agrees that 60 days is too limited for transformation. EPA is finalizing a requirement that the material be transformed within one year of being imported.

EPA also received two comments that it may not be possible to destroy HFCs within the proposed 60-day timeframe. One commenter noted that the destruction of HFCs has to be carefully controlled to avoid the creation of hydrofluoric acid and damage to the equipment. Both commenters recommended 120 days. For the reasons provided by the commenters EPA agrees that 60 days is too limited for destruction. EPA is finalizing a requirement that the material be destroyed within 120 days of being imported.

EPA is requiring that the petitioner submit records indicating that the substance has been transformed or destroyed with the company's next quarterly reporting after its transformation or

destruction. EPA is adding supporting prohibitions in §84.5 for provisions that will be similar to 40 CFR 82.4(j)(2) and 82.15(b)(3) to prohibit the import of HFCs for processes that result in their transformation or destruction, or disposal by destruction, without having received a non-objection notice consistent with this petition process.

By providing an importer with documentation that the import is authorized, this will both expedite Customs clearance and result in a more secure border. It will prevent an importer from falsely claiming that their shipment does not require allowances or authorization from EPA because it is exempted. It also will track the movement of the import after entering the United States by attaching reporting obligations of the transformer or destruction facility.

F. What Other Limitations are there on Imports of HFCs?

1. Ban on Importing Feedstock HFCs in Cylinders

EPA proposed to prohibit the import of HFCs in cylinders designed to hold 100 pounds or less of a regulated substance intended for use in a process resulting in their transformation or destruction. As discussed in Section IX.E of this preamble, feedstock HFCs may be imported without expending consumption allowances. This minimum size restriction is intended to prevent the submission of false information that a particular shipment of HFCs in cylinders does not require allowances because they are for transformation or destruction processes. EPA does not anticipate this proposal would affect current business practices as these HFCs are typically imported and used in large volumes at specific facilities. Commenters, including companies that import feedstock HFCs, were supportive of this proposal. One commenter requested an exemption for HFCs used for research and development purposes as these are typically needed in smaller quantities. EPA responds that the Agency does not have sufficient information to say that

these research and development applications qualify as transformation or that these small quantities could not be sourced domestically.

2. Imports of Heels

As proposed, any import of bulk regulated substance in any quantity requires consumption allowances. As with production, this requirement is intended to ensure that all the regulated substances listed in the AIM Act are appropriately phased down according to the schedule specified by Congress. EPA is concerned that allowing for imports of HFCs that are classified as "U.S. goods returned" or that are a "heel" within an otherwise empty container could provide avenues for illegal imports. For example, foreign produced ODS had sometimes been declared as a U.S. good returned to circumvent the allowance system. EPA proposed that allowances would be necessary for such imports.

One commenter supported an exemption of heels in cylinders, railcars, tank trucks, and ISO tanks, similar to how EPA opted to regulate ODS heels. The commenter stated that this would allow for easier import and export of regulated substances. Another commenter supported EPA's proposal to require allowances for the import of such. A third commenter noted that importing heels is a necessary part of the global supply chain. The commenter recommended that heels be treated as U.S. goods returned and that allowances be expended. The commenter also suggested that any returning ISO tank include evidence that it is directly connected to a full ISO tank shipment that originated in the United States.

EPA sees no statutory basis to exempt imports of heels from the requirement to expend allowances. As explained elsewhere, consumption allowances are required to be expended for imports of bulk chemicals, and there is no basis in the statute to change this requirement if a

cylinder, railcar, tank truck, or ISO tank is only 5 – 8 percent full (the amount of a typical heel). Further, requiring imports of heels to involve allowance expenditure will prevent unlawful trade, since an importer could fraudulently mark something as a heel—and therefore exempt from needing allowances—when a container or tank was much fuller than a heel. In finalizing this requirement, EPA expects minimal disruption to normal activities since a cylinder, railcar, tank trunk, or ISO tank can be weighed to determine its mass, and therefore how many allowances will need to be expended to import any heel contained therein. Based on a review of Customs records, it also appears companies report this information to CBP already.

3. Transhipments

As proposed, companies that tranship HFCs do not need to expend allowances for that transhipment. Transhipped materials are intended to be imported into, and then exported out of, the country in identical quantities. To meet the definition of transhipped material, the HFCs cannot enter U.S. commerce. An entity does not have to expend consumption allowances for transhipped materials if the regulated substances are exported within six months of import. If a company does not export HFCs within six months of importation, the company would have to expend allowances. As explained in the reporting section, companies must notify the Agency when a transhipment is imported into and exported from the United States. EPA proposed that the reporting would be due within 30 working days of export, but is finalizing a shorter timeframe of 10 working days given CBP's regulations require a carrier to update the in-bond record within 2 business days of exportation (see 19 CFR 18.1(h)). The intent of these provisions is to minimize the risk of illegal imports through the guise of transhipments. The United States experienced this method of illegal importation during the phaseouts of CFCs and HCFCs.

EPA requested comment on the length of time a transhipment could reasonably be expected to be in the United States. One commenter recommended two months and another said one year is needed. Neither comment provided justification for their suggested timeframes. Therefore EPA is finalizing the six-month period as proposed.

G. How is EPA Tracking the Movement of HFCs?

The Agency proposed to establish a certification program that would use tracking or identification technology such as QR codes[98] or another tracking identifier to track the import, sale and distribution of HFCs starting January 1, 2024. EPA is largely finalizing this system as proposed, but, for reasons explained later in this section, is extending the compliance date for using this system. As of January 1, 2025, EPA will require QR codes on all containers imported, sold or distributed, or offered for sale or distribution, by producers and importers. As of January 1, 2026, EPA will require QR codes on all containers filled, sold or distributed, or offered for sale or distribution, by all other repackagers and cylinder fillers in the United States, including reclaimers and fire suppressant recyclers. As of January 1, 2027, EPA will require a QR code on every container of HFCs sold or distributed, offered for sale or distribution, purchased or received, or attempted to be purchased or received. This system is intended to ensure that HFCs imported into and distributed or sold in the United States for consumptive uses are covered by an allowance or were reclaimed or recycled for fire suppression use. Distribution and sale of HFCs that did not enter the market legally would lack a tracking identifier and thus could be easily

[98] A QR code is a type of matrix barcode that contains data for a locator, identifier, or tracker that points to a website or application using standardized encoding modes to store data. It is recognizable as black squares arranged in a square grid on a white background, which can be read by an imaging device such as a camera. In this rule we use the phrase "QR code" or "tracking identifier" as a stand-in for "physical media that facilitate digital inventory tracking." EPA may or may not require QR codes specifically (bar codes or RFID chips are other possibilities, for example).

spotted. This program supports compliance and, where needed, enforcement action. Buyers would also be able to know that they are purchasing legal HFCs. EPA took comment on the proposals related to this electronic tracking system, including ways to make it simple to use, while maintaining the same functionality including the ability to report electronically.

EPA will assign certification IDs to producers and importers based on the quantity of production, consumption, and application-specific allowances they have. As allowances are expended, the certification IDs associated with those allowances will be assigned to the corresponding containers of HFCs prior to importation or being readied for transport from a production facility. For imports, the appropriate QR code needs to be affixed prior to importation. This will require coordination by the importer and the foreign producer to ensure the labels are affixed before arrival in the United States or before importation. While the foreign producer may be affixing the labels, it is the entity in the United States that is expending allowances who would be liable if the QR codes are not properly affixed. To allow for EPA to have a better understanding and oversight of the foreign company that will be filling the containers abroad, EPA is requiring reporting for imports on the name, address, contact person, email address, and phone number of the responsible party at the facility where the container of regulated substance(s) was filled. The certification ID system will be linked with EPA's allowance allocation tracking system to ensure that allowances were obtained for each MTEVe produced or imported. The certification will be tracked using a physical label with a QR code affixed to the container in which the material was sold after being produced in the United States or imported. When the QR code is scanned it will point to a website with a database that will indicate if the regulated substance in the container is legal, the quantity and common name of the

HFC or HFC blend, the name it is currently being marketed under (e.g., trade name or brand), and the date the container was filled.

Each time the material is bought/sold, or partitioned into another container, the tracking information must be updated. If HFCs are blended, the database entry for the identifier for that container must be updated by the blender to reflect that new information. EPA will establish protocols that ensure that once the tracking information is entered it may not be altered retroactively, thereby preserving the integrity of the information.

The container and its associated certification IDs must be tracked until it is sold to the final customer. The final customer will differ depending on the use of the HFCs. For example, EPA would consider an aerosol filler to be the final customer given the HFCs are being incorporated into a finished product. Similarly, a factory charging HFC refrigerant into a hermetically sealed appliance would be the final customer. HFCs used in field-charged or field-serviced applications, such as unitary split air conditioners, chillers, or refrigeration in supermarkets, would continue to have the certification accompany them until they are sold to a contractor or technician. HFCs used in fire suppression would continue to have the certification accompany them until they are sold to a company manufacturing products containing HFCs, such as fire extinguishers, or until they are sold to an entity installing fire suppression system cylinders in a total flooding application.

EPA's general understanding of the supply chain is that HFCs (from production or import) are shipped in large ISO tanks, railcars, individual cylinders or drums, and small cans. The material is then sold to entities in the distribution chain. The material may change hands one or more times before it is purchased by the final entity in the distribution chain and subsequently

sold to the final customer. Anyone selling bulk HFCs would need to be registered in the system to allow for legal HFCs to be tracked from the point of import, sale, distribution, or offer for sale or distribution to the point of sale to the final customer (i.e., the person that will use the HFCs) so that any illegal HFCs offered for sale at any point in the distribution chain could be identified. Sellers need to scan the containers as they are sold, and buyers who intend to sell the HFCs, other than the final customer, need to do the same.

Anyone who is filling a container or cylinder, whether for the first time or when transferring HFC from one container to one or more smaller or larger containers, is required to enter information in the system and generate a QR code for the new containers and add information on: the brand it would be sold under, the quantity and composition of HFCs in the container, the date it was filled, the certification IDs associated with the HFCs (if being repackaged), and the quantity of each HFC in the container.

EPA recognizes that not all HFCs would enter the market through the expenditure of an allowance. Most significantly, HFCs recovered from equipment (e.g., refrigerants and fire suppressants) are sent for reclamation or recycling and can be resold into the market after they meet relevant standards. EPA received comment that companies that recycle HFCs used for fire suppression were not explicitly included in the proposed certification ID tracking system. As discussed below, EPA is modifying its proposed approach to add in coverage for fire suppressant recyclers.

Under the CAA section 608 regulations, reclaimers must be certified by EPA and report the amounts and names of the HFCs reclaimed on an annual basis. Recyclers of HFCs for fire suppression have not previously had to report to EPA but will be required to report information

prospectively. EPA will generate certification IDs for reclaimers and fire suppressant recyclers in an amount equal to the quantity reclaimed or recycled in the previous year plus an amount based on the average annual growth in total United States HFC reclamation and recycling in the prior three years or 10 percent, whichever is higher. EPA anticipates reclamation and fire suppressant recycling will increase over time. Reclaimers and fire suppressant recyclers can request additional certification IDs from EPA if the initial distribution was insufficient and the reclaimer or recycler provides information to the Agency that can allow the Agency to confirm that additional reclamation or recycling is occurring. This could include reclamation totals for the same quarter in the prior year, a signed statement from a responsible official at the company stating the amount of reclamation they project for the remainder of the year based on current demand and available supply of recovered HFCs, or other documentation that shows how much additional reclamation is expected. The data behind the certification IDs and the QR code will be similar to that for HFCs produced or imported with allowances but will indicate that it is reclaimed or recycled and provide the name of the reclaimer or fire suppressant recycler.

To ensure regulated HFCs sold by reclaimers and fire suppressant recyclers are legal and eligible for sale, reclaimers and recyclers would need to log into the certification ID tracking system and, for each container of HFCs prior to selling regulated substances, provide information such as when the HFC was reclaimed or recycled and by whom; what regulated substance(s) (and/or the blend containing regulated substances) is in the container; how many kilograms were put in the container and on what date the container was filled; and for reclaimers certification that the purity of the batch was confirmed to meet the specifications in Appendix A to 40 CFR Part 82, subpart F. If a container is filled with reclaimed and virgin HFC(s), the

reclaimer and fire suppressant recycler would also have to provide information on how much virgin HFC was used and have sufficient certification IDs to account for that newly produced or imported material to associate with the newly filled container.

EPA is also aware that under CAA sections 608 and 609, recovered HFC refrigerant can be resold if it was used only in a motor vehicle air conditioning (MVAC) equipment or MVAC-like appliance and is to be used only in MVAC equipment or MVAC-like appliance and recycled in accordance with 40 CFR part 82, subpart B (see 40 CFR 82.154(d)). This practice will be allowed to continue without requiring registration in the certification ID system. If someone is selling bulk HFCs, other than for use by that company for servicing MVAC equipment, for example to another auto shop, they need to be registered in the certification ID tracking system.

EPA recognizes that a large quantity of HFCs will already be in the United States market prior to the finalization of this rule. Therefore, the Agency initially proposed a compliance date of January 1, 2024, for these provisions and included a requirement that anyone in possession of containers of HFCs register their existing inventory of containers. As explained later in this section, after reviewing public comments EPA is extending this compliance date and is not finalizing the requirement to register inventory of containers that do not have certification IDs. After January 1, 2027, when the program is fully phased in, it will be unlawful for anyone to import, sell or distribute, or offer for sale or distribution, HFCs in a container that does not bear a legible QR code. The import, sale, distribution, offer for sale or distribution, purchase, receipt, and attempted purchase or receipt of uncertified bulk HFCs (or bulk HFCs in a container without a legible QR code) will be illegal and subject to civil and criminal enforcement to prevent smuggling and/or bypassing of the system.

EPA is also finalizing its proposal to require that any person who sells, distributes, or offers for sale or distribution, regulated substances must register with EPA in the certification ID system. To support this provision, EPA is prohibiting any person from purchasing or receiving, or attempting to purchase or receive regulated substances from someone that is not registered with EPA.

To ensure EPA is able to provide appropriate training and familiarize entities who will use the certification ID system, the agency is requiring that any person who produces, imports, reclaims, recycles for fire suppression uses, repackages or fills regulated substances, reclaimed regulated substances, or recycled regulated substances for fire suppression uses must register with EPA in the certification ID system at least six months before the date they are subject to the requirements (e.g., producers would need to register no later than July 1, 2024). Likewise, any person who sells, distributes, or offers for sale or distribution, a container of bulk regulated substances must register with EPA in the certification ID system at least six months before the date they are subject to the requirements (e.g., a distributor not already subject to the requirements would need to register no later than July 1, 2026).

Response to Comments

Some commenters expressed concerns about the cost and workability of the proposed QR code tracking system; many wanted more details about the design of the system and more time to comply. In particular, commenters expressed doubts about the ease of tracking individual cylinders of HFCs through commerce. EPA responds that the tracking system is an important part of the Agency's suite of compliance tools and is being finalized to support implementation of subsection (e)(2)(B) of the AIM Act (as discussed). EPA appreciates that it will require

logistical adaptation and technological investment to set up and implement such a system effectively. For this reason, the Agency is finalizing an extended, phased-in roll out of the tracking system. Under this phased-in approach, the Agency will have more time to consult industry and develop an appropriate tracking system. Similarly, industry will have more time to adapt existing systems and/or procure any technology needed to support the tracking system and train staff. The new phase-in schedule starts January 1, 2025, for all containers imported and sold or distributed by producers and importers. On January 1, 2026, EPA will require QR codes on all containers filled and sold or distributed by all other repackagers and cylinder fillers in the United States, including reclaimers and fire suppressant recyclers. Finally, as of January 1, 2027, EPA will require a QR code on every container of HFCs sold or distributed.

These later dates allow for additional time to develop and pilot test the system in consultation with stakeholders (e.g., including identifying ways to integrate EPA's system with a company's existing inventory management software and packaging equipment) and conduct training for users of the system. Phasing in the use of QR codes also negates the need for requiring registration of existing inventory. While this should provide sufficient time for anyone selling HFCs in containers without a valid QR code to sell all their inventory, EPA will monitor the market to see if registering inventory is needed.

A few commenters questioned EPA's authority for requiring reporting on individual containers of HFCs using a certification ID tracking system. Under the AIM Act, some companies will face burdens and costs associated with the Congressionally mandated phasedown; those increased burdens and costs unfortunately create economic incentives to avoid compliance. That reality increases EPA's statutory and policy imperative to identify and apply

tools that counter those incentives to increase the rate of compliance. Given the risk of noncompliance, as described throughout Section IX, there is an imperative to use every reasonable tool at our disposal to ensure compliance and thus the objectives of the AIM Act. Identifying containers of HFCs that were illegally imported and produced is directly related to and supports EPA's ability to meet the statutory obligation in subsection (e)(2)(B) of the AIM Act. The tracking requirement is especially important for identifying illegal production—as that material will not have a check at the port like imports, and illegal imports that are able to evade authorities at the point of importation. The provision also reinforces the prohibition on disposable cylinders and ensures the universe of legal sales is understood through the required registration for anyone selling HFCs, and the requirements to scan QR codes and verify HFCs being purchased and sold are legal. Given the serious concerns about potential noncompliance and the undermining of Congress's directive to ensure reductions in production and consumption occur consistent with the statutory schedule, certification ID tracking will support EPA's ability to effectively implement the statute.

Comments noted that this proposal did not include fire suppressant recyclers. EPA has modified the regulatory text and approach to include fire suppressant recyclers. These companies will have to report to EPA and generate certification IDs on the same timeline as reclaimers. Some companies in the fire suppression industry expressed doubts about the ease of tracking individual cylinders of HFCs through commerce. EPA appreciates that fire suppression companies deal in both bulk HFCs and products containing HFCs and engage in HFC recycling. EPA appreciates that this diversity of processes poses challenges to the implementation of bulk HFC tracking in fire suppression. However, these complexities are surmountable challenges to

the creation of an effective HFC tracking system in this industry, and EPA intends to work with many stakeholders, including those in the fire suppression industry, in developing a workable system over the extended timeline being finalized here. EPA is committed to engaging in a thoughtful, iterative, and collaborative process to develop a tracking system that identifies illegal activity.

Some commenters wanted to be able to integrate the EPA tracking system into their existing inventory tracking systems. EPA appreciates that some companies have already made significant investments in digital inventory tracking systems. The Agency will use the extended timeline being finalized in this rule to work with these companies to identify opportunities to integrate existing systems with the new system for generating and tracking certification IDs.

Some comments expressed concerns about the reporting burden, in particular for reclaimers. To help ensure the quantity of regulated substances produced or consumed in the United States does not exceed the Congressionally mandated cap, EPA has determined that a comprehensive container tracking system is needed. This system will allow EPA to more readily identify HFCs that have been illegally produced or imported without allowances. While reclaimed and recycled material can be sold without allowances, EPA understands it is typically blended with virgin HFCs when sold, so inclusion in this certification ID tracking system is needed to track the movement of HFCs produced or imported with allowances. Additionally, reclaimers are putting additional HFCs onto the market each year for the same types of use that newly produced or imported material is used for. Including such material in the certification ID system allows for parity for anyone selling HFCs into the United States market and removes a potential loophole for a company that seeks to sell or distribute illegal material in the United

States while claiming it is reclaimed or recycled. For these reasons, EPA is retaining its proposed inclusion of reclaimers and is adding in fire suppressant recyclers.

EPA has made changes to streamline the reporting that is required for the certification ID tracking system. For example, EPA has removed the requirement to include the date the batch was tested for purity and who certified the reclaimed regulated substance meets the purity requirement, and replaced it with a certification that the reclaimed material in a container was batch tested and meets the required purity standard in 40 CFR part 82, subpart F. EPA has also delayed the compliance dates and removed the requirement to register all inventory of cylinders held by companies prior to the compliance date.

Comments indicated the limit placed on how many certification IDs a reclaimer could generate in a year (5 percent or the average annual growth rate over the past three years for all reclaimers) was unnecessarily restrictive. EPA reviewed past reclamation data and determined that reclamation values regularly fluctuate by more than 5 percent. EPA has determined that 10 percent is a more appropriate value, in addition to relying on the average annual growth over the past three years for all reclamation. These same conditions would also apply to fire suppressant recyclers. Reclaimers and fire suppressant recyclers could still request additional certification IDs using the process described earlier in this section.

Some commenters were concerned about the level of detail that EPA might include in publicly available data. EPA intends to release several data elements associated with each container of HFCs to potential buyers of HFC material, to support this system. To allow buyers of HFCs to determine whether the HFC they are purchasing is legal to buy, EPA will release the following information: (1) Whether the HFC being sold is legal to purchase based on information

available to EPA; (2) when the container was filled; (3) the specific HFCs in the container; and (4) and the brand name the HFCs are being sold under. EPA will also release a list of registered suppliers so purchasers know where they can legally buy HFCs. For further discussion on EPA's intentions to release data and what information will be maintained as confidential, readers are directed to Section X.C.

Most buyers desire to purchase only legal HFCs. However, in the absence of a way to distinguish between legal and illegal HFCs, buyers could unwittingly buy illegal HFCs and may be unintentionally supporting the demand for and trade in illegal HFCs. For example, in an enforcement case that concluded in 2018,[99] there was evidence that cylinders likely imported without allowances were bought and sold by multiple suppliers before they were finally determined to be counterfeit and likely illegally imported. There was no evidence that anyone in the supply chain knew the material was likely illegally imported other than the importer until the final purchaser noticed the refrigerant was off-spec and in a cylinder that did not match the typical packaging for that brand of product. For this reason, it is important to involve each buyer and seller in the accountability process and provide each buyer with accurate information on the origin of the HFCs they intend to purchase.

H. What Reporting is Required to Support Real-time Review of Imports?

In the proposed rule, EPA stated it intended to work with CBP to develop an automated electronic mechanism to check in real time whether there are sufficient allowances available to allow for an import of HFCs. EPA is finalizing requirements under AIM Act authority to provide

[99] "O.C. Man Pleads Guilty to Illegal Sales of Ozone-Depleting Refrigerant." *The Orange County Register*, Nov. 2018. Available at *www.ocregister.com/2018/03/08/o-c-man-pleads-guilty-to-illegal-sales-of-ozone-depleting-refrigerant*

information to EPA that generally aligns with existing CBP import filing requirements under current Customs laws. These requirements will allow for EPA to verify if allowances are available or the HFCs have prior approval for import in the case of HFCs imported for destruction or transformation under 40 CFR 84.25, or imported for transhipment under 40 CFR 84.31(c)(3), and confirm whether a shipment should be allowed to clear Customs or not. EPA is requiring that the following information be electronically filed through ACE no later than 14 days prior to importation consistent with CBP definitions at 19 CFR 101.1: quantity of containers and weight; importer information; consignee information; the correct HTS code; a description of the cargo, including the chemical name(s) of the HFCs (e.g., HFC-134a) and/or name(s) of the HFC blend(s) (e.g., R-404A); the country of origin; and contact information associated with the shipment. Most of these elements are already required to be filed consistent with 19 CFR chapter I. Specific data elements that align with existing import filing submitted to CBP through ACE include: (1) Cargo description; (2) quantity; (3) quantity unit of measure code; (4) quantity unit of measure; (5) weight; (6) weight unit of measure; (7) port of entry; (8) scheduled entry date; (9) HTS code; (10) HTS description; (11) origin country; (12) importer name and importer of record identification; and (13) consignee name.

The data elements EPA is requiring import filing on, with the exception of one element (CAS Numbers), must already be filed with CBP through ACE or reported to EPA. Therefore, the Agency is assuming no additional reporting burden from this requirement. Given there is not currently a complete and exclusive list of HFC- and HFC blend-specific HTS codes, EPA is also requiring that anyone importing HFCs must report through ACE the CAS Number(s) of the HFC(s) included and, for HFCs that are in a mixture with other HFCs or other substances, either

the ASHRAE numerical designation of the refrigerant or percentage of the mixture containing each regulated substance. EPA is also requiring that non-objection notices issued consistent with section 84.25 and proof that the importer has reported a transhipment to EPA consistent with 84.31(c)(3) be provided to CBP electronically by loading an image of the document to the Document Image System, or successor platform.

To ensure EPA has sufficient data to check in real-time if an importer has sufficient allowances or authorization for a particular shipment of HFCs, EPA is requiring that importers of HFCs report these data elements prior to importation. This reporting will be required under the AIM Act, and pursuant to EPA regulations codified in this rule, but for ease of implementation and to avoid duplicative electronic reporting, information required to be reported under EPA's part 84 regulations will be submitted as import filings and collected through a CBP electronic system (e.g., ACE and its successor platforms). CBP will make these import filing data elements available to EPA for review. EPA is requiring that these data elements be filed no later than 14 days before importation. Further, although EPA acknowledges that CBP allows an importer to correct reported data elements for a certain period of time after the goods clear Customs, data elements reported pursuant to these part 84 regulations must be reported no later than 14 days prior to importation. EPA will make its determination on whether an importer has sufficient allowances for the import at the time of review based on the information provided. If the importer makes a valid Post Summary Correction or files a Protest that CBP approves consistent with 19 CFR chapter I that would change the number of allowances expended, EPA will adjust the importer's allowance balance. If after correction the amount imported exceeds an importer's

available allowances, the importer would be in violation of 40 CFR part 84, subpart A and would be subject to administrative consequences and enforcement action.

As discussed elsewhere in this section, EPA and CBP require timely access to this information to ensure that EPA can meet the statutory requirement in subsection (e)(2)(B) that production and consumption do not exceed Congressionally directed levels. Under the AIM Act, some companies will face burdens and costs associated with the Congressionally mandated phasedown; those increased burdens and costs unfortunately create economic incentives to avoid compliance. That reality increases EPA's statutory and policy imperative to identify and apply tools that counter those incentives to increase the rate of compliance. Given the risk of noncompliance, as described throughout Section IX, there is an imperative to use every reasonable tool at our disposal to ensure compliance and thus the objectives of the AIM Act. Requiring companies to provide data to EPA through ACE so that EPA can conduct a real-time review of allowances while imported material is at the port is directly related to and supports EPA's ability to meet the statutory obligation in subsection (e)(2)(B) of the AIM Act. Given the serious concerns about potential noncompliance and the undermining of Congress's directive to ensure reductions in production and consumption occur consistent with the statutory schedule, real-time review of import data will support EPA's ability to effectively implement the statute.

The concept of providing information to EPA prior to importation is consistent with comments EPA received on the proposed rule. One commenter suggested EPA establish a system similar to the Notice of Arrival procedure for imports of pesticides.[100] The commenter noted that "[a]n importer or its broker must already submit certain detailed information to

[100] See https://www.epa.gov/compliance/importing-and-exporting-pesticides-and-devices#import

Customs prior to arrival of the ship containing the HFCs. The initial information submitted includes, but is not limited to, the importer name and address, importer number, harmonized tariff code and country of origin." The commenter went on to state that EPA and CBP could use this information to make a determination to release the goods or examine them further. Another commenter noted that one problem in the EU was that they did not have a system where customs officials can cross-check whether imports are within a company's allowance quota and encouraged EPA to provide contemporaneous information to Customs officials. Another commenter noted similarly that the real-time check at the border is the most important tool to prevent illegal imports. Other commenters recommended prior notification to EPA before shipments arrive at a port of entry. The requirements finalized in this section are responsive to commenters' suggestions and help address concerns raised by the commenters.

Use of Harmonized Tariff System Codes

Consistent with EPA's proposal and the discussion in Section IX.A regarding administrative consequences, EPA is requiring that importers use the correct HTS code for bulk HFC imports and exports through this final rule. EPA notes that this is also required by current CBP regulations, so this provision would allow both agencies to bring enforcement action for use of inaccurate HTS codes. Use of the correct HTS code is important to ensuring EPA and by extension CBP have the information needed to conduct a real-time check on imports and ensure EPA meets the directive in subsection (e)(2)(B) of the AIM Act.

The United States International Trade Commission (USITC) maintains and publishes the HTS for the United States.[101] The United States HTS codes for bulk HFCs are contained in

[101] For more information, see https://www.usitc.gov/harmonized_tariff_information

chapter 29 (for "neat" or single component HFCs) and chapter 38 (for mixtures or blends containing HFCs).[102] The current HTS codes that cover single component bulk HFCs include 2903.39.20.20, 2903.39.30.35, and 2903.39.20.45. For bulk HFCs in mixtures, 3824.78.00.20 and 3824.78.00.50, and to a lesser extent 3824.71.01.00, 3824.74.00.00, are generally the appropriate codes.

These codes are expected to be updated early in 2022 as part of the five- to six-year cycle for updating the global Harmonized Commodity Description and Coding System (often referred to as the Harmonized System).[103] USITC has proposed new codes that would disaggregate codes much further than the current codes under subheadings 2903.41.10 through 2903.49.00.[104] For bulk HFC mixtures/blends, the new codes would be under heading 3827, with most HFCs falling under subheadings 3827.51.00 through 3827.68.00.

X. What are the Recordkeeping and Reporting Requirements?

Subsection (d)(1)(A) of the AIM Act specifies that on a periodic basis, but not less than annually, each company that, within the applicable reporting period, produces, imports, exports, destroys, transforms, uses as a process agent, or reclaims a regulated substance shall submit to EPA a report that describes, as applicable, the quantity of the regulated substance that the company: produced, imported, and exported; reclaimed; destroyed by a technology approved by

[102] The current HTS is available at *https://hts.usitc.gov/current*

[103] For more information on the Harmonized System, see *http://www.wcoomd.org/en/topics/nomenclature/overview/what-is-the-harmonized-system.aspx*. The United Nations Environment Program's OzonAction developed a fact sheet explaining how the codes were updated globally, which EPA has placed in the docket.

[104] See 85 FR 73294 and the associated investigation, number 1205-13, available at *https://www.usitc.gov/investigations/1205/1205-13.htm*

the Administrator; used and entirely consumed (except for trace quantities) in the manufacture of another chemical; or, used as a process agent.

This section presents an overview of the generally applicable requirements, provisions that received public comment, and provisions that EPA is finalizing differently than as proposed. The full reporting requirements can be found in §84.31 of the regulatory text.

A. What are the Generally Applicable Recordkeeping and Reporting Provisions?

Through this final rule, EPA is requiring recordkeeping and reporting for any company that produces, imports, exports, distributes, transforms, uses as a process agent, reclaims, or destroys regulated substances as well as any company that receives an application-specific allowance. Given that the AIM Act controls all production and consumption of HFCs in the United States, and data on import, export, destruction, reclaim, feedstock, and process agent use are relevant to determining national production and consumption figures, all companies are subject to the recordkeeping and reporting requirements and there is no minimum threshold for reporting. The AIM Act in subsection (d)(1)(A) provides EPA with clear authority to establish reporting requirements that apply to "*each* person who, within the applicable reporting period, produces, imports, exports, destroys, transforms, uses as a process agent, or reclaims a regulated substance" (emphasis added).

Unless otherwise specified, such as for application-specific allowance holders, EPA is requiring quarterly reporting. Quarterly reporting helps to ensure that annual production and consumption limits are not exceeded and is necessary for the Agency to review allowance transfer requests. Some stakeholders generally supported quarterly reporting, noting that it is consistent with the reporting for ODS. Other commenters preferred annual reporting as it is less

burdensome. One such commenter stated that quarterly reporting is unnecessary given the real-time tracking information from the certification IDs. One commenter preferred biannual reporting and stated that the data provided would be more accurate than quarterly data. Another company requested that all reporting related to transformation be annual since there are no production and consumption allowances which are required to be tracked. EPA received additional comments on the timing for reclaimers and companies holding application-specific allowances as discussed separately below.

EPA is requiring quarterly reporting as proposed. EPA is aware of the reporting burden of this rule but disagrees that annual reporting will significantly reduce burden given that all the data elements must still be provided. Quarterly reporting is necessary to ensure that allocation limits are not exceeded and allow for trading of allowances. Providing data quarterly also has benefits to EPA by allowing more frequent review of allowances expended, which facilitates monitoring of compliance with the allocation limits and earlier identification of potential issues. EPA is also able to identify and correct inaccurate reporting when it arises. EPA disagrees that certification IDs are a substitute for quarterly reporting. The certification ID system will not be implemented for several years whereas the first year of allowances begins January 1, 2022, and reports will be due 45 days after the close of the first quarter. With regard to the comment that biannual data would be more accurate than quarterly data, EPA does not understand why that would be the case and the commenter did not provide an explanation. EPA expects companies to revise their data, regardless of reporting frequency, if they discover errors in previous submissions. With regard to the comment on reporting transformation activities, EPA responds that it is precisely because there are no production and consumption allowances that close

monitoring through quarterly reporting is necessary. Without allowances, EPA must more carefully ensure that the regulated substances are transformed as required. EPA notes that data about process agents only needs to be reported annually.

Reports required by this section must be submitted within 45 days of the end of the applicable reporting period, unless otherwise specified. The reporting periods are January 1 – March 31 (Quarter 1), April 1 – June 30 (Quarter 2), July 1 – September 30 (Quarter 3), and October 1 – December 31 (Quarter 4). Quantities must be stated in terms of kilograms for each regulated substance unless otherwise specified. The report must be signed and attested by a responsible officer (e.g., appropriate responsible officer under the CAA (42 U.S.C. 7401 et seq.)), and copies of records and reports must be retained for five years.

Section (d)(1)(C)(iii) of the AIM Act states that each periodic report shall include, as applicable, the information described for the baseline period of 2011 through 2013. EPA interprets this provision as allowing the Agency to collect information necessary to establish the United States' production and consumption baselines. EPA reads the phrase "as applicable" to mean that every quarterly report does not need to reiterate that baseline information, only an initial report.

Subsection (d)(1)(C) of the AIM Act specifies that reporting is no longer required if a company notifies EPA that they have permanently ceased production, import, export, destruction, transformation, use as a process agent, or reclamation of all regulated substances. Any activity that occurs earlier in that year before the cessation of activities must still be reported for that year. EPA is clarifying that the recordkeeping requirements still apply and thus the company that ceases reporting must maintain records for five years.

Subsection (d)(2) of the AIM Act states that EPA may allow an entity subject to the AIM Act's reporting requirements "to combine and include the information required to be reported under [the AIM Act] with any other related information that the [company] is required to report." Many commenters urged EPA to minimize duplicative reporting between the AIM Act reporting requirements and the GHGRP. One commenter noted that the HFC timeline for the first quarter will be duplicative of annual GHGRP reports due March 31.

EPA is coordinating reporting for similar or identical data elements by using the same online portal for submitting both AIM and GHGRP data (e-GGRT) and intends to reduce duplicative reporting by populating the annual report submitted under GHGRP with data submitted under the AIM Act. Reports required by this rule must be submitted electronically using EPA's e-GGRT (or a future successor system). EPA is also requiring reports be at the facility level, and not at the corporate level, which will also add in synchronization between these two programs and better allow utilization of the e-GGRT system. Commenters supported facility-level reporting especially if it allows for use of the e-GGRT system. Reporting at the facility-level will also provide more detail to aid in EPA's review of compliance.

B. How is EPA Responding to Comments on the Proposed Recordkeeping and Reporting Provisions?

Holders of Application-specific Allowances

Commenters requested that EPA limit the data collected from companies receiving application-specific allowances. They urged EPA to only collect information that is pertinent for implementing the phasedown of HFC usage in those end uses. One commenter provided input on specific data elements that EPA should remove or revise. Another urged EPA clarify that the

information about regulated substances to be reported be limited to the application and not all regulated substances used by the company. A few commenters were also concerned about the sensitive nature of the data to be provided and urged EPA to put in place robust measures to protect data. A few commenters supported EPA's proposal for biannual reporting rather than quarterly reporting. One commenter recommended annual rather than biannual reporting as EPA will receive data on application-specific allowance expenditures through quarterly reports submitted by producers and importers. Several comments noted potential sensitivities around the supply chain for conferred application-specific allowances that would prevent the company using HFCs for application-specific purposes from knowing all the companies that may be conferred an application-specific allowance before it is used for production or import.

Any company issued application-specific allowances, or that receives application-specific allowances through a transfer or conferral, must certify to its producer, importer, and/or supplier when purchasing HFCs produced or imported using those allowances that the regulated substances are solely for the specified application in subsection (e)(4)(B)(iv) of the Act and will not be resold or used for other purposes. A copy of the certification must be maintained by the company that uses the HFCs produced or imported with those allowances. If allowances are conferred multiple times, the certification need not flow up the chain if companies seek to keep such information private. However, a certification must be held by all parties to each conferral.

Additionally, to facilitate the conferral of allowances, ensure the legitimacy of application-specific allowances that are conferred, and to ensure EPA has the requisite information to track application-specific allowances, the Agency is requiring anyone conferring an application-specific allowance to report that to EPA. The Agency would not need to pre-

approve the conferral for it to proceed but would need to issue a confirmation notice that such allowances had changed hands. This accountability is necessary to ensure application-specific allowances are used for production and import in the same year they are issued, to ensure allowances conferred for one application are used in that application, to ensure a company conferring allowances has sufficient application-specific allowances for conferral, and to allow for complete tracking from the entity receiving allowances and the company using those allowances for production or import. As noted previously, there would be no limit on the number of conferrals and there would be no offset associated with conferrals so long as the company issued the application-specific allowances receives the HFCs produced or imported with such allowances.

In response to the comment requesting annual reporting, EPA responds that annual reporting would not provide EPA with the information needed to manage the program. Biannual reporting is necessary to gather the data for two objectives: (1) to provide end-of-year accounting that must be coordinated with other annual reporting processes, and (2) to provide information with sufficient time for EPA to determine by October 1 the quantity of application-specific allowances to allocate for the next year. EPA is finalizing its proposal that recipients of application-specific allowances report by July 31 and January 31 of each year.

Based on comments that the Agency limit the reporting requirements to information needed to implement the phasedown, EPA is not finalizing some of the proposed reporting requirements. The remaining data elements are necessary for EPA to either determine how many allowances to allocate or ensure the integrity of the application-specific allowance program. Given the dual nature of application-specific allowances, EPA needs reporting on whether the

allowance was expended to produce or import the regulated substance. While EPA can gather some of this information from reports from producers and importers, such reports would not indicate the application and other details. EPA also needs to understand whether an application-specific allowance holder is expending the allowance themselves to directly import. In such instances, the allowance holder must also submit a report under Section 84.31(c) as an importer. To determine whether the Agency did not issue enough allowances, EPA is requiring reporting of the quantity of HFCs purchased from the open market. This will allow the Agency to confirm any request for additional allowances, assuming all allowances were also expended. For the opposite reason, EPA is requesting data on whether HFCs produced or imported through expending application-specific allowance are held in inventory. Combined with data on trades, this could indicate that the Agency allocated too many or too few allowances. For similar reasons, EPA is requiring information on quantities destroyed or recycled. EPA recognizes that this may not apply to all end uses. Lastly, EPA is retaining the requirement that the report include information about the companies to which application-specific allowances were conferred. Combined with the requirement to report to EPA when an allowance is conferred, this will allow the Agency to track the allowance conferral should it be used for purposes other than the application-specific end use for which it was allocated.

EPA is not finalizing the proposed reporting requirement for the quantity of each regulated substance contained in exported products. This is not information that the Agency needs to calculate consumption since it is not a bulk substance. Nor does the Agency need to know whether the application-specific allowances were expended to manufacture products for the domestic or export markets. Therefore, EPA is not finalizing those proposed data elements.

However, EPA is finalizing a requirement that application-specific allowance holders that contract the manufacturing of defense sprays or metered dose inhalers, or the servicing of onboard aerospace fire suppression, include contact information for the entity doing the manufacturing or servicing, and whether the responses in the quarterly report apply to the company that is allocated application-specific allowances or the company receiving the contract for manufacturing and/or servicing.

Based on the comments received, and consideration of the data the Agency already has received from application-specific allowance holders, EPA is streamlining the information included in the report due by July 31 of each year. The July 31 report must contain a description of plans to transition to regulated substances with a lower exchange value or alternatives to regulated substances. The added requirement to report information related to contracted out manufacturing and servicing is also only applicable to the July 31 report. Also, if a company is requesting additional allowances due to unique circumstances, the report must include a projection of the monthly quantity of additional regulated substances needed by month and a detailed explanation, including relevant supporting documentation to justify the additional need. Providing these data by month allows EPA to better assess how the facility will be scaling up its use and allow for a more thorough review of the company's projected need for HFCs. As noted previously, the unique circumstances that EPA will consider are: (1) New manufacturing capacity coming on line; (2) the acquisition of another domestic manufacturer or its manufacturing facility or facilities[105]; and (3) a global pandemic or other public health emergency that increases patients diagnosed with medical conditions treated by MDIs.

[105] In addition to data and projections provided in the application, EPA would rely on previously reported data where appropriate to assess the need for the new owner.

EPA is requiring the more comprehensive information envisioned in the proposal only from entities that are requesting application-specific allowances for the first time. Specifically, this report would include: (1) Total quantity of all regulated substances acquired for application-specific use in the previous three years, including a copy of the sales receipts, paid invoices, or other records documenting that quantity acquired; (2) the name of the entity or entities supplying regulated substances for application-specific use and contact information for those suppliers; (3) the quantities of regulated substances held in inventory for application-specific use as of June 30 of the prior year and June 30 in the current year; and (4) a description of plans to transition to regulated substances with a lower exchange value or alternatives to regulated substances.

Entities allocated application-specific allowances must maintain the following records: records necessary to develop the biannual reports; a copy of certifications provided to producers and/or importers when conferring allowances; a copy of the annual submission requesting application-specific allowances; invoice and order records related to the purchase of regulated substances; records related to the transfer of application-specific allowances to other entities; and records documenting the use of regulated substances.

As discussed elsewhere in this final rule, EPA is establishing different, but functionally equivalent, requirements for DOD to report on mission-critical military end uses. DOD will need to submit a biannual report that will have different reporting elements to align with the unique information needed for administering the program. DOD will also need to manage and track conferral of allowances to the eventual producer(s) or importer(s) and keep appropriate records to support their reporting.

Reclaimers of HFCs

Reclaimers commented that the proposed rule, including the recordkeeping and reporting requirements, places a particularly high burden on reclaimers, which are predominantly small businesses. One stated that it is inappropriate for reclaimers to have the same level of recordkeeping and reporting as production and consumption allowance holders. This burden will increase the cost of reclaimed material and undermine future reclamation.

EPA is finalizing quarterly reporting for reclaimers. The data elements are generally the same as those under 40 CFR 82.164(d). While EPA proposed to require that reclaimers provide information on the quantities of used, reclaimed, and virgin HFCs held in inventory onsite at the end of each quarter, EPA is not finalizing this additional inventory report. As noted later in this section, EPA is requiring an annual report on inventory for reclaimers, consistent with that for producers, importers, and exporters.

Reclaimers must also provide a one-time report with information on inventory, the name of the laboratory that conducts the batch testing, a signed statement from that laboratory confirming there is an ongoing business relationship with the reclaimer, the number of batches tested for each regulated substance or blend containing a regulated substance in the prior year, and the number of batches that did not meet the specifications in Appendix A of 40 CFR part 82, subpart F in the prior year. Reclaimers must maintain records for five years, instead of the three years required under 40 CFR part 82, subpart F.

Under the existing regulations in subpart F codified at 40 CFR 82.164, reclaimers must also maintain records of the analyses conducted to verify that reclaimed refrigerant meets the necessary specifications prescribed in Appendix A to 40 CFR Part 82, subpart F, based on AHRI Standard 700-2016, and maintain records on a transaction basis for three years of the names and

addresses of persons sending them material for reclamation and the quantity of the material (the combined mass of refrigerant and contaminants) by refrigerant sent to them for reclamation.

Recyclers of HFCs Used As Fire Suppressants

Some commenters noted to the Agency that HFCs recovered from fire suppression applications are recycled but not reclaimed. To reclaim is a defined term pertaining to purifying refrigerants and verifying the purity based on an industry standard. Fire suppression agents are not refrigerants and are not subject to that industry standard. Consequently, companies other than EPA-certified reclaimers currently recycle such HFCs. EPA is requiring quarterly reports from companies that recycle HFCs used as fire suppressants that request similar information as reclaimer reports except for provisions related to that industry standard.

Specifically, recyclers must report the quantity of material (the combined mass of regulated substance and contaminants) by regulated substance sent to them for recycling, the total mass of each regulated substance, and the total mass of waste products. For the fourth quarter only, each recycler must provide the quantity of each regulated substance held in inventory onsite broken out by recovered, recycled, and virgin. Recyclers must also maintain records of the names and addresses of persons sending them material for recycling and the quantity of the material (the combined mass of regulated substance and contaminants) by regulated substance sent to them for recycling. Such records must be maintained on a transactional basis for five years.

C. How will EPA Treat HFC Data Collected Under the AIM Act?

EPA proposed that several data elements that would be required to be reported pursuant to the AIM Act regulations would not be eligible for CBI treatment, and would be affirmatively

released, including: (1) Company-level production and consumption data, (2) aggregated national data, (3) company-specific allowance data, (4) transfer data, (5) HFC-23 emissions data, and (6) information relevant to the Kigali Amendment and the Montreal Protocol. EPA alternatively proposed to not provide CBI treatment to any element reported to the Agency pursuant to the part 84 regulations and affirmatively release all data as reported to the Agency, though some of the identical data elements are required pursuant to the GHGRP and have been determined to be CBI under the GHGRP.

EPA is not finalizing its proposed determination that all data collected under the regulations established in this rulemaking are not entitled to CBI treatment. Accordingly, EPA is not finalizing the proposed alternative path to affirmatively release all data reported to the Agency in accordance with AIM Act reporting requirements. As further detailed in this section, EPA is finalizing that some data reported prospectively at chemical-specific and facility-specific levels, such as production and consumption data, will not be entitled to CBI treatment and will be affirmatively released by the Agency without further notice. EPA also will not provide confidential treatment to, and intends to make public without further notice, each company's allowance allocations and update remaining allowance balances periodically throughout the year. EPA is also making a final determination in this rule that some data elements are entitled to confidential treatment, including sales data, business relationships, pricing information, and many elements reported pursuant to the QR tracking system and by application-specific allowance holders. Remaining data elements reported to the Agency that are neither labeled as entitled to confidential treatment nor labeled as not entitled to confidential treatment in the memo to the docket can be claimed as CBI by reporting entities, and EPA will treat them as confidential

pending possible future CBI determinations pursuant to EPA's CBI regulations at 40 CFR Part 2. For all data elements that EPA is determining to be confidential or for which EPA will provide provisional confidential treatment if claimed by reporters as CBI, EPA will release aggregated data if there are three or more reporting entities. This section describes in more specificity what information the Agency is determining will not be provided confidential treatment, including those data elements for which the Agency is declining to follow prior CBI determinations made by the Greenhouse Gas Reporting Program, and what information will be treated as confidential business information.

1. Which Specific Data Elements are not Entitled to Confidential Treatment?

EPA is finalizing the proposal to not provide confidential treatment to, and hereby makes the determination to not provide confidential treatment to, and affirmatively release without further process, the following information: (1) Each company's EVe allowance allocation with allowance balances periodically updated throughout the year; (2) reported facility-level chemical-specific production data, including total production, and production for feedstock and destruction; (3) production data provided by chemical manufacturing facilities that produce HFC-23, specifically the amount and type of chemicals intentionally produced on a facility line that also produces HFC-23; (4) company-level, chemical-specific data on individual import and export shipments, including chemical type, quantity, source country, HTS code, port of entry, date, and the intended use if for destruction or transformation; (5) facility-level chemical-specific destruction data; (6) all data reported on transhipments; and (7) companies receiving transferred allowances and the quantity of allowances received.

As described in more detail in Section IX.G, EPA would release several data elements associated with each container of HFCs to potential buyers so they can verify the HFCs are legally produced, imported, recycled, or reclaimed, including: (1) Whether the HFC being sold is legal to purchase based on information available to EPA; (2) when the container was filled; (3) the specific HFC(s) in the container; (4) and the brand name the HFCs are being sold under. EPA will also release a list of registered suppliers so purchasers know where they can legally buy HFCs. EPA has provided in the docket a document that provides each individual data element required to be reported under the part 84 regulations and denotes EPA's final determination regarding whether each element will be entitled to confidential treatment or not. For data elements not explicitly listed in the document in the docket, if a company claims it as CBI, EPA will treat it that way pending a future determination, which would follow the CBI regulations.

Many entities that are required to report under EPA's newly established part 84 regulations were widely opposed to EPA's proposed approach of not providing confidential treatment for many elements reported to the Agency. Several commenters requested that EPA follow the approach to CBI treatment established under GHGRP. Some commenters stated that company-level production and consumption data are highly confidential. Some argued that increased data release divulges proprietary information to competitors and the Agency's overall transparency goals do not justify increased transparency through the release of information. One commenter opposed to the broader release of data said EPA could release the names of allowance holders and their allocation levels without revealing CBI. One commenter supported releasing EVe-weighted information as they consider the type of HFC(s) it uses or may use in the future to be CBI.

Commenters' arguments on this issue were generally broad, sweeping, and perfunctory. While commenters alleged that releasing reported information would be harmful to businesses or divulge proprietary information, commenters generally did not provide sufficient explanation in their comments to demonstrate their customary handling of the information proposed to be released, but instead simply relied on conclusory statements that most of the information should be kept confidential and EPA should rely on previous determinations made under different reporting regimes where they overlap with this rule. Accordingly, commenters did not provide sufficient information to demonstrate to EPA that any particular data element for which EPA is not providing confidential treatment should be treated as CBI.

Some commenters supported EPA's efforts to make more data reported under this program publicly available for reasons similar to those the Agency discussed in the proposed rule and reiterates here. Transparency will facilitate implementation of the allocation program and increase the public and current market participants' ability to provide complementary compliance scrutiny. It will allow the public and the industry to identify market participants and volumes in trade and thus enable them to alert EPA and other federal authorities when they suspect HFCs may have been produced, imported, or sold without necessary allowances or any available exceptions in violation of the regulations at 40 CFR part 84, subpart A. Transparency in this program will also provide information on general trends and performance of the HFC phasedown program, which could inform public participation by means of petitions filed to the Agency under other provisions of the AIM Act and afford the public insight into the data upon which EPA relies for the Agency's decision making. Additional transparency will also allow

neighboring communities to see how emissions from a particular facility compare to changes in HFC production levels.

Congress has required that the Administrator "ensure that the annual quantity of all regulated substances produced or consumed in the United States does not exceed" the annual caps described in subsection (e)(2)(B). Research shows that making data publicly available facilitates compliance. Qualitative studies have found that "public disclosure is [an] underutilized tool; there is powerful evidence that publishing information about company performance drives better behavior, as pressure is applied by customers, neighbors, investors, and insurers."[106] A recent National Bureau of Economic Research working paper addressed the value of transparency.[107] The researchers examined the effects of data being reported to the GHGRP on emissions from electric power plants. They analyzed CO_2 emissions per megawatt from power plants in the United States pre- and post-establishment of GHGRP reporting (in 2010) and found that plants that were required to report post-2010 (emissions greater than 25,000 $MTCO_2e$ annually) showed decreasing emissions once reporting requirements entered into force, while plants that did not have to report showed increased emissions. The paper posits a causal relationship between the public availability of the emissions data and the decrease in emissions. The effect was stronger for publicly traded firms, and stronger yet if those firms were large (i.e., included in the S&P 500).

[106] David Hindin and Jon Silberman, "Designing More Effective Rules and Permits," *George Washington Journal of Energy & Environmental Law*, Spring 2016 at 103, 117-120.
[107] Lavender Yang, Nicholas Z. Muller, and Pierre Jinghong Liang, "The Real Effects of Mandatory CSR Disclosure on Emissions: Evidence from the Greenhouse Gas Reporting Program," *National Bureau of Economic Research*, July 2021 Working Paper 28984. Available at *http://www.nber.org/papers/w28984*

EPA has acknowledged the importance of data transparency in prior rulemakings. As the Agency explained in the preamble to a proposed rule (78 FR 46006, July 30, 2013) concerning the National Pollutant Discharge Elimination System:

> To promote transparency and accountability, EPA intends to make [a] more complete set of data available to the public, providing communities and citizens with easily accessible information on facility and government performance. Such data provides a powerful incentive to improve performance by giving government, permittees, and the public ready access to compliance information. This can serve to elevate the importance of compliance information and environmental performance within regulated entities, providing opportunity for them to quickly address any noncompliance.

The same principles apply in this situation to incentivize compliance and allow the public and competing companies to identify and report noncompliance to EPA.

EPA understands that some of the data elements it is announcing an intention to release have previously been determined to be CBI under the GHGRP. Many of the data elements reported to subpart OO of the GHGRP were determined to be, and are treated as, confidential by EPA (see e.g., 76 FR 30782, May 26, 2011; 76 FR 73886, November 29, 2011; 77 FR 48072, August 13, 2012, 78 FR 71904, November 29, 2013; and, 81 FR 89188, December 9, 2016).[108] EPA has determined through this rulemaking and is now putting all potential submitters on notice that prospectively, these data elements will not be provided confidential treatment when submitted in accordance with EPA's Part 84 regulations established through this rule. Individual instances of these determinations are noted in a document included in the rulemaking docket. To be clear, determinations made in this rule that certain data elements will not be entitled to confidential treatment only apply prospectively.

[108] For a summary, see https://www.epa.gov/sites/production/files/2020-09/documents/ghgrp_cbi_tables_for_suppliers_8-28-20_clean_v3_508c.pdf

The GHGRP and the AIM Act are separate programs with distinct goals; it is reasonable for EPA to take a different approach than has been taken for the GHGRP and release more disaggregated data than was released under that program. Ensuring compliance with a regulatory phasedown program, where EPA is obligated to ensure that domestic production and consumption aligns with a statutorily defined schedule, is different from a reporting program where one company's noncompliance would mean less accurate accounting, but where achieving mandated reductions of an environmentally harmful class of chemicals is not at stake. Further, the goals of GHGRP can be achieved while giving a multitude of data elements confidential treatment. In contrast, the Agency sees increased transparency and public access to the data EPA will be releasing as contributing to compliance under the AIM Act, which is essential to achieving the goals of the AIM Act. It is reasonable for EPA to take all necessary steps for the Agency to ensure both compliance with the consumption and production caps of subsection (e)(2)(B) and a level playing field between and among all obligated parties, who in most cases are operating in the same or overlapping competitive markets. Under the AIM Act, some companies will face burdens and costs associated with the Congressionally mandated phasedown; those increased burdens and costs unfortunately create economic incentives to avoid compliance. That reality increases EPA's statutory and policy imperative to identify and apply tools that counter those incentives to increase the rate of compliance. Transparency is one of those compliance tools. As further discussed in Section IX which details the enforcement and compliance provisions, a multifaceted compliance approach is important to help ensure, as EPA is explicitly obligated to do, the phasedown targets and associated environmental benefits Congress required are realized.

One commenter argued that EPA's proposed approach to not provide confidential treatment to the identified data elements was impermissible because the AIM Act did not change Exemption 4 of the Freedom of Information Act ("FOIA") and regulations pursuant to the AIM Act cannot alter FOIA. EPA agrees that the AIM Act did not amend FOIA. FOIA and the Agency's accompanying regulations apply to situations where information has been claimed as confidential, the Agency is treating that information confidentially, and the Agency receives a FOIA request for that information or later decides to release the information on its own. In such an instance, the confidential status of the information has not been previously determined by the Agency. That is separate and distinct from what the Agency is doing in this rulemaking. Here, the Agency is determining through rulemaking that some of the data elements as listed in the document provided in the docket will not be treated as confidential by the Agency upon submission and cannot be claimed as such. This is not amending FOIA Exemption 4, but faithfully applying it in accordance with governing case law. As noted in the proposed rule, information determined in the rule not to be entitled to confidential treatment may be released upon submission. As such, 40 CFR part 2.201 through 2.215 do not apply to information determined not to be entitled to confidential treatment in this rule and there will be no further notice to the submitters prior to release of such information. As discussed in Section X.C.1, putting submitters on notice of how FOIA Exemption 4 will be applied in the context of this Rule is consistent with applicable case law, which incorporates the reasonable expectations of submitters about whether information submitted in particular instances will be kept confidential. Pursuant to this rule, reporters do not have a reasonable expectation that the data elements listed in the document provided in the docket as "Not CBI" will be entitled to confidential treatment,

and therefore the Agency is not required to treat that information as confidential when it is received and maintained in Agency records.

Following finalization of this rule, companies are on full notice that EPA has determined that the identified data elements outlined in detail in the document provided in the rulemaking docket are not entitled to confidential treatment and therefore intends to not provide confidential treatment of those elements upon submission. Therefore, companies do not have a reasonable expectation that the information will be treated as confidential. Under recent Supreme Court case law, Exemption 4 of the FOIA should not apply to information submitted with the expectation that the information would be made public. See *Food Mktg. Inst. v. Argus Leader Media*, 139 S. Ct. 2356, 2360 (2019). *See also WP Co. LLC v. U.S. Small Bus. Admin.*, 502 F. Supp. 3d 1, 11 (D.D.C. 2020). A few commenters disagreed that EPA could alter expectations concerning CBI treatment through this rulemaking under the *Food Marketing* standard. The Agency disagrees. As a starting point, stakeholders have no basis for claims based on "expectations" on the handling of information prospectively reported to the Agency under these newly established regulations under the newly enacted AIM Act. The Congressionally ordered phasedown of HFCs is only beginning with this rule; it is these regulations that are creating and defining expectations for the handling of and public access to data submitted to EPA. The Agency is hereby setting a clear expectation that the data elements as listed in the document provided in the docket will not actually be treated as confidential for any submitters and is only applying the rule prospectively to information submitted after this clear expectation is in place.

But even if there were such "expectations," as noted above, companies have not yet submitted the information to the Agency and this notice makes clear that companies should have

the expectation that the information will be disclosed. Moreover, the information must still meet the applicable standard for confidentiality. In *Food Marketing*, the Supreme Court explained that information might be considered "confidential" under two conditions: "In one sense, information communicated to another remains confidential whenever it is customarily kept private, or at least closely held, by the person imparting it." *Food Mktg. Inst.*, 139 S. Ct. at 2366. "In another sense, information might be considered confidential only if the party receiving it provides some assurance that it will remain secret." *Id.* The Court determined that the first condition—that the information customarily be kept private or closely held by the submitter—must be met because "it is hard to see how information could be deemed confidential if its owner shares it freely." *Id.* At 2363. As to the second condition—whether information must be communicated to the government with some assurance that it will be kept private—the Court left open the question of whether this condition was required to demonstrate that information is "confidential" within the meaning of Exemption 4, as that condition was clearly satisfied in the case before it. *Id.* At 2363. Accordingly, the Court held that "[a]t least where commercial or financial information is both customarily and actually treated as private by its owner and provided to the government under an assurance of privacy, the information is 'confidential' within the meaning of Exemption 4." *Id.* At 2366. The Supreme Court's opinion did not determine to what extent the second condition would be required to maintain confidentiality. However, subsequent guidance from the Department of Justice has clarified that where an express assurance is provided by the government that information will *not* be kept confidential upon submission, such information will generally not be entitled to confidential treatment. See Exemption 4 after the Supreme Court's Ruling in *Food Marketing Institute v. Argus Leader Media*, October 4, 2019,

https://www.justice.gov/oip/exemption-4-after-supreme-courts-ruling-food-marketing-institute-v-argus-leader-media. (See also recent case law from the Federal District Court for the District of Columbia, e.g., *WP Co. LLC v. U.S. Small Bus. Admin*., 502 F. Supp. 3d 1, 16 (D.D.C. 2020)).

Therefore, EPA's decision to clearly assert in this rule that EPA intends to release the designated information aligns with the Supreme Court's decision and the subsequent guidance that the government's assurances that a submission will be treated as *not* confidential should dictate the expectations of submitters.

Moreover, this interpretation and approach are consistent with other applicable case law. While the court did not specify that an assurance from the government was required, it was a key assumption underlying the decision that the information was entitled to confidential treatment. *Id*. At 874. In *Food Marketing,* the Supreme Court also noted that several earlier Circuit Court decisions had addressed the relevance of whether assurances of confidentiality had been provided prior to submission:

> "In *GSA v. Benson*, 415 F. 2d 878, 881 (1969), for example, the Ninth Circuit concluded that Exemption 4 would "'protect information that a private individual wishes to keep confidential for his own purposes, but reveals to the government *under the express or implied promise'" of confidentiality*. [emphasis added] The D. C. Circuit similarly held that Exemption 4 covered sales documents "'which would customarily not be released to the public'" and which the government "agreed to treat . . . as confidential." *Sterling Drug Inc. v. FTC*, 450 F. 2d 698, 709 (1971); see also *Grumman Aircraft Eng. Corp. v. Renegotiation Bd.*, 425 F. 2d 578, 580, 582 (1970) (information a private party "submitted 'in confidence'" or "would not reveal to the public [is] exempt from disclosure")."

Food Mktg. Inst., 139 S. Ct. at 2363. Here, the Agency is providing affirmative notice that the Agency will not provide confidential treatment for data elements reported under the part 84 AIM Act regulations as outlined in detail in the document provided in the rulemaking docket.

One commenter stated that the Trade Secrets Act provides businesses with a cause of action for divulging trade secrets, including business information such as market share and customer lists. The Trade Secrets Act (TSA) is a criminal statute that prohibits officers and employees of federal agencies from publishing or disclosing trade secrets and other CBI "to any extent not authorized by law." 18 U.S.C. 1905. In this instance, as explained in the prior paragraphs, the Agency is authorized to release information that is not entitled to confidential treatment. There is nothing in the TSA legislative history to suggest that Congress intended the phrase "authorized by law" to have a special, limited meaning different from the traditional understanding. This rulemaking, which included a notice and comment process, makes any future data releases authorized disclosures.

In addition to EPA providing notice that it will not provide confidential treatment for the listed elements, and therefore companies do not have a reasonable expectation that such information submitted after this rule is finalized will be withheld, some data elements collected pursuant to the reporting regulations established in this rule are also releasable because they are appropriately considered emission data, including data used as inputs to emissions equations, which is releasable under subsection (k)(1)(C), pursuant to its incorporation of CAA section 114 for purposes of the Act and any regulations promulgated under it, as if the AIM Act were part of title VI of the CAA. CAA section 114(c) provides that emission data shall be available to the public. Regarding annual facility-level information on HFC-23 generated and destroyed, these data are inputs into emission equations that are used under GHGRP subparts L and O to calculate and report emissions of HFC-23. Inputs into emission equations may be considered "emission data" and section 114(c) of the CAA provides that "emission data" shall be available to the

public. Because subsection (k)(1)(C) of the AIM Act states that section 114 of the CAA applies to the AIM Act and rules promulgated under it as if the AIM Act were included in title VI of the CAA, the requirements under section 114(c) of the CAA that apply to "emission data" also apply to data gathered under the AIM Act that are determined to be "emission data." EPA has determined that these elements related to HFC-23 are emission data and thus are not entitled to confidential treatment.

EPA further notes that some of these data elements determined not to be entitled to confidential treatment, particularly portions of chemical-specific company-level import data, are publicly available through a range of datasets.[109] These databases charge a fee for access to information on imports at the transaction level based on Customs data from the United States and other countries, including bills of lading. There are also websites that provide selected import data at no cost.[110] A submission available in the docket from First Continental International (NJ) Inc., dated March 12, 2021, shows the types of information that can be ascertained from these databases. Data that are already publicly available cannot be considered confidential or proprietary and do not merit confidential treatment. EPA's Chemical Data Registry also provides some HFC production and import data (https://chemview.epa.gov). One commenter disagreed

[109] Examples include PIERS (*https://ihsmarkit.com/products/piers.html*), Panjiva (*https://panjiva.com*), Datamyne (*https://www.datamyne.com*), and ImportGenius (*https://www.importgenius.com*). Mention of or referral to commercial products or services, and/or links to non-EPA sites does not imply official EPA endorsement of or responsibility for the opinions, ideas, data, or products presented at those locations, or guarantee the validity of the information provided. Mention of commercial products/services on non-EPA websites is provided solely as a pointer to information on topics related to environmental protection that may be useful to the public as they review this proposed rulemaking.

[110] Enigma, a data science firm, makes available online what appears to be the full Automated Manifest System import data from 2018–2020, including the names of shipment consignees and cargo descriptions (*https://aws.amazon.com/marketplace/pp/US-Imports-Automated-Manifest-System-AMS-Shipments/prodview-stk4wn3mbhx24*). Similarly, usimports.info makes a limited number of import database queries free to users, allowing them to see data on individual bills of lading (*https://usimports.info*).

with EPA's assertion that import data found in public "pay-for" databases are accurate, while another commenter disagreed that data were available for imports to the extent EPA stated at proposal. EPA appreciates that not all datasets are complete and that sometimes there is disagreement with Customs data, data reported to EPA, and data available in free and pay-for databases. In some cases, a company name is not released for a shipment. In others, the quantities may not match completely in all instances or the HTS code used may not match with the data reported to EPA. However, the Agency is not convinced that this is a reason to discount the data available in these datasets. Further, a significant amount of data is available in these databases, and as such it is not actually treated as confidential and therefore it is not appropriate to withhold such information under FOIA Exemption 4.

As noted at the start of this subsection, EPA intends to publish on its website the names of every entity receiving production allowances, consumption allowances, or application-specific allowances and the amount of allowances allocated. EPA intends to revise those data at least quarterly as allowances are expended. Under the ODS phaseout program, EPA released similar company-specific allowance data, including quantities produced or imported by each company in the baseline year by chemical and annual allocation amounts thereafter for nearly 30 years. EPA's experience has been that the release of this information has been important to reduce illegal imports, facilitate transfers, and provide third parties confidence that they were buying from a company that had allowances. EPA anticipates greater benefits will result from providing similar and more comprehensive HFC data. Releasing allowance allocation amounts will also provide context for understanding the reported production and import volumes. Commenters supported the release of this information.

One commenter stated that data regarding transformation is CBI. In this final rule, EPA is clarifying that the Agency will not provide confidential treatment to reported facility-level, company-specific, and chemical-specific data on production or import for transformation for the above-mentioned reasons, but EPA will provide confidential treatment to data related to companies' acquiring those regulated substances for transformation and processes in which the regulated substances are transformed. Releasing data on production (and import and export) for transformation is important given this type of production and import does not require an allowance. Additional transparency helps ensure there is visibility on the quantities entering and exiting the United States.

In addition to all of the above-noted items, should the United States join the Kigali Amendment to the Montreal Protocol, it would release data to the United Nations Environment Programme's Ozone Secretariat regarding HFC production, consumption, and limited emission data. On January 27th, 2021, the President issued an Executive Order on Tackling the Climate Crisis at Home and Abroad (Executive Order 14008; 86 FR 7619; January 27, 2021). Under part (j), the Executive Order directs the Secretary of State to prepare within 60 days a transmittal package seeking the Senate's advice and consent to ratification of the Kigali Amendment to the *Montreal Protocol on Substances that Deplete the Ozone Layer.* The Kigali Amendment requires an international phasedown of the production and consumption of HFCs. Should the United States join the Kigali Amendment, EPA is putting stakeholders on notice that it will report[111] the following data to the Ozone Secretariat:

[111] The reporting forms and instructions that EPA would use to submit data are available in the docket and on the Ozone Secretariat's website at *https://ozone.unep.org/countries/data-reporting-tools*

- Annual U.S. HFC production in MT aggregated by chemical for each of the HFCs listed in subsection (c) of the AIM Act, including total HFC production for all uses and HFC production for feedstock in the United States;
- Annual U.S. HFC import in MT aggregated by chemical and by country imported from for each of the HFCs listed in subsection (c) of the AIM Act, including the amounts that are new (virgin), recovered and reclaimed, or for feedstock use;
- Annual U.S. HFC export in MT aggregated by chemical and by country exported to for each of the HFCs listed in subsection (c) of the AIM Act, including the amounts that are new (virgin), recovered and reclaimed, or for feedstock use;
- Annual U.S. HFC destruction in MT aggregated by chemical for each of the HFCs listed in subsection (c) of the AIM Act; and
- Annual facility-level information on HFC-23 generated and destroyed, including annual amounts of HFC-23:
    - Generated, whether captured or not;
    - generated and captured for all uses;
    - generated and captured for feedstock use in the United States;
    - generated and captured for destruction;
    - used for feedstock without prior capture;
    - destroyed without prior capture; and
    - generated emissions.

The Ozone Secretariat would release aggregated GWP-weighted annual production and consumption on the Ozone Secretariat's website.[112] Additional data elements released include annual amounts destroyed, aggregated for all reported chemicals under the Montreal Protocol in MT, import of recovered/recycled/reclaimed substances by group (e.g., HFCs) in MT, and export of recovered/recycled/reclaimed substances in MT by group. Should the United States join the Kigali Amendment, EPA would also submit chemical-specific production and consumption data for 2011, 2012, and 2013 to establish the United States' baseline for HFCs.

The Parties to the Montreal Protocol adopted Decision I/11[113] during the First Meeting of the Parties, which provides the Parties' view on how to treat the confidentiality of data submitted to the Ozone Secretariat. In accordance with the decision, if the United States is submitting data that it has determined to be entitled to confidential treatment pursuant to this Rule, the United States has the ability to mark the data accordingly such that it will be treated with secrecy and maintained confidential by the Secretariat. EPA intends to mark any data for which the Agency is providing confidential treatment pursuant to this Rule as appropriate for confidential treatment in its annual reporting, were the United States to join the Kigali Amendment. The decision requests the Ozone Secretariat to only release aggregated data such that any data a Party to the Protocol considers to be confidential will not be disclosed. However, Parties to the Protocol may exercise their right under Article 12, paragraph b of the Protocol to have access to confidential

[112] The Ozone Secretariat's handling of similarly reported data from the United States on ODS is available at *https://ozone.unep.org/countries/profile/usa*

[113] "The Montreal Protocol on Substances That Deplete the Ozone Layer." Unep.org, United Nations Environment Programme. Available at *https://ozone.unep.org/treaties/montreal-protocol/meetings/first-meeting-parties/decisions/decision-i11-report-and-confidentiality-data*

data from other parties, provided that they send an application in writing that guarantees such data will be treated with secrecy and not disclosed or published in any way.

2. Which Data Elements has EPA Determined are Entitled to Confidential Treatment?

EPA understands that a certain amount of confidentiality is necessary for firms to function within a competitive market. Many commenters stated that data regarding HFC uses has no particular relevance to the phasedown. Application-specific end users had particular concern about the release of their data. Some raised concerns about national security and foreign competition if application-specific data were made public. They argued it is inconsistent with Congressional intent to support these applications by requiring companies to divulge sensitive information in order to receive allowances. With regard to transfers, many companies opposed the release of pricing data. With regard to the certification ID tracking system, many commenters were opposed to releasing data on customers, suppliers, handlers, and other entities in the chain of custody of the material.

EPA is determining in this rule that some data elements are entitled to confidential treatment, including sales data, business relationships, pricing information, and many elements reported pursuant to the QR tracking system and by application-specific allowance holders. EPA is determining in this rule that the following reported elements, among others, are entitled to confidential treatment: (1) Information provided to the Agency in one-time reports or petitions, such as those provided by entities that transform or destroy HFCs; (2) information provided to the Agency in their requests for application-specific allowances, except for annual consumption information discussed earlier in this section; (3) information relating to an exchange or interaction between vendors or customers, such as pricing data; (4) most data viewable through

the certification ID tracking system in the same manner (with the exceptions described in Section IX.G; and (5) transfer pricing information. EPA has provided in the docket a document that lists each individual data element required to be reported under the part 84 regulations and denotes whether each element is entitled to confidential treatment or not.

EPA has determined that these data elements are customarily and actually considered to be confidential and closely held by companies. EPA finds that these data elements meet the requirements of FOIA Exemption 4 and are therefore appropriately treated as confidential. EPA also does not see the same benefits of transparency of releasing these data elements for improved enforceability and function of the HFC phasedown program. For these reasons, the Agency is determining the listed data elements are deserving of confidential treatment.

3. How Will EPA Aggregate Data for Release?

For data elements that EPA has determined to grant confidential treatment, or where EPA is not making a determination on whether data is CBI at this time, and therefore will not be released in an unaggregated format, EPA will release information in an aggregated form. Specifically, EPA retains the discretion to release aggregated data for any element on which there are three or more reporting entities. The Agency has determined that this level of aggregation ensures no entity can back calculate a single data element, and therefore confidentiality can still be ensured.

In addition to this general rule, there are various data sets that the Agency intends to provide in aggregate form. Through this rule, the Agency is putting stakeholders on notice that the following information will be released in aggregate form if there are three or more reporting entities. First, EPA intends to release annual aggregate amounts for each HFC produced and

imported (summed) for use as a process agent, and aggregate annual emissions from such use by HFC. EPA requested comment on current process agent use of HFCs including which HFCs are used as a process agent, how the HFC is used as a process agent, which facilities use HFCs as a process agent, and the annual quantity of HFCs used as a process agent. EPA did not receive any comments providing such information. EPA proposed to release aggregated HFC process agent data, if the use of HFCs was in sufficient quantities and frequencies to allow for aggregation. EPA did not receive comment on releasing this aggregate data and thus is finalizing this as proposed.

Second, EPA intends to release aggregated annual chemical-specific HFC consumption volumes for each application-specific end use. This is similar to how the Agency provided chemical-specific data in the market characterizations. EPA is finalizing this approach as proposed. Providing these data to the general public allows EPA to show the scale of application-specific allowance use, identify where EPA's annual determination on the quantity of HFCs needed for the end use may need adjustment, and inform future rulemakings. This information will be aggregated across all application-specific allowance holders within a specific application, so EPA expects there will be no risk of divulging information submitters customarily keep private or closely held.

Third, EPA will release aggregated data on the quantity (in kilograms) of each HFC held in inventory as of December 31 of each year collectively by producers, importers, exporters, and reclaimers of HFCs summed together. This is analogous to the approach under CAA section 608 of releasing HFC reclamation data on a chemical-by-chemical basis. EPA will only release HFC-specific inventory values if there are three or more companies that have inventory of that HFC.

Releasing inventory data can inform decisions of all companies in the marketplace. For example, lack of reliable and widely distributed information on the scale of the existing inventory of HCFC-22 likely contributed to dramatic price swings associated with delays in the issuance of prior EPA allocation rulemakings. While additional information on inventory on its own may not prevent price fluctuations, it could provide more price predictability for the step-downs. Releasing inventory data could also help producers and importers make decisions about which HFCs are in short supply and/or could help support a smooth transition away from high-GWP HFCs.

Fourth, EPA also intends to publish aggregated data on pricing of transfers, so long as there are at least three companies involved in transferring allowances that year. Specifically, if there are at least three companies involved in transfers, EPA would release the average cost of the transfers reported. Release of these data would provide the public with helpful information on the average value and scale of transfers associated with the HFC phasedown.

Similarly, EPA will release aggregated reclamation and fire suppressant recycling data by HFC consistent with the approach taken under CAA section 608 and its implementing regulations at 40 CFR part 82, subpart F. An example of these data is available at https://www.epa.gov/section608/summary-refrigerant-reclamation-trends. Release of these data aids industry and consumer understanding of the availability of various HFCs.

XI. What are the Costs and Benefits of this Action?

EPA conducted a RIA, which estimated the costs and benefits of implementing the phasedown of HFCs as a result of the passage of the AIM Act, as realized by promulgating this

rule. This analysis is intended to provide the public with information on the relevant costs and benefits of this action and to comply with executive orders.

EPA estimates that in 2022 the annual net benefits are $1.7 billion, reflecting compliance savings of $300 million and social benefits of $1.4 billion. In 2036, when the final phasedown step is reached at 15 percent of the statutorily defined HFC baseline, the estimated annual net benefits are $16.4 billion. Table 6 presents a summary of the annual costs and net benefits of the rule for selected years in the time period 2022–2050, but with the climate benefits discounted at 3 percent.

Table 6: Benefits, Costs, and Net Benefits of the Final Rule for 2022 – 2050 (billions of 2020$)[a,b,c]

Year	Climate Benefits (discounted at 3%)	Costs (annual)	Net Benefits
2022	$1.4	-$0.3	$1.7
2024	$5.2	$0.1	$5.1
2029	$7.5	-$0.6	$8.1
2034	$12.4	-$0.9	$13.3
2036	$15.7	-$0.7	$16.4
2045	$25.1	-$0.9	$26.0
2050	$29.7	-$1.1	$30.8

[a] Benefits include only those related to climate. See Table 4-24 in the RIA for the full range of SC-HFCs estimates. The costs presented in this table are annual estimates.
[b] Rows may not appear to add correctly due to rounding.
[c] Climate benefits are based on changes (reductions) in HFC emissions and are calculated using four different estimates of the SC-HFCs (model average at 2.5 percent, 3 percent, and 5 percent discount rates; and 95th percentile at 3 percent discount rate). The IWG emphasized, and EPA agrees, on the importance and value of considering the benefits calculated using all four estimates. As discussed in the Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 (IWG 2021), a consideration of climate benefits calculated using discount rates below 3 percent, including 2 percent and lower, are also warranted when discounting intergenerational impacts.

Climate benefits presented in Tables 6, 7, and 8 are based on changes (reductions) in HFC emissions and are calculated using four different estimates of the social cost of HFCs (SC-HFCs) model average at 2.5 percent, 3 percent, and 5 percent discount rates; and 95th percentile

at 3 percent discount rate). For the presentational purposes of Tables 6 and 8, we show the benefits associated with the average SC-HFCs at a 3 percent discount rate, but the Agency does not have a single central SC-HFCs point estimate.

The SC-HFC estimates used in this analysis were developed using methodologies consistent with the methodologies underlying the interim estimates of the social cost of carbon ($SC\text{-}CO_2$), social cost of methane ($SC\text{-}CH_4$), and social cost of nitrous oxide ($SC\text{-}N_2O$) (collectively referred to as social cost of greenhouse gases (SC-GHG)) published in February 2021 by the IWG. As a member of the IWG involved in the development of the February 2021 Technical Support Document (TSD): Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 (IWG 2021), EPA agrees that the interim SC-GHG estimates represent the most appropriate estimate of the SC-GHG until revised estimates have been developed reflecting the latest, peer reviewed science. The interim SC-GHG estimates were developed over many years, using a transparent process, peer-reviewed methodologies, the best science available at the time of that process, and with input from the public. Therefore, EPA views the methods to be appropriate for estimating SC-HFCs for use in benefit-cost analysis.

As discussed in the February 2021 TSD, the IWG emphasized the importance and value of considering the benefits calculated using all four estimates (model average at 2.5, 3, and 5 percent discount rates, and 95th percentile at 3 percent discount rate). In addition, the TSD explained that a consideration of climate benefits calculated using discount rates below 3 percent, including 2 percent and lower, is also warranted when discounting intergenerational impacts. As a member of the IWG involved in the development of the February 2021 TSD, EPA

agrees with this assessment for the purpose of estimating climate benefits from HFC reductions as well, and will continue to follow developments in the literature pertaining to this issue.

Table 7 presents the sum of climate benefits across all HFCs reduced for the final rule for 2022, 2024, 2029, 2034, 2036, 2045, and 2050.

Table 7: Climate Benefits for the Final Rule for 2022 – 2050 (billions of 2020$)

Year	Climate Benefits by Discount Rate and Statistic			
	5% (average)	3% (average)	2.5% (average)	3% (95th percentile)
2022	0.5	1.4	1.9	3.7
2024	2.2	5.2	7.0	13.8
2029	3.2	7.5	10.0	20.0
2034	5.5	12.4	16.2	33.0
2036	7.2	15.7	20.4	42.0
2045	12.0	25.1	32.2	67.4
2050	14.6	29.7	37.7	79.5

EPA estimates that the present value of cumulative net benefits evaluated from 2022 through 2050 is $272.7 billion at a three percent discount rate, comprising $260.9 billion in cumulative benefits due to reducing HFC emissions and $11.8 billion in cumulative compliance savings. The present value of net benefits is calculated over the 29-year period from 2022–2050, to account for the years that emissions will be reduced following the consumption reductions from 2022–2036. Over the 15-year period of the phasedown of HFCs, the present value of cumulative compliance costs is negative $5.4 billion, or $5.4 billion in savings, and the present value of cumulative social benefits is $94.8 billion, both at a three percent discount rate. Over the same 15-year period of the phasedown, the present value of cumulative net benefits is $100.2 billion. At a 7 percent discount rate over the 15-year period of the phasedown of HFCs, the present value of cumulative compliance costs is negative $3.7 billion, or $3.7 billion in savings. Over the same 15-year period of the phasedown, the present value of cumulative net benefits is

$98.5 billion at a 7 percent discount rate for costs (and 3 percent for climate benefits). The comparison of benefits and costs in present value (PV) and equivalent annualized value (EAV) terms for the rule can be found in Table 8. Estimates in the table are presented as rounded values.

Table 8: Summary of Annual Values, Present Values, and Equivalent Annualized Values for the 2022 – 2050 Timeframe for Estimated Abatement Costs, Benefits, and Net Benefits for the Final Rule (billions of 2020$, discounted to 2022)[a,b]

Year	Climate Benefits (3%)[c,d]	Costs[c]		Net Benefits	
		3%	7%	3%	7%
Present Value	$260.9	-$11.8	-$6.4	$272.7	$267.4
Equivalent Annualized Value	$13.6	-$0.6	-$0.5	$14.2	$14.1

[a] Rows may not appear to add correctly due to rounding.
[b] The annualized present value of costs and benefits are calculated over a 29-year period from 2022 to 2050.
[c] The costs presented in this table are consistent with the costs presented in RIA Chapter 3, Table 3-6.
[d] Climate benefits are based on changes (reductions) in HFC emissions and are calculated using four different estimates of the SC-HFCs (model average at 2.5 percent, 3 percent, and 5 percent discount rates; and 95th percentile at 3 percent discount rate). The IWG emphasized, and EPA agrees, on the importance and value of considering the benefits calculated using all four estimates. As discussed in the Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 (IWG 2021), a consideration of climate benefits calculated using discount rates below 3 percent, including 2 percent and lower, are also warranted when discounting intergenerational impacts.

The estimation of $260.9 billion in benefits due to reducing HFC emissions involved three steps. First, the difference between the consumption of HFCs allowed under the rule and the consumption that would have been expected in a business-as-usual scenario was calculated for each year of the phasedown in exchange value-weighted tons (i.e., EVe). Second, using EPA's Vintaging Model, the changes in consumption were used to estimate changes in HFC emissions, which generally lag consumption by some time as HFCs incorporated into equipment and products are eventually released to the environment. Finally, the climate benefits were calculated by multiplying the HFC emission reductions for each year by the appropriate social cost of HFC to arrive at the monetary value of HFC emission reductions.

EPA estimates the climate benefits for this rule using a measure of the social cost of each HFC (collectively referred to as SC-HFCs) that is affected by the rule. The SC-HFCs is the

monetary value of the net harm to society associated with a marginal increase in HFC emissions in a given year, or the benefit of avoiding that increase. In principle, SC-HFCs includes the value of all climate change impacts, including (but not limited to) changes in net agricultural productivity, human health effects, property damage from increased flood risk and natural disasters, disruption of energy systems, risk of conflict, environmental migration, and the value of ecosystem services. As with the estimates of the social cost of other GHGs, the SC-HFC estimates are found to increase over time within the models – i.e., the societal harm from one metric ton emitted in 2030 is higher than the harm caused by one metric ton emitted in 2025 – because future emissions produce larger incremental damages as physical and economic systems become more stressed in response to greater climatic change, and because GDP is growing over time and many damage categories are modeled as proportional to GDP. The SC-HFCs, therefore, reflects the societal value of reducing emissions of the gas in question by one metric ton. The SC-HFCs is the theoretically appropriate value to use in conducting benefit-cost analyses of policies that affect HFC emissions.

The benefits of this rule derive mostly from preventing the emissions of HFCs with high GWPs, thus reducing the damage from climate change that would have been induced by those emissions. The reduction in emissions follows from a reduction in the production and consumption of HFCs, measured in MMTEVe. It is assumed that all HFCs produced or consumed would be emitted eventually, either in their initial use (e.g., as propellants), during the lifetime of HFC-containing products (e.g., off-gassing from closed-cell foams or leaks from refrigeration systems), or during servicing or disposal of HFC-containing products.

The reductions in units of MMTEVe are calculated for each year by summing the tons abated for the options utilized for that year. EPA estimates that for the years 2022–2036 this action will avoid cumulative consumption of 3,152 MMTEVe of HFCs in the United States. The annual consumption avoided is estimated at 42 MMTEVe in the year 2022 and 282 MMTEVe in 2036. In order to calculate the climate benefits associated with consumption abatement, the consumption changes were expressed in terms of emissions reductions. EPA estimates that for the years 2022–2050 this action will avoid cumulative emissions of 4,560 MMTEVe of HFCs in the United States. The annual avoided emissions are estimated at 22 MMTEVe in the year 2022 and 171 MMTEVe in 2036. Note that the emissions avoided in each year is less than the consumption avoided in the same year because of the delay between when an HFC is produced or imported and when it is emitted to the atmosphere.

EPA received comments on the RIA including on the estimated costs and benefits of the rule. While some commenters supported the use and application of the SC-HFCs to monetize the climate benefits associated with the rule, others noted that the estimates were not peer reviewed. The SC-HFCs estimates used by EPA in the RIA were developed in a manner consistent with the methodology underlying estimates of the social cost of other greenhouse gases (SC-CO_2, SC-CH_4, and SC-N_2O) as presented in the Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 (IWG 2021), which were developed over many years, using a transparent process, peer-reviewed methodologies, the best science available at the time of that process, and with input from the public.

Additional commenters noted methodological concerns with the underlying climate models and inputs used to generate the SC-GHG estimates that the SC-HFCs estimates are

derived from. EPA recognizes the shortcomings and limitations associated with the current interim IWG estimates and underlying methodology. Since the SC-HFC estimates are based on the same methodology underlying the SC-GHG estimates presented in the IWG February 2021 TSD, they share a number of limitations that are common to those SC-GHG estimates. The limitations were outlined in the February 2021 TSD and include that the current scientific and economic understanding of discounting approaches suggests discount rates appropriate for intergenerational analysis in the context of climate change are likely to be less than 3 percent, near 2 percent or lower. Additionally, the IAMs used to produce these estimates do not include all of the important physical, ecological, and economic impacts of climate change recognized in the climate change literature, and the science underlying their "damage functions" – i.e., the core parts of the IAMs that map global mean temperature changes and other physical impacts of climate change into economic (both market and nonmarket) damages – lags behind the most recent research.

The modeling limitations do not all work in the same direction in terms of their influence on the SC-HFC estimates. However, as discussed in the February 2021 TSD, the IWG has recommended that, taken together, the limitations suggest that the SC-GHG estimates likely underestimate the damages from GHG emissions. Therefore, as a member of the IWG involved in the development of the February 2021 TSD, EPA agrees that the interim SC-GHG estimates represent the most appropriate estimate of the SC-GHG until revised estimates have been developed reflecting the latest, peer reviewed science. The 2021 TSD previews some of the recent advances in the scientific and economic literature that the IWG is actively following and

that could provide guidance on, or methodologies for, addressing some of the limitations with the interim SC-GHG estimates, which also apply to the SC-HFC.

XII. 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. A summary of the potential costs and benefits associated with this action is included in Table 1 in Section I.C and additional details are provided in Section XI of this final rulemaking. EPA has prepared an analysis of the potential costs and benefits associated with this action, which is available in Docket Number EPA-HQ-OAR-2021-0044.

B. Paperwork Reduction Act (PRA)

The information collection activities in this rule will be submitted for approval to OMB under the PRA. The Information Collection Request (ICR) document that EPA prepared at proposal was assigned EPA ICR number 2685.01, and the updated ICR for the final rulemaking has been assigned EPA ICR number 2685.02. You can find copies of these ICRs in the docket for this rule (Docket Number EPA-HQ-OAR-2021-0044), and EPA ICR 2685.02 is briefly summarized here. The information collection requirements are not enforceable until OMB approves them.

Subsection (d)(1)(A) of the AIM Act specifies that on a periodic basis, but not less than annually, each company that, within the applicable reporting period, produces, imports, exports,

destroys, transforms, uses as a process agent, or reclaims a regulated substance shall submit to EPA a report that describes, as applicable, the quantity of the regulated substance that the company: produced, imported, and exported; reclaimed; destroyed by a technology approved by the Administrator; used and entirely consumed (except for trace quantities) in the manufacture of another chemical; or, used as a process agent. EPA is collecting such data regularly to support implementation of the AIM Act's HFC phasedown provisions. EPA is requiring quarterly reporting to ensure that annual production and consumption limits are not exceeded. It is also needed for EPA to be able to review allowance transfer requests, of which remaining allowances is a major component of EPA's review. In addition, EPA is collecting information in order to calculate allowances, to track the movement of HFCs through commerce, and to require auditing. Collecting these data elements allow for EPA to ensure that the annual quantity of regulated substances produced or consumed in the United States does not exceed the cap established by the AIM Act, consistent with subsection (e)(2)(B) of the Act.

All information sent by the submitter electronically is transmitted securely to protect information submitters customarily keep private or closely held. The reporting tool guides the user through the process of submitting CBI. Documents containing information claimed as CBI must be submitted in an electronic format, in accordance with the recordkeeping requirements. EPA also allows respondents to report CBI by fax and through courier.

Respondents/affected entities: Respondents and affected entities are individuals or companies that produce, import, export, transform, distribute, destroy, reclaim, fill, or package certain HFCs that are defined as a regulated substance under the AIM Act. Respondents and affected entities are also individuals and companies that produce, import, or export products in six statutorily

specified applications: a propellant in MDIs; defense sprays; structural composite preformed polyurethane foam for marine and trailer use; the etching of semiconductor material or wafers and the cleaning of chemical vapor deposition chambers within the semiconductor manufacturing sector; mission-critical military end uses; and, onboard aerospace fire suppression.

Respondent's obligation to respond: Mandatory (AIM Act)

Estimated number of respondents: **10,654**

Frequency of response: Quarterly, biannual, annual, and as needed depending on the nature of the report.

Total estimated burden: **83,598** hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $**12,102,515 per year**, includes $**2,737,392** annualized capital or operation & 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.

EPA used data collected under the ICR for the Greenhouse Gas Reporting Program (OMB Control No. 2060–0629), as well as the associated reporting tool, the electronic Greenhouse Gas Reporting Tool (e-GGRT), in developing this rulemaking. EPA also requested an emergency ICR for a one-time collection request pertaining to data necessary to establish the United States consumption and production baselines, as well as to determine potential producers, importers, and application-specific end users who were not subject to the GHGRP (OMB Control No. 2060-0732, EPA ICR No. 2684.01). The emergency ICR for the one-time collection request

was approved on April 22, 2021, and more information can be found here:

https://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=202103-2060-005.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. The small entities subject to the requirements of this action are suppliers of HFCs including producers, importers, exporters, reclaimers, companies that destroy HFCs, and companies that sell and distribute HFCs.

To determine whether this final rule would likely have a SISNOSE, EPA identified producers, importers, exporters, and reclaimers of HFCs from 2017 through 2019 that reported to EPA's Greenhouse Gas Reporting Program and CBP's ACE. Available economic data about each identified entity (i.e., number of employees, annual sales) were obtained from the Dun and Bradstreet databases, and the sizes compared with the U.S. Small Business Administration's (SBA's) table of small business size standards matched to NAICS codes. The small business threshold is defined by SBA as the number of employees in the company and varied between 100 and 1,500 employees. There were identified HFC importers and reclaimers that met the definition of small businesses, but no HFC producers were identified as small businesses. To determine the likely economic impact on these small businesses, it was assumed that a percentage of the HFCs they imported would be replaced by an alternative, and the difference in the price between the HFCs and their alternatives was applied to determine any change in sales revenue. The methods used and assumptions made to perform this analysis are described in detail in the technical support document, *Economic Impact Screening Analysis for the Allowance*

System for an HFC Production and Consumption Phasedown, found in the docket of this rule (Docket Number EPA-HQ-OAR-2021-0044).

EPA estimates that approximately 19 of the 8,738 potentially affected small businesses could incur costs in excess of one percent of annual sales and that approximately 15 small businesses could incur costs in excess of three percent of annual sales. Because there is not a significant number of small businesses that may experience a significant impact, 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 does not have substantial direct effects on tribes 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 updates tribal officials on air

regulations through the monthly meetings of the National Tribal Air Association. EPA shared information on this rulemaking through that meeting 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 resulting from the 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 people at vulnerable stages of life, including children, the elderly, and people with low incomes, 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. More detailed information on the impacts of climate change to human health and welfare is provided in Section III.B of this preamble.

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 certain regulated substances and certain applications containing 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

A summary of the Agency's approach for considering potential environmental justice concerns as a result of this rulemaking can be found in section IV of the preamble, and our environmental justice analysis can be found in the RIA, available in the docket for this rulemaking. As described in that analysis, this rule will reduce emissions of potent GHGs, which will reduce the effects of climate change, including the public health and welfare effects that disproportionately harm minority populations, low-income populations, and/or indigenous peoples.

At the same time, the Agency recognizes that phasing down the production of HFCs may cause significant changes in the location and quantity of production of both HFCs and their substitutes, and that these changes may in turn affect emissions of hazardous air pollutants at

chemical production facilities. At proposal and in this final rule, EPA carefully evaluated available information on HFC production facilities and the characteristics of nearby communities to evaluate these impacts. EPA also solicited comment on whether these changes pose risks to communities with environmental justice concerns and what steps, if any, should be taken either under the AIM Act or under EPA's other statutory authorities to address any concerns that might exist. Based on this analysis and information gathered during the comment period, EPA finds evidence of environmental justice concerns near HFC production facilities from cumulative exposure to existing environmental hazards in these communities. However, given uncertainties about where and in what quantities HFC substitutes will be produced, EPA cannot determine the extent to which this rule will exacerbate or reduce existing disproportionate adverse effects on communities of color and low-income people as specified in Executive Order 12898 (59 FR 7629, February 16, 1994). However, as noted in section IV, the Agency will continue to evaluate the impacts of this program on communities with environmental justice concerns and consider further action, as appropriate, to protect health in communities affected by HFC production.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is a "major rule" as defined by 5 U.S.C. 804(2).

List of Subjects

40 CFR Part 9

Environmental protection, Reporting and recordkeeping requirements.

40 CFR Part 84

Environmental protection, Administrative practice and procedure, Air pollution control, Chemicals, Climate change, Emissions, Imports, Reporting and recordkeeping requirements.

Michael S. Regan,
Administrator.

For the reasons set forth in the preamble, EPA amends 40 CFR chapter I as follows:

PART 9 - OMB APPROVALS UNDER THE PAPERWORK REDUCTION ACT

1. The authority citation for part 9 continues to read as follows:

Authority: 7 U.S.C. 135 et seq., 136-136y; 15 U.S.C. 2001, 2003, 2005, 2006, 2601-2671; 21 U.S.C. 331j, 346a, 31 U.S.C. 9701; 33 U.S.C. 1251 et seq., 1311, 1313d, 1314, 1318, 1321, 1326, 1330, 1342, 1344, 1345 (d) and (e), 1361; E.O. 11735, 38 FR 21243, 3 CFR, 1971-1975 Comp. p. 973; 42 U.S.C. 241, 242b, 243, 246, 300f, 300g, 300g-1, 300g-2, 300g-3, 300g-4, 300g-5, 300g-6, 300j-1, 300j-2, 300j-3, 300j-4, 300j-9, 1857 et seq., 6901-6992k, 7401-7671q, 7542, 9601-9657, 11023, 11048.

2. In § 9.1 amend the table by:

a. Adding an undesignated heading for "Phasedown of Hydrofluorocarbons" after the entry for "82.184(e)"; and

b. Adding an entry for "84.29" in numerical order.

The additions read as follows:

§9.1 OMB approvals under the Paperwork Reduction Act.

* * * * *

40 CFR Citation	OMB Control No.
*******	
Phasedown of Hydrofluorocarbons	
84.29	2060-AV17
*******	

3. Effective **[INSERT DATE OF PUBLICAITON IN THE FEDERAL REGISTER]**, add part 84 to read as follows:

PART 84 – PHASEDOWN OF HYDROFLUOROCARBONS

Subpart A – PRODUCTION AND CONSUMPTION CONTROLS

Sec.

Subpart B – [RESERVED]

Appendix A to Part 84 – [Reserved]

Authority: Section 103 in Division S, Innovation for the Environment, of the Consolidated Appropriations Act, 2021 (Pub. L. 116-260).

Subpart A – PRODUCTION AND CONSUMPTION CONTROLS

§ 84.1 [Reserved]

§ 84.3 Definitions.

As used in this subpart, the term:

Administrator means the Administrator of the United States Environmental Protection Agency or his or her authorized representative.

Allowance means a limited authorization for the production or consumption of a regulated substance established under subsection (e) of section 103 in Division S, Innovation for the Environment, of the Consolidated Appropriations Act, 2021 (Pub. L. 116-260) (the AIM Act). An allowance allocated under subsection (e) of section 103 in Division S of the AIM Act does not constitute a property right.

Application-specific allowance means a limited authorization granted in accordance with subsection (e)(4)(B)(iv) of the AIM Act for the production or import of a regulated substance for use in the specifically identified applications that are listed in that subsection and in accordance with the restrictions contained at § 84.5(c). An application-specific allowance does not constitute a property right.

Bulk means a regulated substance of any amount that is in a container for the transportation or storage of that substance such as cylinders, drums, ISO tanks, and small cans. A regulated substance that must first be transferred from a container to another container, vessel, or piece of equipment in order to realize its intended use is a bulk substance. A regulated substance

contained in a manufactured product such as an appliance, an aerosol can, or a foam is not a bulk substance.

Chemical vapor deposition chamber cleaning means, in the context of semiconductor manufacturing, a process type in which chambers used for depositing thin films are cleaned periodically using plasma-generated fluorine atoms and other reactive fluorine-containing fragments.

Confer means to shift unexpended application-specific allowances obtained in accordance with subsection (e)(4)(B)(iv) of the AIM Act from the end user allocated such allowances to one or more entities in the supply chain for the production or import of a regulated substance for use by the end user.

Consumption, with respect to a regulated substance, means production plus imports minus exports.

Consumption allowances means a limited authorization to produce and import regulated substances; however, consumption allowances may be used to produce regulated substances only in conjunction with production allowances. A person's consumption allowances are the total of the allowances obtained under § 84.11 or 84.15 as may be modified under §§ 84.17 (availability of additional consumption allowances), 84.19 (transfer of allowances), and 84.35 (administrative consequences).

Defense spray means an aerosol-based spray used for self-defense, including pepper spray and animal sprays, and containing the irritant capsaicin and related capsaicinoids (derived from oleoresin capsicum), an emulsifier, and an aerosol propellant.

Destruction means the expiration of a regulated substance to the destruction and removal efficiency actually achieved. Such destruction might result in a commercially useful end product, but such usefulness would be secondary to the act of destruction.

Etching means, in the context of semiconductor manufacturing, a process type that uses plasma-generated fluorine atoms and other reactive fluorine-containing fragments that chemically react with exposed thin films (e.g., dielectric, metals) or substrate (e.g., silicon) to selectively remove portions of material. This includes semiconductor production processes using fluorinated GHG reagents to clean wafers.

Exchange value means the value assigned to a regulated substance in accordance with AIM Act subsections (c) and (e), as applicable, and as provided in appendix A to this part.

Exchange value equivalent (EVe) means the exchange value-weighted amount of a regulated substance obtained by multiplying the mass of a regulated substance by the exchange value of that substance.

Export means the transport from inside the United States or its territories to persons outside the United States or its territories, excluding United States military bases and ships for onboard use.

Exporter means the person who contracts to sell regulated substances for export or transfers regulated substances to his affiliate in another country.

Facility means one or more production lines at the same location owned by or under common control of the same person.

Final customer means the last person to purchase a bulk regulated substance before its intended use. Final customer includes, but is not limited to, air conditioning contractors in the residential air conditioning market, foam systems houses, aerosol fillers, semiconductor manufacturers, air conditioning and refrigeration equipment manufacturers that ship equipment pre-charged, and fire extinguisher manufacturers.

Foreign country means an entity that is recognized as a sovereign nation or country other than the United States of America.

Heel means the amount of a regulated substance that remains in a container after the container is discharged or offloaded (that is no more than 10 percent of the volume of the container).

Import means to land on, bring into, or introduce into, or attempt to land on, bring into, or introduce into, any place subject to the jurisdiction of the United States, regardless of whether

that landing, bringing, or introduction constitutes an importation within the meaning of the customs laws of the United States. Offloading used regulated substances recovered from equipment aboard a marine vessel, aircraft, or other aerospace vehicle during servicing is not considered an import.

Importer means any person who imports a regulated substance into the United States. "Importer" includes the person primarily liable for the payment of any duties on the merchandise or an authorized agent acting on his or her behalf. The term also includes:

(1) The consignee;

(2) The importer of record;

(3) The actual owner; or

(4) The transferee, if the right to draw merchandise in a bonded warehouse has been transferred.

Individual shipment means the kilograms of a regulated substance for which a person may make one (1) U.S. Customs entry, as identified in the non-objection notice obtained from the relevant Agency official in accordance with § 84.25.

Metered dose inhaler (MDI) means a handheld pressurized inhalation system that delivers small, precisely measured therapeutic doses of medication directly to the airways of a patient. MDIs treat health conditions such as asthma and chronic obstructive pulmonary disease and are approved for such use by the U.S. Food and Drug Administration (FDA).

Mission-critical military end uses means those uses of regulated substances by an agency of the Federal Government responsible for national defense that have a direct impact on mission capability, as determined by the U.S. Department of Defense, including, but not limited to uses necessary for development, testing, production, training, operation, and maintenance of Armed Forces vessels, aircraft, space systems, ground vehicles, amphibious vehicles, deployable/ expeditionary support equipment, munitions, and command and control systems.

Non-objection notice means the limited authorization granted by the relevant Agency official to import a specific individual shipment of a regulated substance in accordance with § 84.25.

On board aerospace fire suppression means use of a regulated substance in fire suppression equipment used on board commercial and general aviation aircraft, including commercial-derivative aircraft for military use; rotorcraft; and space vehicles. On board commercial aviation fire suppression systems are installed throughout mainline and regional passenger and freighter aircraft, including engine nacelles, auxiliary power units (APUs), lavatory trash receptacles, baggage/ crew compartments, and handheld extinguishers.

Person means any individual or legal entity, including an individual, corporation, partnership, association, state, municipality, political subdivision of a state, Indian tribe; any agency, department, or instrumentality of the United States; and any officer, agent, or employee thereof.

Process agent means the use of a regulated substance to form the environment for a chemical reaction or inhibiting an unintended chemical reaction (e.g., use as a solvent, catalyst, or stabilizer) where the regulated substance is not consumed in the reaction, but is removed or recycled back into the process and where no more than trace quantities remain in the final product. A feedstock, in contrast, is consumed during the reaction.

Production/Produce means the manufacture of a regulated substance from a raw material or feedstock chemical (but not including the destruction of a regulated substance by a technology approved by the Administrator as provided in § 84.29). The term production does not include:

(1) The manufacture of a regulated substance that is used and entirely consumed (except for trace quantities) in the manufacture of another chemical;

(2) The reclamation, reuse, or recycling of a regulated substance; or

(3) Insignificant quantities of a regulated substance inadvertently or coincidentally generated from any of the following, independent circumstances: during a chemical manufacturing process, resulting from unreacted feedstock, from the listed substance's use as a process agent present as a trace quantity in the chemical substance being manufactured, as an unintended byproduct of research and development applications, or during semiconductor manufacturing processes.

Production allowances means the limited authorization to produce regulated substances; however, production allowances may be used to produce regulated substances only in conjunction with consumption allowances. A person's production allowances are the total of the

allowances obtained under § 84.9 or 84.15 as may be modified under §§ 84.19 (transfer of allowances) and 84.35 (administrative consequences).

Production line means any process equipment (e.g., reactor, distillation column) used to convert raw materials or feedstock chemicals into regulated substances or consume regulated substances in the production of other chemicals.

Reclaim means the reprocessing of regulated substances to all of the specifications in appendix A of 40 CFR part 82, subpart F (based on AHRI Standard 700-2016) that are applicable to that regulated substance and to verify that the regulated substance meets these specifications using the analytical methodology prescribed in section 5 of appendix A of 40 CFR part 82, subpart F.

Regulated substance means a hydrofluorocarbon listed in the table contained in subsection (c)(1) of the AIM Act and a substance included as a regulated substance by the Administrator under the authority granted in subsection (c)(3). A current list of regulated substances can be found in appendix A of this part.

Space vehicle means a man-made device, either manned or unmanned, designed for operation beyond Earth's atmosphere. This definition includes integral equipment such as models, mock-ups, prototypes, molds, jigs, tooling, hardware jackets, and test coupons. Also included is auxiliary equipment associated with tests, transport, and storage, which through contamination can compromise the space vehicle performance.

Structural composite preformed polyurethane foam means a foam blown from polyurethane that is reinforced with fibers and with polymer resin during the blowing process, and is preformed into the required shape (e.g., specific boat or trailer design) to increase structural strength while reducing the weight of such structures.

Transform means to use and entirely consume (except for trace quantities) a controlled substance in the manufacture of other chemicals. A regulated substance that is used and entirely consumed (except for trace quantities) in the manufacture of another chemical is called a feedstock.

Transhipment means the continuous shipment of a regulated substance, from a foreign country of origin through the United States or its territories, to a second foreign country of final destination, as long as the shipment does not enter U.S. commerce. A transhipment, as it moves through the United States or its territories, cannot be repackaged, sorted, or otherwise changed in condition.

Used regulated substances means regulated substances that have been recovered from their intended use systems (including regulated substances that have been, or may be subsequently, recycled or reclaimed).

§ 84.5 [Reserved]

§ 84.7 Phasedown schedule.

(a) *Phasedown from baseline*. Total production and consumption of regulated substances in the United States in each year cannot exceed the amounts (shown as a percentage of baseline) in the following table:

Date	Percentage of Production Baseline	Percentage of Consumption Baseline
(1) 2022 – 2023	90 percent	90 percent
(2) 2024 – 2028	60 percent	60 percent
(3) 2029 – 2033	30 percent	30 percent
(4) 2034 – 2035	20 percent	20 percent
(5) 2036 and thereafter	15 percent	15 percent

(b) *Annual production and consumption limits.* (1) The production baseline for regulated substances is 382,554,619 metric tons of exchange value equivalent.

(2) The consumption baseline for regulated substances is 303,887,017 metric tons of exchange value equivalent.

(3) Total production and consumption in metric tons of exchange value equivalent for regulated substances in the United States in each year is derived by multiplying the production baseline or consumption baseline by the percentage in paragraph (a) of this section. Total production and consumption allowances issued under this subpart may not exceed the quantities shown in the following table:

Year	Total Production (MTEVe)	Total Consumption (MTEVe)
(i) 2022 – 2023	344,299,157	273,498,315
(ii) 2024 – 2028	229,532,771	182,332,210
(iii) 2029 – 2033	114,766,386	91,166,105
(iv) 2034 – 2035	76,510,924	60,777,403

(v) 2036 and thereafter	57,383,193	45,583,053

§ 84.9 Allocation of calendar-year production allowances.

(a) The relevant agency official will issue, through a separate notification, calendar year production allowances to entities that produced a regulated substance in 2020. The number of production allowances allocated to each eligible entity for 2022 – 2023 is calculated as follows:

(1) Take the average of the three highest annual exchange value-weighted production amounts that each eligible entity reported to the agency for calendar years 2011 through 2019;

(2) Sum the "average high year" values determined in step 1 of all eligible entities and determine each entity's percentage of that total;

(3) Determine the amount of general pool production allowances by subtracting the quantity of application-specific allowances for that year as determined in accordance with § 84.13 and the set-aside in § 84.15 from the production cap in § 84.7(b)(3);

(4) Determine individual entities' production allowance quantities by multiplying each entity's percentage determined in step 2 by the amount of general pool allowances determined in step 3.

(b) (1) EPA will allocate calendar year production allowances to individual entities by October 1 of the calendar year prior to the year in which the allowances may be used based on the exchange value-weighted quantities calculated in paragraph (a)(4) of this section.

(2) EPA will provide public notice of the list of companies receiving production allowances as well as the quantities they will be allocated by that date.

(3) In addition to the procedure in paragraph (a) of this section, the relevant agency official will allocate calendar year production allowances to entities that qualified for allowances under § 84.15.

(4) If there are remaining production allowances after distribution from the set-aside under § 84.15, the relevant agency official will distribute such allowances on a pro rata basis to the entities in paragraph (a) of this section by March 31 of the calendar year in which the allowances may be used.

§ 84.11 Allocation of calendar-year consumption allowances.

(a) The relevant agency official will issue, through a separate notification, calendar year consumption allowances to entities that imported or produced a bulk regulated substance in 2020, unless an individual accommodation is permitted by a relevant Agency official. If multiple importers are related through shared corporate or common ownership or control, the relevant agency official will calculate and issue allowances to a single corporate or common owner. The number of consumption allowances allocated to each eligible entity for 2022 – 2023 is calculated as follows:

(1) Take the average of the three highest annual exchange value-weighted consumption amounts chosen at the corporate or common ownership level for eligible entities reporting to the agency for each calendar year 2011 through 2019;

(2) Sum the "average high year" values determined in step 1 of all eligible entities and determine each entity's percentage of that total;

(3) Determine the amount of general pool consumption allowances by subtracting the quantity of application-specific allowances for that year as determined in accordance with § 84.13 and the set-aside in § 84.15 from the consumption cap § 84.7(b)(3);

(4) Determine individual entity consumption allowance quantities by multiplying each entity's percentage determined in step 2 by the amount of general pool allowances determined in step 3.

(b) (1) EPA will allocate calendar year consumption allowances to individual entities by October 1 of the calendar year prior to the year in which the allowances may be used based on the exchange value-weighted quantities calculated in paragraph (a)(4) of this section.

(2) EPA will provide public notice of the list of companies receiving consumption allowances as well as how they will be allocated by that date.

(c) (1) In addition to the procedure in paragraph (a) of this section, the relevant agency official will allocate calendar year consumption allowances to entities that qualified for allowances under § 84.15.

(2) If there are remaining consumption allowances after distribution from the set-aside under § 84.15, the relevant agency official will distribute such allowances on a pro rata basis to the entities in paragraph (a) of this section by March 31 of the calendar year.

§ 84.13 Allocation of application-specific allowances.

(a) Application-specific allowances are available to entities for calendar years 2022, 2023, 2024, and 2025 that use a regulated substance in the following applications:

(1) As a propellant in metered dose inhalers;

(2) In the manufacture of defense sprays;

(3) In the manufacture of structural composite preformed polyurethane foam for marine use and trailer use;

(4) In the etching of semiconductor material or wafers and the cleaning of chemical vapor deposition chambers within the semiconductor manufacturing sector;

(5) For mission-critical military end uses; and

(6) For on board aerospace fire suppression.

(b) Entities identified in paragraph (a) of this section must request application-specific allowances by July 31 of the calendar year prior to the year in which the allowances may be used starting with the calendar year 2023 allocation. The application must include the information required in 84.31(h)(2) except for applications for mission-critical military end uses, which must include the information required in 84.31(h)(3).

(1) Entities must provide additional information if requesting that EPA consider unique circumstances that are not reflected by the rates of growth calculated in paragraph (b)(3). The relevant agency official will consider the following situations as unique circumstances:

(i) Demonstrated manufacturing capacity coming on line;

(ii) The acquisition of another domestic manufacturer or its manufacturing facility or facilities; or

(iii) A global pandemic or other public health emergency that increases patients diagnosed with medical conditions treated by metered dose inhalers.

(c) The relevant agency official will determine the quantity of application-specific allowances to issue to each company by:

(1) Taking the higher of the use of regulated substances by the company in the specific application in the prior year multiplied by:

(i) The average growth rate of use for the company over the past three years; or

(ii) The average growth rate of use by all companies requesting allowances for that specific application over the past three years; and

(2) Accounting for any additional information provided regarding unique circumstances described in paragraph (b)(1); and

(3) Subtracting out any general pool allowances allocated to the company for that calendar year.

(d)(1) EPA will allocate application-specific allowances by October 1 of the calendar year prior to the year in which the allowances may be used. The relevant agency official will issue, through a separate notification, application-specific allowances to eligible entities consistent with paragraphs (a) through (c) of this section.

(2) EPA will provide public notice by that date of the list of entities receiving application-specific allowances, the quantity of allowances for each entity, and the specific application(s) for which the allowances may be used.

(e) Entities that use regulated substances in one of the six applications listed in paragraph (a) and were not issued allowances as of October 1, 2021, may request allowances under the procedure in §84.15. Such entities must meet the criteria for eligibility in this section and are subject to the requirements of this section and §84.31(h).

(f) EPA will publish a list of entities allocated application-specific allowances, the application for which they may use regulated substances, and the quantity of allowances allocated.

(g) Application-specific allowances may be expended for either the import or production of a regulated substance.

(h) Entities allocated application-specific allowances may confer application-specific allowances to a producer, importer, or other supplier without being subject to the offset required of transfers of allowances to be determined. The recipient of a conferred application-specific allowance may continue to confer the allowance until it is expended for production or import. When conferring application-specific allowances, the conferring party must provide a statement certifying that the regulated substances produced or imported with the conferred allowances will only be used for the application-specific use associated with the allowance(s). The producer(s), importer(s), and/or supplier(s) receiving application-specific allowances must certify to the conferring party that they will not sell regulated substances produced or imported with application-specific allowances for any application or use other than the application-specific use associated with the allowance(s).

§ 84.15 Set-aside of application-specific allowances, production allowances, and consumption allowances.

(a) Total allowances available under this section to be allocated for calendar years 2022 and 2023 are:

(1) Up to 7.5 million metric tons of exchange value equivalent consumption allowances annually for calendar years 2022 and 2023.

(2) Up to 2.5 million metric tons of exchange value equivalent production allowances for calendar years 2022 and 2023.

(b)(1) Consumption and production allowances in paragraph (a) of this section are available in the form of application-specific allowances to entities that qualify for application-specific allowances under § 84.13 that were not issued allowances as of October 1, 2021.

(2) Entities must provide the relevant Agency official with the information contained in § 84.13 by November 30, 2021 to be eligible for consideration.

(c) Consumption allowances in paragraph (a) of this section are available to either:

(1) Persons who imported regulated substances in 2020 that were not required to report under 40 CFR part 98 and were not issued allowances as of October 1, 2021; or

(2) Persons who are newly importing regulated substances, do not share corporate or common ownership, corporate affiliation in the past five years, or familial relations with entities receiving allowances through this rule.

(d)(1) Persons who meet the criteria listed in paragraph (c)(1) of this section must provide the relevant Agency official with the following information by November 30, 2021, to be eligible for consideration:

(i) Name and address of the company, the complete ownership of the company (with percentages of ownership), and contact information for a designated representative at the company;

(ii) The following information on an annual basis for all years between 2011 and 2020 where the person imported regulated substances:

(A) The total quantity (in kilograms) imported of each regulated substance each year, including each shipment, dates of and port of entry for each import, and country from which the imported regulated substances were imported;

(B) The Harmonized Tariff Schedule codes and CAS numbers for the regulated substances or blends imported;

(C) The quantity (in kilograms) of regulated substances imported for use in processes resulting in their transformation or destruction; and

(D) The quantity (in kilograms) of regulated substances sold or transferred during that year to each person for use in processes resulting in their transformation or destruction.

(iii) The following information on an annual basis for all years between 2011 and 2020 where the person exported regulated substances:

(A) The names and addresses of the exporter and the recipient of the exports;

(B) The exporter's Employer Identification Number;

(C) The quantity of each specific regulated substance exported, including the quantity of regulated substance that is used, reclaimed, or recycled;

(D) The date on which, and the port from which, the regulated substances were exported from the United States or its territories;

(E) The country to which the regulated substances were exported; and

(F) The Harmonized Tariff Schedule codes and CAS numbers for the regulated substances shipped.

(2) Persons who meet the criteria listed in paragraph (c)(2) of this section must provide the relevant Agency official with the following information by November 30, 2021, to be eligible for consideration:

(i) Name and address of the company, the complete ownership of the company (with percentages of ownership), and contact information for a designated representative at the company;

(ii) Whether the company is a woman- or minority-owned business;

(iii) Contact information for the owner of the company;

(iv) The date of incorporation and State in which the company is incorporated;

(v) State license identifier;

(vi) A plan for importing regulated substances;

(vii) A prospective foreign exporter that the applicant anticipates working with;

(viii) A certification that the business owner understands the Part 84 regulatory requirements and will make best efforts to comply with the regulatory requirements; and

(ix) A certification that the information submitted is complete, accurate, and truthful.

(e) The relevant Agency official will allocate calendar-year 2022 and 2023 allowances in paragraph (a) of this section no later than March 31, 2022, in the following manner:

(1) First, persons who meet the criteria listed in (b) are allocated application-specific allowances (subtracted from both the production and consumption portions of the set-aside pool) for 2022 equal to the estimated need, based on projected, current, and historical trends, and subject to the same conditions for such allowances in § 84.13;

(2) Second, persons who meet the criteria listed in paragraph (c)(1) of this section are allocated allowances for 2022 by calculating their "average high year" based on the formula in § 84.11(a)(1) and then applying the same reduction percentage between the values calculated in § 84.11(a)(1) and (4) for all general pool allowance holders.

(3) Third, persons who meet the criteria listed in paragraph (c)(2) of this section are allocated up to 0.2 million metric tons exchange value equivalent in allowances for 2022 and 2023.

(4) If the eligible requests received total an amount of allowances that exceeds the remaining quantity of allowances in the set-aside pool, after subtracting allowances issued under paragraph (b)(1) and (c)(1) of this section, the amount provided to each person who meets the criteria listed in paragraph (c)(2) of this section that has applied to the set-aside pool will be allocated an amount of allowances that is reduced on a pro rata basis. If any allowances remain after the steps outlined in paragraphs (b)(1), (c)(1) and (2) of this section, those allowances will be distributed to the persons who meet the criteria listed in §§ 84.9 and 84.11 on a pro rata basis.

(f) Restrictions. (1) Allowances allocated to persons under paragraph (e)(3), due to their eligibility of meeting the criteria in paragraph (c)(2) of this section, may not be transferred to another entity.

(2) Allowances issued under this section are not available to companies that are a subsidiary of, have any common ownership stake with, had corporate affiliation in the past five years with, or have a familial relationship with another allowance holder.

(g) EPA will provide public notice by March 31, 2022, of the list of entities receiving allowances under this paragraph, the quantity of allowances for each entity, and the specific application(s) for which the allowances may be used, where applicable.

§ 84.17 [Reserved]

§ 84.19 [Reserved]

§ 84.21 [Reserved]

§ 84.23 [Reserved]

§ 84.25 [Reserved]

§ 84.27 [Reserved]

§ 84.29 [Reserved]

§ 84.31 Recordkeeping and reporting.

(a) [Reserved]

(b) [Reserved]

(c) [Reserved]

(d) [Reserved]

(e) [Reserved]

(f) [Reserved]

(g) [Reserved]

(h) *Holders of application-specific allowances.*

(1) [Reserved]

(2) *New Requests.* Persons requesting application-specific allowances for the first time must submit to EPA the following information:

(i) A description of the use of regulated substances and a detailed explanation of how the use is an application-specific use listed in § 84.13(a);

(ii) Total quantity (in kilograms) of all regulated substances acquired for application-specific use in the previous three years, including a copy of the sales records, invoices, or other records documenting that quantity;

(iii) The name of the entity or entities supplying regulated substances for application-specific use and contact information for those suppliers;

(iv) The quantities (in kilograms) of regulated substances held in inventory for application-specific use as of June 30 of the prior year and June 30 in the current year;

(v) A description of plans to transition to regulated substances with a lower exchange value or alternatives to regulated substances;

(vi) If a company is requesting additional allowances due to one or more of the circumstances listed in 84.13(b)(1), the report must include a projection of the monthly quantity of additional regulated substances needed by month in the next calendar year and a detailed explanation, including relevant supporting documentation to justify the additional need; and

(vii) If a company is contracting out the manufacturing of defense sprays or metered dose inhalers, or contracting out the servicing of onboard aerospace fire suppression, the name, address, and email address for a representative of the person doing the manufacturing or servicing, and clarification on whether the responses in paragraph (h)(2) apply to the company that is requesting application-specific allowances or the company receiving the contract for manufacturing and/or servicing using application-specific allowances.

(3) *Report for Application-specific Allowances for Mission-critical Military End Use.* The Department of Defense must provide a report to EPA biannually by July 31 (covering prior activity from January 1 through June 30) and January 31 (covering prior activity from July 1 through December 31) of each year contains the following information:

(i) The quantity (in kilograms) of each regulated substance acquired for application-specific use by conferring application-specific allowances;

(ii) The quantity of inventory on June 30 of each regulated substance for application-specific use held by the Department of Defense or held under contract by another company for use by the Department of Defense;

(iii) The quantity of each regulated substance requested for mission-critical military end uses in the next calendar year;

(iv) The broad sectors of use covered by current mission-critical military end uses in the next calendar year; and

(v) A description of plans to transition application-specific use(s) to regulated substances with a lower exchange value or alternatives to regulated substances, including not-in-kind substitutes.

§ 84.33 [Reserved]

§ 84.35 [Reserved]

Subpart B – [RESERVED]

Appendix A to Part 84 – [Reserved]

4. Add §§ 84.1 and 84.5 to read as follows:

84.1 Purpose and scope.

84.5 Prohibitions relating to regulated substances.

§ 84.1 Purpose and scope.

(a) The purpose of the regulations in this subpart is to implement certain provisions of the American Innovation and Manufacturing Act of 2020 (AIM Act), enacted as part of Public Law 116-260. In particular, the AIM Act imposes limits on the production and consumption of certain regulated substances, according to a specified schedule, which are addressed by this subpart.

(b) This subpart applies to any person that produces, transforms, destroys, imports, exports, sells or distributes, offers for sale or distribution, recycles for fire suppression, or reclaims a regulated

substance and to end users in the six applications listed in subsection (e)(4)(B)(iv) of the AIM Act.

§ 84.5 Prohibitions relating to regulated substances.

(a) *Production.* (1) As of January 1, 2022, no person may produce regulated substances, intentionally or unintentionally, in excess of the quantity of unexpended production allowances and consumption allowances or unexpended application-specific allowances held by that person under the authority of this subpart at that time in that control period. Every kilogram of production in excess of allowances expended constitutes a separate violation of this subpart. The required amount of allowances that must be expended will be calculated to the tenth with a minimum expenditure of 0.1 allowances for any production of regulated substances.

(2) As of January 1, 2022, no person may expend production allowances to produce a quantity of regulated substances unless that person expends an equal quantity of consumption allowances at the same time.

(3) A person is not required to expend production, consumption, or application-specific allowances to produce regulated substances if the regulated substances are destroyed using a technology approved by the Administrator for destruction under § 84.29 within 30 days of generating the regulated substance if the destruction technology is located at the facility where production occurred or 120 days of generating the regulated substance if the destruction technology is not located at the facility where production occurred.

(4) No person may expend production or consumption allowances for generation of HFC-23 that is emitted at the same facility as where it is produced. Consistent with this prohibition, prior to the emissions standard compliance date established in § 84.27, neither production nor

consumption allowances are required for HFC-23 emitted at the same facility as where it is produced.

(b) *Import.* This paragraph applies starting January 1, 2022. (1) No person may import bulk regulated substances, except:

(i) By expending, at the time of the import, consumption or application-specific allowances in a quantity equal to the exchange-value weighted equivalent of the regulated substances imported, with the required amount of allowances calculated to the tenth, but a minimum expenditure of 0.1 allowances is required for any import of regulated substances;

(ii) After receipt of a non-objection notice for substances for use in a process resulting in their transformation or their destruction in accordance with § 84.25(a);

(iii) After receipt of a non-objection notice for used regulated substances imported for destruction in accordance with § 84.25(b); or

(iv) As a transhipment in accordance with § 84.31(c)(3) if all transhipped regulated substance is exported from the United States within six months of its import.

(2) Each person meeting the definition of importer for a particular regulated substance import transaction is jointly and severally liable for a violation of paragraph (b)(1), unless they can demonstrate that another party who meets the definition of an importer met one of the exceptions set forth in paragraph (b)(1).

(3) Imports authorized under paragraph (b)(1)(ii) of this section may not be in containers designed to hold 100 pounds or less of a regulated substance.

(4) A person issued a non-objection notice for the import of an individual shipment of regulated substances under paragraphs (b)(1)(ii) or (iii) of this section may not transfer or confer the right to import.

(5) No person may introduce into U.S. commerce any regulated substance claimed as a transhipment.

(6) Every kilogram of bulk regulated substances imported contrary to this paragraph (b) constitutes a separate violation of this subpart. Import of less than one kilogram of bulk regulated substance contrary to this paragraph (b) constitutes a separate violation of this subpart.

(c) *Application-specific uses*. (1) As of January 1, 2022, no person may confer application-specific allowances for the production or import of a regulated substance in excess of the amount of unexpended application-specific allowances held by that person under the authority of this subpart at that time in that control period. No person may expend an application-specific allowance for regulated substances to be used in any application other than the one identified by the application-specific allowance expended. Every kilogram of production or import in excess of the application-specific allowances expended by the producer or importer constitutes a separate violation of this subpart. Production or import of less than one kilogram of regulated substance in excess of the application-specific allowances expended by the producer or importer constitutes a separate violation of this subpart.

(2) No person may use a regulated substance produced or imported by expending application-specific allowances for any purpose other than those for which the application-specific allowance was allocated, and as set forth in this paragraph (c). Application-specific allowances are

apportioned to a person under §§ 84.13 and 84.15 for the production or import of regulated substances solely for the individual application listed on the allowance, which may include:

(i) A propellant in metered dose inhalers;

(ii) Defense sprays;

(iii) Structural composite preformed polyurethane foam for marine use and trailer use;

(iv) The etching of semiconductor material or wafers and the cleaning of chemical vapor deposition chambers within the semiconductor manufacturing sector;

(v) Mission-critical military end uses, such as armored vehicle engine and shipboard fire suppression systems and systems used in deployable and expeditionary applications; and

(vi) On board aerospace fire suppression.

(3) This provision applies starting January 1, 2022. (i) No person may acquire application-specific allowances unless for use in the same application as associated with the application-specific allowance. No person may transfer or confer application-specific allowances unless for use in the same application as associated with the application-specific allowance.

(ii) No person may acquire or sell regulated substances produced or imported using application-specific allowances for use in anything other than the application for which it was originally allocated. Every kilogram of a regulated substance imported or exported in contravention of this paragraph constitutes a separate violation of this subpart. Import or export of less than one kilogram of regulated substance in contravention of this paragraph constitutes a separate violation of this subpart.

(d) *Calendar-year allowances*. All production, consumption, and application-specific allowances are valid only for the calendar year for which they are allocated (i.e., January 1 through

December 31). No person may expend, transfer, or confer a production, consumption, or application-specific allowance after December 31 of the year for which it was issued.

(e) *International transfers*. This paragraph applies starting January 1, 2022. (1) No person subject to the requirements of this subpart may transfer a production allowance to a person in a foreign country unless that country has established the same or similar requirements or otherwise undertaken commitments regarding the production and consumption of regulated substances as are contained in the AIM Act, as determined by the relevant agency official.

(2) No person may transfer production allowances to or from a person in a foreign country without satisfying the requirements in § 84.19. Every production allowance transferred in contravention of this paragraph constitutes a separate violation of this subpart.

(f) *Sale and distribution.* No person may sell or distribute, or offer for sale or distribution, any regulated substance that was produced or imported in violation of paragraphs (a) through (d) of this section, except for such actions needed to re-export the regulated substance. Every kilogram of a regulated substance sold or distributed, or offered for sale or distribution, in contravention of this paragraph constitutes a separate violation of this subpart. Sale or distribution, or offer for sale or distribution, of less than one kilogram of regulated substance in contravention of this paragraph constitutes a separate violation of this subpart.

(g) *False information.* No person may provide false, inaccurate, or misleading information to the EPA when petitioning, reporting, or for any communication required under this subpart.

(h) *Disposable cylinders*. (1) As of July 1, 2025, no person may import or domestically fill a regulated substance in a non-refillable cylinder.

(2) As of January 1, 2027, no person may sell or distribute, or offer for sale or distribution regulated substances contained in a non-refillable cylinder.

(3) Small cans containing less than two pounds of regulated substances that have a self-sealing valve that meets the requirements in 40 CFR 82.154(c)(2) are not subject to this restriction.

(i) *Labeling*. (1) As of January 1, 2022, no person may sell or distribute, offer for sale or distribution, or import containers containing a regulated substance that lacks a label or other permanent markings stating the common name(s), chemical name(s), or ASHRAE designation of the regulated substance(s) or blend contained within, and the percentages of the regulated substances if a blend.

(2) No person other than the importer may repackage regulated substances that were initially unlabeled or mislabeled. In order to repackage the regulated substances, the importer must either:

(i) Expend consumption allowances equal to the amount of allowances that would be required if each cylinder were full of HFC-23; or

(ii) Verify the contents with independent laboratory testing results and affix a correct label on the container that matches the lab-verified test results before the date of importation (consistent with the definition at 19 CFR 101.1) of the container.

(3) (i) No person producing, importing, reclaiming, recycling for fire suppression, or repackaging regulated substances may sell or distribute, or offer for sale or distribution, regulated substances without first testing a representative sample of the regulated substances that they are producing, importing, reclaiming, recycling for fire suppression, or repackaging to verify that the composition of the regulated substance(s) matches the container labeling. For regulated

substances sold or distributed or offered for sale and distribution as refrigerants, sampling must be done consistent with Appendix A to subpart F of part 82—Specifications for Refrigerants.

(ii) No person may sell or distribute, or offer for sale or distribution, regulated substances as a refrigerant that do not meet the specifications in Appendix A to subpart F of part 82—Specifications for Refrigerants.

(j) *Relationship to other laws.* Section (k) of the AIM Act states "Sections 113, 114, 304, and 307 of the Clean Air Act (42 U.S.C. §§ 7413, 7414, 7604, 7607) shall apply to this section and any rule, rulemaking, or regulation promulgated by the Administrator pursuant to this section as though this section were expressly included in title VI of that Act (42 U.S.C. §§ 7671 *et seq.*)." Violation of this Part 84 is subject to federal enforcement and the penalties laid out in section 113 of the Clean Air Act.

5. In § 84.13 in paragraph (h) remove the text "to be determined" and add, in its place, the text "in § 84.19".

6. Add §§ 84.17, 84.19, 84.21, 84.23, 84.25, 84.27, and 84.29 to read as follows:

84.17 Availability of additional consumption allowances.

84.19 Transfers of allowances.

84.21 Sale or conveyance of regulated substances produced or imported with application-specific allowances.

84.23 Certification identification generation and tracking.

84.25 Required processes to import regulated substances as feedstocks or for destruction.

§ 84.17 Availability of additional consumption allowances.

(a) A person may obtain at any time during the year, in accordance with the provisions of this section, consumption allowances equivalent to the quantity of regulated substances that the person exported from the United States and its territories to a foreign country in accordance with this section.

(1) The exporter must submit to the relevant Agency official a request for consumption allowances setting forth the following:

(i) The identities and addresses of the exporter and the recipient of the exports;

(ii) The exporter's Employer Identification Number;

(iii) The names, telephone numbers, and email addresses of contact persons for the exporter and the recipient;

(iv) The quantity (in kilograms) and name of the regulated substances exported;

(v) The source of the regulated substances and the date purchased;

(vi) The date on which, and the port from which, the regulated substances were exported from the United States or its territories;

(vii) The country to which the regulated substances were exported;

(viii) A copy of the bill of lading and the invoice indicating the net quantity (in kilograms) of regulated substances shipped and documenting the sale of the regulated substances to the purchaser; and

(ix) The Harmonized Tariff Schedule codes of the regulated substances exported.

(2) The relevant Agency official will review the information and documentation submitted under paragraph (a)(1) of this section and will issue a notice to the requestor within 15 working days.

(i) The relevant Agency official will determine the quantity of regulated substances that the documentation verifies was exported and issue consumption allowances equivalent to the quantity of regulated substances that were exported.

(A) The grant of the consumption allowances will be effective on the date the notice is issued.

(B) The consumption allowances will be granted to the person the exporter indicates, whether it is the producer, the importer, or the exporter.

(C) The consumption allowances will be valid until December 31 of the same calendar year in which the regulated substances were exported.

(ii) The relevant Agency official will issue a notice that the consumption allowances are not granted if the official determines that the information and documentation do not satisfactorily substantiate the exporter's claims.

§ 84.19 Transfers of allowances.

(a) *Inter-company transfers.* As of January 1, 2022, a person ("transferor") may transfer to any other person ("transferee") any quantity of the transferor's production allowances, consumption allowances, or application-specific allowances for use by the same type of application, as long as the following conditions are met:

(1) An offset equal to five percent of the amount of allowances transferred will be deducted from the transferor's production allowance balance if a transfer is made of production allowances, or deducted from the transferor's consumption allowance balance if a transfer is made of consumption allowances. In the case of transferring application-specific allowances, one percent

of the amount of allowances transferred will be deducted from the transferor's application-specific allowance balance.

(2) The transferor must submit to the relevant Agency official a transfer claim setting forth the following:

(i) The identities and addresses of the transferor and the transferee;

(ii) The names, telephone numbers, and email addresses of contact persons for the transferor and the transferee;

(iii) The type of allowances being transferred, including the specific application (if applicable), for which allowances are to be transferred;

(iv) The quantity (in MTEVe) of allowances being transferred;

(v) The total cost of the allowances transferred;

(vi) The amount of unexpended allowances of the type and for the year being transferred that the transferor holds under authority of this subpart as of the date the claim is submitted to EPA;

(vii) The quantity of the offset to be deducted from the transferor's allowance balance; and

(viii) For transfers of application-specific allowances, a signed document from the transferee certifying that the transferee will use the application-specific allowances only for the same application for which the application-specific allowance was allocated.

(3) The relevant Agency official will determine whether the records maintained by EPA indicate that the transferor possesses unexpended allowances sufficient to cover the transfer claim as of the date the transfer claim is processed. The transfer claim is the quantity in EVe to be transferred plus the quantity of the offset. The relevant Agency official will take into account any previous transfers, any production, and allowable imports and exports of regulated substances

reported by the transferor. Within three working days of receiving a complete transfer claim, the relevant Agency official will take action to notify the transferor and transferee as follows:

(i) The relevant Agency official will issue a non-objection notice to both the transferor and transferee indicating if EPA's records show that the transferor has sufficient unexpended allowances to cover the transfer claim. In the case of transfers of production allowances or consumption allowances, the relevant agency official will reduce the transferor's balance of unexpended allowances by the quantity to be transferred plus five percent of that quantity. In the case of transfers of application-specific allowances the relevant agency official will reduce the transferor's balance of unexpended allowances by the quantity to be transferred plus one percent of that quantity. The transferor and the transferee may proceed with the transfer when the relevant agency official issues a non-objection notice. However, if EPA ultimately finds that the transferor did not have sufficient unexpended allowances to cover the claim, the transferor and transferee will be liable for any violations of the regulations of this subpart that occur as a result of, or in conjunction with, the improper transfer.

(ii) The relevant Agency official will issue an objection notice disallowing the transfer if EPA's records show that the transferor has insufficient unexpended allowances to cover the transfer claim, that the transferor has failed to respond to one or more Agency requests to supply information needed to make a determination, or that the transferor or transferee has been notified of an impending administrative consequence and therefore is disallowed from transferring allowances in accordance with § 84.35. Either transferor or transferee may file a notice of appeal, with supporting reasons, with the relevant Agency official within 10 working days after receipt of the objection notice. The official may affirm or vacate the disallowance. If no appeal is filed

electronically by the tenth working day after notification, the disallowance shall be final on that day.

(4) The transferer and transferee must maintain a copy of the transfer claim and a copy of EPA's non-objection or objection notice for five years.

(b) *International transfers of production allowances.* (1) A person may request to increase or decrease their production allowances for a specified control period through transfers of such allowances with a person in a foreign country if the applicable conditions in this paragraph are met. Once transferred, all allowances transferred consistent with this paragraph will function as a production allowance, as defined in § 84.3.

(i) *Timing of requests*. Any request for an increase or decrease in production allowances based on an international transfer under this paragraph must be submitted by October 1 of the year prior to the calendar year in which the transferred allowances would be usable.

(ii) *Timing of the transfer*. International transfers under this paragraph will be deemed to occur, and the transferred allowances will be usable, as of January 1 of the calendar year to which the transfer applies.

(2) *Transfer from a person in a foreign country - Information requirements.* (i) A person requesting to change their production allowances based on a transfer from a person in a foreign country must submit to the relevant Agency official at the time the international transfer is requested a signed document from an official representative in that country's embassy in the United States stating that the appropriate authority within that country has revised the domestic production limits for that country equal to the lowest of the following three production quantities and identifying which of the following three production quantities was lowest:

(A) The maximum production level permitted in § 84.7(b) in the year of the international transfer minus the quantity of production allowances (in exchange value-weighted kilograms) to be transferred;

(B) The maximum production level for the applicable regulated substances that are allowed under applicable law (including the foreign country's applicable domestic law) minus the quantity of production allowances (in exchange value-weighted kilograms) to be transferred; or

(C) The average of the foreign country's actual national production level of the applicable regulated substances for the three calendar years prior to the year of the transfer minus the quantity of production allowances (in exchange value-weighted kilograms) to be transferred.

(ii) A person requesting a revision based on a transfer from a foreign country ("transferee") must also submit to the relevant Agency official a true copy of the document that sets forth the following:

(A) The identity and address of the transferee;

(B) The foreign country authorizing the transfer;

(C) The names, telephone numbers, and email addresses of contact persons for the transferee and for the person in the foreign country;

(D) The name of the chemical and quantity (in kilograms) of production being transferred;

(E) Documentation that the foreign country possesses the necessary quantity of unexpended production rights;

(F) The calendar year to which the transfer applies; and

(G) A signed statement from a responsible official describing whether the increased production is intended for export or the market in the United States.

(3) *Transfer to a person in a foreign country - Information requirements.* A person requesting a transfer to a person in a foreign country must submit a request to the relevant Agency official that sets forth the following information:

(i) The identity and address of the person seeking to transfer the allowances ("transferor");

(ii) The foreign country authorizing the transfer;

(iii) The names, telephone numbers, and email addresses of contact persons for the transferor and for the person in the foreign country;

(iv) The name of the chemical and quantity (in kilograms) of allowable production being transferred; and

(v) The calendar year to which the transfer applies;

(vi) A signed statement from a responsible official requesting that the relevant Agency official revise the number of production allowances the transferor holds such that the aggregate national production in the United States is equal to the lowest of the following three production quantities and identifying which of the following three production quantities was lowest:

(A) The maximum production level permitted in § 84.7(b) in the year of the international transfer minus the quantity of production allowances (in exchange value-weighted kilograms) to be transferred;

(B) The maximum production for the applicable regulated substances that are allowed under applicable law minus the quantity of production allowances (in exchange value-weighted kilograms) to be transferred; or

(C) The average of the United States' actual national production level of the applicable regulated substances for the three calendar years prior to the year of the transfer minus the quantity of production allowances (in exchange value-weighted kilograms) to be transferred.

(4) *Review of international transfer request to a foreign country.* After receiving a transfer request that meets the requirements of paragraph (b)(3) of this section, the relevant Agency official may, at his/her discretion, consider the following factors in deciding whether to approve such a transfer:

(i) Possible economic hardships created by a transfer;

(ii) Potential effects on trade;

(iii) Potential environmental implications; and

(iv) The total quantity of unexpended production allowances held by entities in the United States.

(5) *Notice of transfer.* The relevant Agency official will review the submitted requests to determine whether the foreign country in which the person is located has enacted or otherwise established the same or similar requirements or otherwise undertaken commitments regarding the production and consumption of regulated substances as are contained in the AIM Act, within a reasonable time frame of the date of its enactment. If it is determined that these conditions are not met, the relevant Agency official will notify the requestor in writing that no transfers to or from the country can occur. If these conditions are satisfied such that transfers to or from the country can occur, the relevant Agency official will consider if the request meets the applicable requirements of paragraph (b) of this section. If the request meets the requirements of paragraph (b)(2) of this section for transfers from foreign countries and paragraph (b)(3) of this section for transfers to foreign countries, and if the relevant Agency official has not decided to disapprove

the request based on consideration of factors listed in paragraph (b)(4) of this section if applicable, the relevant Agency official will notify the person in writing that the appropriate production allowances were either granted or deducted and specify the control period to which the transfer applies. Notifications of production allowances granted or deducted will be provided before January 1 of the calendar year to which the transfer applies.

(i) For transfers from a foreign country, such notification will reflect a revision of the balance of allowances held by the recipient of the transfer to equal the unexpended production allowances held by the recipient of the transfer plus the quantity of allowable production transferred from the foreign country minus an offset of five percent of the quantity transferred. The relevant Agency official will not adjust available allowances until the foreign country's representative has confirmed the appropriate number of allowances were deducted in the foreign country.

(ii) For transfers to a foreign country, such notification will reflect a revision of the balance of production allowances for the transferor such that the aggregate national production of the regulated substance to be transferred is equal to the value the relevant Agency official determines to be the lowest of:

(A) The maximum production level permitted in § 84.7(b) in the year of the international transfer minus the quantity of production allowances transferred and minus an offset of five percent of the quantity transferred; or

(B) The maximum production level for the applicable regulated substances that is allowed under applicable law (in exchange-value weighted kilograms) minus the quantity of production allowances transferred and minus an offset of five percent of the quantity transferred; or

(C) The average of the actual annual U.S. production of the applicable regulated substances for the three years prior to the date of the transfer (in exchange-value weighted kilograms minus the quantity of production allowances transferred and minus an offset of five percent of the quantity transferred).

(6) *Revised production limit for previous transferors*. If the average actual U.S. production during the three most recent calendar years before the date of the transfer is less than the total allowable U.S. production for the applicable regulated substances permitted in § 84.7(b) for a calendar year for which international transfers are approved to occur, the aggregate allowed national U.S. production of those substances will be reduced by an additional amount beyond a simple deduction of the number of allowances reflected in the notifications under paragraph (b)(5)(ii)(B) of this section. In these circumstances, the relevant Agency official will revise the production limit for each transferor who obtained approval of a transfer of the applicable regulated substances to a foreign country in the same calendar year and notify each transferor of the revision in writing. The amount of the revision will equal the result of the following set of calculations:

(i) The total U.S. allowable production of the applicable regulated substances minus the average of the actual annual U.S. production of those substances during the three most recent calendar years prior to the calendar year of the transfer.

(ii) The quantity of production allowances for the applicable regulated substances transferred by the transferor in that calendar year divided by the total quantity of production allowances for those substances approved for transfer to a person in a foreign country by all the persons approved to make such transfers in that calendar year.

(iii) The result of paragraph (b)(6)(i) of this section multiplied by the result of paragraph (b)(6)(ii) of this section.

(iv) The unexpended production allowances held by the person minus the result of paragraph (b)(6)(iii) of this section.

(7) *Effective date of revised production limit*s. If a revision is issued under paragraph (b)(6) of this section, the change in production allowances will be effective on the date that the notification is issued.

§ 84.21 Sale or conveyance of regulated substances produced or imported with application-specific allowances.

(a) *Sale or conveyance of regulated substances produced or imported using application-specific allowances.* (1) As of January 1, 2022, any person receiving an application-specific allowance (application-specific seller) may sell or convey regulated substances produced or imported by expending that allowance to another person within the same application (application-specific purchaser) provided that the relevant Agency official approves the sale or conveyance.

(2) The application-specific seller must submit a claim to the relevant Agency official for approval before the sale or conveyance can take place. The claim must set forth the following:

(i) The identities and addresses of the application-specific seller and the application-specific purchaser;

(ii) The name, telephone numbers, and email addresses of contact persons for the application-specific seller and the application-specific purchaser;

(iii) The amount of each regulated substance being sold or conveyed;

(iv) The cost of the regulated substance being sold or conveyed;

(v) The application for which allowances were allocated and the specific products that the application-specific purchaser plans to produce with the regulated substances; and

(vi) Certification that the regulated substances will be used only for the same application for which the application-specific allowance under which the substances were produced or imported was allocated.

(3) The application-specific purchaser must submit a letter to the relevant Agency official stating that it concurs with the terms of the sale or conveyance as requested by the application-specific seller.

(4) Once the claim is complete, and if EPA does not object to the sale or conveyance, the relevant agency official will issue letters to the application-specific seller and the application-specific purchaser within 10 business days indicating that the transaction may proceed. EPA reserves the right to disallow a transaction if the claim is incomplete, or if it has reason to believe that the application-specific purchaser plans use the regulated substance in anything other than the stated application. If EPA objects to the transaction, the relevant agency official will issue letters to the application-specific seller and the application-specific purchaser stating the basis for disallowing the transaction.

(5) The burden of proof is placed on the application-specific purchaser to retain sufficient records to prove that the sold or conveyed regulated substances are used only for the stated application.

(b) [Reserved].

§ 84.23 Certification identification generation and tracking.

(a) *Scope and applicability.* Certification identifications may only be generated by a person that produces, imports, reclaims, recycles for fire suppression use, repackages, or blends regulated substance for distribution or sale in bulk and reports to EPA consistent with paragraph (d) of this section. All containers of bulk regulated substance, with the limited exceptions described in paragraph (b)(4) of this section, must be associated with certification identifications on the following schedule:

(1) As of January 1, 2025, all containers of bulk regulated substances imported and all containers sold or distributed by producers and importers must have a QR code.

(2) As of January 1, 2026, all containers of bulk regulated substances filled and all containers sold or distributed by all other repackagers and cylinder fillers in the United States not included in (a)(1), including reclaimers and fire suppressant recyclers must have a QR code.

(3) As of January 1, 2027, every container of bulk regulated substances sold or distributed, offered for sale or distribution, purchased or received, or attempted to be purchased or received must have a QR code.

(b) *Prohibitions.* Every kilogram of bulk regulated substances imported, sold or distributed, offered for sale or distribution, purchased or received, or attempted to be purchased or received in violation of this section is a separate violation of this subpart. Import, sale or distribution, offer for sale or distribution, purchase or receipt, or attempt to purchase or receive less than one kilogram of regulated substances in violation of this section is a separate violation of this subpart.

(1) No person may import, sell or distribute, or offer for sale or distribution, and no person may purchase or receive, or attempt to purchase or receive, a bulk regulated substance unless the container has a valid certification identification.

(2) No person may import, sell or distribute, or offer for sale or distribution, bulk regulated substances unless that person is registered with EPA consistent with paragraph (d) of this section.

(3) No person may purchase or receive, or attempt to purchase or receive, bulk regulated substances from a person that is not registered with EPA consistent with paragraph (d) of this section;

(4) The following situations are exempt from the prohibitions in paragraphs (b)(1) through (3) of this section:

(i) The regulated substances are part of a transhipment and the person transhipping the regulated substance has reported to EPA consistent with § 84.31(c)(3);

(ii) The regulated substances were previously used, have been recovered from a piece of equipment, and are intended for reclamation or fire suppressant recycling and:

(A) The person selling or distributing the regulated substances certifies in writing to the person purchasing or receiving the regulated substances that they were recovered from a piece of equipment and provides the date of recovery; and

(B) The person purchasing or receiving the regulated substances is an EPA-certified reclaimer, a registered fire suppressant recycler consistent with paragraph (d) of this section, or a registered supplier of regulated substances consistent with paragraph (d) of this section.

(iii) The regulated substances were imported consistent with the petition process described in § 84.25;

(iv) The regulated substances were collected for destruction and sent to a destruction facility directly or through an aggregator that is reporting to EPA consistent with 84.31(c)(5); or

(v) The regulated substances were recovered from a motor vehicle air conditioner (MVAC) or MVAC-like appliance in accordance with 40 CFR part 82, subpart B and are sold or distributed or offered for sale or distribution by the same person who recovered the regulated substances for use only in MVAC equipment or MVAC-like appliances.(5) No producer or importer may request certification identifications that would exceed their currently available allowances.

(6) A person who reclaims regulated substances or recycles regulated substances for fire suppression uses may request certification identifications at a level equal to their reported reclamation or recycling for the prior year plus an amount based on the average annual growth in total U.S. reclamation of regulated substances in the prior three years or 10 percent, whichever is higher. If further certification identifications are needed, the reclaimer or recycler must notify EPA 45 days in advance of exceeding their allowed level and request approval to generate additional certification identifications. The request must estimate the additional certification identifications needed for the next six months and provide an explanation for the increased level of reclamation or recycling. The relevant agency official will review the request and adjust the amount of certification identifications for the person as appropriate within 21 days. Additional requests can be submitted throughout the year as needed.

(7) No regulated substance repackager or blender may request certificate identifications unless they have allowances. They may generate QR codes based on the certification identifications associated with the containers they acquire.

(c) *Required Practices.* The following practices are required, unless the person purchasing or receiving the bulk regulated substance is listed in paragraph (b)(4) of this section:

(1) Any person producing, importing, reclaiming, recycling for fire suppression uses, repackaging, selling or distributing, or offering to sell or distribute bulk regulated substances must register with EPA consistent with paragraph (d) of this section.

(2) Any person who imports, sells or distributes, or offers for sale or distribution a container of regulated substance, reclaimed regulated substance, or recycled regulated substances for fire suppression uses must permanently affix a QR code to the container that documents a valid certification identification using the standards defined by EPA prior to the import, sale or distribution, or offer for sale or distribution of the container. For the purposes of this subpart, examples of when a container of regulated substance or reclaimed regulated substance is imported, sold or distributed, or offered for sale or distribution include the date of importation (consistent with 19 CFR 101.1) and departure from a production, reclamation, fire suppressant recycling, repackaging or filling facility.

(3) At the time of sale or distribution or offer for sale or distribution, a person selling or distributing or offering for sale or distribution a container of regulated substance must ensure there is a valid and legible certification identification on each container of regulated substance, scan the certification identification system to identify a transaction, identify the person receiving

the regulated substance, and indicate whether the person receiving the regulated substance is a supplier or final customer.

(4) At the time of sale or distribution, a person taking ownership of a container of regulated substance that is a registered supplier must ensure there is a valid and legible certification identification on each container of regulated substance and scan the certification identification in the certification identification system to identify a transaction.

(d) *Recordkeeping and Reporting.* (1) *Importers*. Any person importing a container of bulk regulated substance must enter the following information in the certification identification system to generate a QR code and associated certification identification for each container of regulated substance imported: the name or brand the regulated substance is being sold and/or marketed under, the date it was imported, the unique serial number associated with the container, the amount and name of the regulated substance(s) in the container, the name, address, contact person, email address, and phone number of the responsible party at the facility where the container of regulated substance(s) was filled, and certification that the contents of the cylinder match the substance(s) identified on the label.

(2) *Reclaimers*. Any person filling a container with a reclaimed regulated substance must enter the following information in the certification identification system to generate a QR code and associated certification identification for each container of regulated substance sold or distributed or offered for sale or distribution: the name or brand the regulated substance is being sold and/or marketed under, when the regulated substance was reclaimed and by whom, the date the reclaimed regulated substance was put into a container, the unique serial number associated with the container, the amount and name of the regulated substance(s) in the container, and

certification that the purity of the batch was confirmed to meet the specifications in Appendix A to 40 CFR Part 82, subpart F. If a container is filled with reclaimed and virgin regulated substance(s), the reclaimer must provide the amount of virgin regulated substance included in the container and the certification identification(s) associated with that regulated substance.

(3) *Fire Suppressant Recyclers.* Any person filling a container with a recycled regulated substance for fire suppression purposes must enter the following information in the certification identification system to generate a QR code and associated certification identification for each container of regulated substance sold or distributed or offered for sale or distribution: the name or brand the regulated substance is being sold and/or marketed under, the date the container was filled and by whom, the unique serial number associated with the container, and the amount and name of the regulated substance(s) in the container. If a container is filled with recycled and virgin regulated substance(s), the recycler must provide the amount of virgin regulated substance included in the container and the certification identification(s) associated with that regulated substance.

(4) *Producers and Repackagers*. Anyone who is filling a container, whether for the first time after production or when transferring regulated substances from one container to one or more smaller or larger containers, must enter information in the certification identification system and generate a QR code for the container(s) of packaged regulated substances sold or distributed or offered for sale or distribution: the name or brand the regulated substance is being sold and/or marketed under, the date the container was filled and by whom, the certification identification(s) associated with the regulated substance being packaged, the unique serial number associated with the container, the amount and name of the regulated substance(s) in the container, the

quantity of containers it was packaged in, the size of the containers, and the name, address, contact person, email address, and phone number of the responsible party at the facility where the container(s) were filled.

(5) *Receiving recovered regulated substances*. Any person receiving recovered regulated substances for purposes of reclamation or fire suppressant recycling must keep a copy of the written certification required under paragraph (b)(4)(ii) of this section for five years.

(6) *Certification identification generators registration*. Any person who produces, imports, reclaims, recycles for fire suppression uses, repackages or fills a container of regulated substances, reclaimed regulated substances, or recycled regulated substances for fire suppression uses must register with EPA in the certification identification system at least six months before the date they are subject to the requirement in paragraph (a) of this section. The report must contain the name and address of the company, contact information for the owner of the company, the date(s) of and State(s) in which the company is incorporated and State license identifier(s), the address of each facility that sells or distributes or offers for sale or distribution regulated substances, how the company introduces bulk regulated substances into U.S. commerce, and the categories of final customers the entity sells or distributes regulated substances to. If any of the registration information changes, these reports must be updated and resubmitted within 60 days of the change.

(7) *Supplier Registration*. Any person who sells, distributes, or offers for sale or distribution, bulk regulated substances must register with EPA in the certification identification system at least six months before the date they are subject to the requirement in paragraph (a) of this section. The report must contain the name and address of the company, contact information for

the owner of the company, the date(s) of and State(s) in which the company is incorporated and State license identifier(s), the address of each facility that sells or distributes regulated substances, and the categories of final customers the supplier sells or distributes regulated substances to. If any of the registration information changes, these reports must be updated and resubmitted within 60 days of the change.

§ 84.25 Required processes to import regulated substances as feedstocks or for destruction.

(a) (1) *Petition to import regulated substances for use in a process resulting in transformation or destruction.* A person must petition the relevant Agency official for the import of each individual shipment of a regulated substance imported for use in a process resulting in transformation or destruction in order to not expend allowances. A petition is required at least 30 days before the shipment is to arrive at a U.S. port, and must contain the following information:

(i) Name, Harmonized Tariff Schedule code, and quantity in kilograms of each regulated substance to be imported;

(ii) Name and address of the importer, the importer ID number, and the contact person's name, email address, and phone number;

(iii) Name and address of the consignee and the contact person's name, email address, and phone number;

(iv) Source country;

(v) The U.S. port of entry for the import, the expected date of import, and the vessel transporting the material. If at the time of submitting the petition the importer does not know this information, and the importer receives a non-objection notice for the individual shipment in the petition, the

importer is required to notify the relevant Agency official of this information prior to the date of importation of the individual shipment into the United States;

(vi) Name and address of any intermediary, including a contact person's name, email address and phone number, who will hold the material before the regulated substances are transformed or destroyed;

(vii) Name, address, contact person, email address, and phone number of the responsible party at the facility where the regulated substance will be used in a process resulting in the substance's transformation or destruction;

(viii) An English translation, if needed, of the export license, application for an export license, or official communication acknowledging the export from the appropriate government agency in the country of export;

(ix) The capacity of the container; and

(x) The unique identification number of the container used to transport the regulated substances as part of the petition.

(2) *Review of petition to import for use in a process resulting in transformation or destruction.* (i) The relevant Agency official will initiate a review of the information submitted under paragraph (a)(1) of this section and take action within 21 days to issue either an objection notice or a non-objection notice for the individual shipment to the person who submitted the petition.

(ii) The relevant Agency official may issue an objection notice to a petition for the following reasons:

(A) If the relevant Agency official determines that the information is insufficient; that is, if the petition lacks or appears to lack any of the information required under paragraph (a)(1) of this section or other information that may be requested during the review of the petition necessary to verify that the regulated substance is for use in a process resulting in transformation or destruction;

(B) If the relevant Agency official determines that any portion of the petition contains false, inaccurate, or misleading information, or the official has information from other U.S. or foreign government agencies indicating that the petition contains false, inaccurate, or misleading information.

(iii) Within 10 working days after receipt of an objection notice with the basis being "insufficient information," the importer may re-petition the relevant Agency official. If no re-petition is taken by the tenth working day after the date on the objection notice, the objection shall become final. Only one re-petition will be accepted for any petition received by EPA.

(iv) Any information contained in the re-petition which is inconsistent with the original petition must be identified and a description of the reason for the inconsistency must accompany the re-petition.

(v) In cases where the relevant Agency official does not object to the petition, the official will issue a non-objection notice.

(vi) If, following EPA's issuance of a non-objection notice, new information is brought to EPA's attention which shows that the non-objection notice was issued based on false, inaccurate, or misleading information, then EPA has the right to:

(A) Revoke and void the non-objection notice from the approval date;

(B) Pursue all means to ensure that the regulated substance is not imported into the United States; and

(C) Take appropriate enforcement and apply administrative consequences.

(3) *Timing.* (A) An individual shipment authorized through a non-objection notice must be used in the process resulting in its transformation within one year of import.

(B) An individual shipment authorized through a non-objection notice must be used in the process resulting in its destruction within 120 days of import.

(4) *Quantity*. An individual shipment authorized through a non-objection notice may not exceed the quantity (in MTEVe) of the regulated substance stated in the non-objection notice.

(b)(1) *Petition to import used regulated substances for disposal by destruction.* A person must petition the relevant Agency official for the import of each individual shipment of a used regulated substance imported for purposes of destruction in order to not expend allowances. A petition is required at least 30 working days before the shipment is to leave the foreign port of export, and contain the following information:

(i) Name, Harmonized Tariff Schedule code, and quantity in kilograms of each regulated substance to be imported;

(ii) Name and address of the importer, the importer ID number, and the contact person's name, email address, and phone number;

(iii) Name and address of the consignee and the contact person's name, email address, and phone number;

(iv) Name and address of any intermediary who will hold regulated substances imported for destruction, and the contact person's name, email address, and phone number;

(v) Source country;

(vi) An English translation, if needed, of the export license (or application for an export license) from the appropriate government agency in the country of export;

(vii) The U.S. port of entry for the import, the expected date of import, and the vessel transporting the material. If at the time of submitting the petition the importer does not know this information, and the importer receives a non-objection notice for the individual shipment in the petition, the importer is required to notify the relevant Agency official of this information prior to the entry of the individual shipment into the United States; and

(viii) Name, address, contact person, email address, and phone number of the responsible party at the destruction facility.

(2) *Review of petition to import for destruction.* (i) The relevant Agency official will initiate a review of the information submitted under paragraph (b)(1) of this section and take action within 30 working days to issue either an objection notice or a non-objection notice for the individual shipment to the person who submitted the petition.

(ii) The relevant Agency official may issue an objection notice to a petition for the following reasons:

(A) If the relevant Agency official determines that the information is insufficient; that is, if the petition lacks or appears to lack any of the information required under paragraph (b)(1) of this section or other information that may be requested during the review of the petition necessary to verify that the regulated substance is used;

(B) If the relevant Agency official determines that any portion of the petition contains false, inaccurate, or misleading information, or the relevant Agency official has information from other

U.S. or foreign government agencies indicating that the petition contains false, inaccurate, or misleading information;

(C) If allowing the import of the used regulated substance would run counter to government restrictions from either the country of recovery or export regarding regulated substances;

(D) If destruction capacity is installed or is being installed for that specific regulated substance in the country of recovery or country of export and the capacity is funded in full or in part through the Multilateral Fund to the Montreal Protocol.

(iii) Within 10 working days after receipt of an objection notice with the basis being "insufficient information," the importer may re-petition the relevant Agency official. If no re-petition is taken by the tenth working day after the date on the objection notice, the objection shall become final. Only one re-petition will be accepted for any petition received by EPA.

(iv) Any information contained in the re-petition that is inconsistent with the original petition must be identified and a description of the reason for the inconsistency must accompany the re-petition.

(v) In cases where the relevant Agency official does not object to the petition, the official will issue a non-objection notice.

(vi) If, following EPA's issuance of a non-objection notice, new information is brought to EPA's attention which shows that the non-objection notice was issued based on false, inaccurate, or misleading information, then EPA and the relevant Agency official has the right to:

(A) Revoke and void the non-objection notice from the approval date;

(B) Pursue all means to ensure that the regulated substance is not imported into the United States; and

(C) Take appropriate enforcement and apply administrative consequences.

(3) *Timing.* An individual shipment authorized through a non-objection notice must be destroyed within 120 days of import.

(4) *Quantity*. An individual shipment authorized through a non-objection notice may not exceed the quantity (in MTEVe) of the regulated substance stated in the non-objection notice.

(5) *Proof of destruction.* For each individual shipment of a used regulated substance imported with the intent to destroy that substance for which EPA issues a non-objection notice, an importer must submit to the Administrator records indicating that the substance has been destroyed with their quarterly reports in 84.31(c)(1).

(6) *Recordkeeping*. The person receiving the non-objection notice from the relevant Agency official for a petition to import used regulated substances must maintain the following records for five years:

(i) A copy of the petition;

(ii) The EPA non-objection notice;

(iii) The bill of lading for the import;

(iv) The U.S. Customs entry number; and

(v) Records demonstrating that the substance has been destroyed in accordance with approved technologies in § 84.29.

§ 84.27 Controlling emissions of HFC-23.

(a) 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 created on the line may be emitted.

(1) *Requests for extension*. The producer may submit a request to the relevant Agency official to request a six-month extension, with a possibility of one additional six-month extension, to meet the 0.1 percent HCFC-23 limit in § 82.15(a)(3). No entity may have a compliance date later than October 1, 2023.

(2) *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.

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

(i) Name of the facility submitting the request, contact information for a person at the facility, and the address of the facility.

(ii) A description of the specific actions the facility has taken to improve their HFC-23 control, capture, and destruction; the facility's 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 facility has met all applicable reporting requirements.

(4) *Review of request*. Starting on the first working day following receipt by the relevant Agency official of a complete request for extension, the relevant Agency official will initiate review of the information submitted under paragraph (a)(3) of this section and take action within 30 working days. Any grant of a compliance deferral by the relevant Agency official will be made public.

(b) Captured HFC-23 is permitted to be destroyed at a different facility than where it is produced. In such instances, HFC-23 emissions during the transportation to and destruction at the different facility will be incorporated into calculations of whether the producer meets the 0.1 percent standard outlined in paragraph (a) of this section.

§ 84.29 Destruction of regulated substances.

(a) The following technologies are approved by the Administrator for destruction of all regulated substances except for HFC-23:

(1) Cement kiln;

(2) Gaseous/fume oxidation;

(3) Liquid injection incineration;

(4) Porous thermal reactor;

(5) Reactor cracking;

(6) Rotary kiln incineration;

(7) Argon plasma arc;

(8) Nitrogen plasma arc;

(9) Portable plasma arc;

(10) Chemical reaction with hydrogen and carbon dioxide;

(11) Gas phase catalytic de-halogenation; and

(12) Superheated steam reactor.

(b) The following technologies are approved by the Administrator for destruction of HFC-23:

(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.

7. Effective **[INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]** in §84.31:

a. Add paragraphs (a) through (g);

b. Add paragraphs (h)(1) and (h)(4) through (7); and

c. Add paragraphs (i) through (k).

The additions read as follows:

§ 84.31 Recordkeeping and reporting.

(a) *Recordkeeping and reporting.* Any person who produces, imports, exports, transforms, uses as a process agent, destroys, reclaims, or repackages regulated substances or is receiving application-specific allowances in the six applications listed in subsection (e)(4)(B)(iv) of the AIM Act must comply with the following recordkeeping and reporting requirements:

(1) Reports required by this section must be submitted within 45 days of the end of the applicable reporting period, unless otherwise specified.

(2) Reports, petitions, and any related supporting documents must be submitted electronically in a format specified by EPA.

(3) Records and copies of reports required by this section must be retained for five years.

(4) Quantities of regulated substances must be stated in terms of kilograms unless otherwise specified.

(5) Reports are no longer required if an entity notifies the Administrator that they have permanently ceased production, import, export, destruction, transformation, use as a process agent, reclamation, or packaging of regulated substances, but the entity must continue to comply with all applicable recordkeeping requirements.

(b) *Producers.* Persons ("producers") who produce regulated substances must comply with the following recordkeeping and reporting requirements:

(1) *One-time report.* Within 120 days of January 1, 2022, or within 120 days of the date that a producer first produces a regulated substance, whichever is later, every producer must submit to the Administrator a report describing:

(i) The method by which the producer in practice measures daily quantities of regulated substances produced;

(ii) Conversion factors by which the daily records as currently maintained can be converted into kilograms of regulated substances produced, including any constants or assumptions used in making those calculations (e.g., tank specifications, ambient temperature or pressure, density of the regulated substance);

(iii) Internal accounting procedures for determining plant-wide production;

(iv) The quantity of any fugitive losses accounted for in the production figures;

(v) A list of any coproducts, byproducts, or emissions from the production line that are other regulated substances; ozone-depleting substances listed in 40 CFR part 82, subpart A; or hazardous air pollutants initially identified in section 112 of the Clean Air Act, and as revised through rulemaking and codified in 40 CFR 63;

(vi) The estimated percent efficiency of the production process for the regulated substance; and

(vii) A description of any processes that use a regulated substance as a process agent. Within 60 days of any change in the measurement procedures or the information specified in the above report, the producer must submit a report specifying the changes to the relevant Agency official.

(2) *Reporting - producers.* Within 45 days after the end of each quarter, each producer of a regulated substance must provide to the relevant Agency official a report containing the following information for each facility:

(i) The quantity (in kilograms) of production of each regulated substance used in processes resulting in their transformation by the producer and the quantity (in kilograms) intended for transformation by a second party;

(ii) The quantity (in kilograms) of production of each regulated substance used in processes resulting in their destruction by the producer and the quantity (in kilograms) intended for destruction by a second party;

(iii) The quantity (in kilograms) of production of each regulated substance used as a process agent by the producer and the quantity (in kilograms) intended for use as a process agent by a second party;

(iv) The quantity (in exchange value equivalents) of allowances expended for each regulated substance and the quantity (in kilograms) of each regulated substance produced;

(v) The quantity (in kilograms) of regulated substances sold or transferred during the quarter to a person other than the producer for use in processes resulting in their transformation, destruction, or use as a process agent;

(vi) The quantity (in kilograms) of regulated substances produced by the producer that were exported by the producer or by other U.S. companies to a foreign country that will be

transformed or destroyed and therefore were produced without expending production or consumption allowances;

(vii) For transformation in the United States or by a person in a foreign country, one copy of a transformation verification from the transformer for the specific regulated substance(s) and a list of additional quantities shipped to that same transformer for the quarter;

(viii) For destruction in the United States or by a person in a foreign country of a regulated substance that was produced without allowances, one copy of a destruction verification for each particular destroyer confirming it destroyed the same regulated substance, and a list of additional quantities shipped to that same destroyer for the quarter;

(ix) A list of the entities conferring application-specific allowances from whom orders were placed, and the quantity (in kilograms) of specific regulated substances produced for those listed applications; and

(x) For the fourth quarter report only, the quantity of each regulated substance held in inventory on December 31.

(3) *Recordkeeping - producers.* Every producer of a regulated substance must maintain the following records:

(i) Dated records of the quantity (in kilograms) of each regulated substance produced at each facility;

(ii) Dated records of the quantity (in kilograms) of regulated substances produced for use in processes that result in their transformation, destruction, or as a process agent;

(iii) Dated records of the quantity (in kilograms) of regulated substances sold for use in processes that result in their transformation, destruction, or as a process agent;

(iv) Dated records of the quantity (in kilograms) of regulated substances produced by expending conferred application-specific allowances and quantity sold for use in each listed application;

(v) Copies of invoices or receipts documenting sale of regulated substances for use in processes that result in their transformation, destruction, or as a process agent;

(vi) Dated records of the quantity (in kilograms) of each regulated substance used at each facility as feedstocks or destroyed in the manufacture of a regulated substance or in the manufacture of any other substance, and any regulated substance introduced into the production process of the same regulated substance at each facility;

(vii) Dated records of the quantity (in kilograms) of each regulated substance used at each facility as a process agent;

(viii) Dated records identifying the quantity (in kilograms) of each coproduct and byproduct chemical not a regulated substance produced within each facility also producing one or more regulated substances;

(ix) Dated records of the quantity (in kilograms) of raw materials and feedstock chemicals used at each facility for the production of regulated substances;

(x) Dated records of the shipments of each regulated substance produced at each plant;

(xi) Dated records of batch tests of regulated substances packaged for sale or distribution;

(xii) The quantity (in kilograms) of regulated substances, the date received, and names and addresses of the source of used materials containing regulated substances which are recycled or reclaimed at each plant;

(xiii) Records of the date, the regulated substance, and the estimated quantity of any spill or release of a regulated substance that equals or exceeds 100 pounds;

(xiv) The transformation verification in the case of transformation, or the destruction verification in the case of destruction, showing that the purchaser or recipient of a regulated substance, in the United States or in another foreign country, certifies the intent to either transform or destroy the regulated substance, or sell the regulated substance for transformation or destruction in cases when allowances were not expended; and

(xv) The certifications from application-specific allowance holders stating that the regulated substances were purchased solely for an application listed in § 84.5(c)(2) and will not be resold for use in a different application or used in any other manufacturing process.

(4) *Additional Requirements: producers of HFC-23*. (i) Each producer of HFC-23 must include the following additional information in their one-time report in subparagraph (b)(1) of this section:

(A) Information on the capacity to produce the intended chemical on the line on which HFC-23 is produced;

(B) A description of actions taken at the facility to control the generation of HFC-23 and its emissions;

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

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

(E) Within 60 days of any change in the information specified in the above report, the producer must submit a report specifying the changes to the relevant Agency official.

(ii) Each producer of HFC-23 must include the following additional information in their fourth quarter report:

(A) Annual facility-level data on HFC-23 (in metric tons) on amounts: emitted; generated; generated and captured for any purpose; generated and captured for consumptive use; 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.

(B) [Reserved]

(iii) If captured HFC-23 is destroyed in a subsequent control period, producers must submit records to EPA indicating the HFC-23 has been destroyed in their next quarterly report.

(iv) In developing any required report, each producer of 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, facilities shall comply with the monitoring methods and quality assurance and control requirements set forth at 40 CFR 98.414 and the calculation methods set forth at 40 CFR 98.413, except 40 CFR 98.414(p) shall not apply.

(B) To calculate the quantity of HFC-23 emitted, facilities shall comply with the monitoring methods and quality assurance and control requirements set forth at 40 CFR 98.124 and the calculation methods set forth at 40 CFR 98.123.

(5) *Agency assumption* - For any person who fails to maintain the records required by this paragraph, or to submit the reports required by this paragraph, EPA may assume that the person has produced at full capacity during the period for which records were not kept.

(c) *Importers.* Persons ("importers") who import regulated substances must comply with the following recordkeeping and reporting requirements:

(1) *Reporting - importers.* Within 45 days after the end of each quarter, an importer of a regulated substance must submit to the relevant Agency official a report containing the following information:

(i) Summaries of the records required in paragraph (c)(2) of this section for the previous quarter;

(ii) The total quantity (in kilograms) imported of each regulated substance for that quarter;

(iii) The Harmonized Tariff Schedule codes for the regulated substances or blends imported;

(iv) A list of the application-specific allowance holders from whom orders were placed, number of application-specific allowances conferred, and the quantity (in kilograms) of specific regulated substances imported for those listed applications;

(v) The quantity (in kilograms) of regulated substances imported for use in processes resulting in their transformation or destruction;

(vi) The quantity (in kilograms) of regulated substances sold or transferred during that quarter to each person for use in processes resulting in their transformation or destruction;

(vii) The transformation verifications showing that the purchaser or recipient of imported regulated substances intends to transform those substances or destruction verifications showing that the purchaser or recipient intends to destroy the regulated substances;

(viii) Records required under § 82.25(b)(5) documenting proof that material imported for destruction was destroyed; and

(ix) For the fourth quarter report only, the quantity of each regulated substance held in inventory on December 31.

(2) *Recordkeeping - importers.* An importer of a regulated substance must maintain the following records:

(i) The quantity (in kilograms) of each regulated substance imported, either alone or in mixtures, including the percentage of each mixture that consists of a regulated substance;

(ii) The quantity (in kilograms) of used regulated substances imported for destruction under the process described in § 84.25(b);

(iii) The quantity (in kilograms) of regulated substances imported for use in processes resulting in their transformation or destruction;

(iv) The quantity (in kilograms) of regulated substances imported and sold for use in processes that result in their transformation or destruction;

(v) The date on which the regulated substances were imported;

(vi) The port of entry through which the regulated substances passed;

(vii) The country from which the imported regulated substances were imported;

(viii) The company that produced the imported regulated substances;

(ix) The Harmonized Tariff Schedule code for the regulated substances imported;

(x) The importer number for the shipment;

(xi) A copy of the bill of lading for the import;

(xii) The invoice for the import;

(xiii) The U.S. Customs entry number;

(xiv) Dated records documenting the sale or transfer of regulated substances for use in processes resulting in their transformation or destruction;

(xv) Copies of transformation verifications or destruction verifications indicating that the regulated substances will be transformed or destroyed;

(xvi) Dated records of the quantity of regulated substances imported for an application listed at § 84.5(c)(2);

(xvii) The certifications from application-specific allowance holders stating that the regulated substances were purchased solely for an application listed in § 84.5(c)(2) and will not be resold for use in a different application or used in any other manufacturing process;

(xviii) Dated records of batch tests of regulated substances packaged for sale or distribution; and

(xix) For any entity subject to an order issued by the Department of Commerce that is receiving allowances for 2022 or 2023, documentation of cash deposit of and final payment of the antidumping and countervailing duty for regulated substances imported.

(3) *Transhipments*. (i) A person must notify the relevant Agency official of each shipment of a regulated substance that is to be transhipped through the United States. The notification is required at least 30 working days before the shipment is to leave the foreign port of export for importation into the United States as a transhipment, and must contain the following information:

(A) Name, Harmonized Tariff Schedule code, and quantity in kilograms of each regulated substance to be transhipped;

(B) Name and address of the importer, the importer ID number, and the contact person's name, email address, and phone number;

(C) Source country; and

(D) The U.S. port of entry, the expected date of importation, and the vessel transporting the material. If at the time of submitting the petition the importer does not know this information, the importer is required to notify the relevant Agency official of this information prior to the entry of each shipment into the United States.

(ii) The person in paragraph (c)(3)(i) of this section must notify the relevant Agency official of each shipment of a regulated substance that has been transhipped when it is exported from the United States. The notification is required at least 10 working days after the shipment is exported from the United States, and must contain the following information:

(A) Name, Harmonized Tariff Schedule code, and quantity in kilograms of each regulated substance to be transhipped;

(B) Name and address of the importer, the importer ID number, and the contact person's name, email address, and phone number; and

(C) Date of departure and name of vessel.

(iii) Any person who transhipps a regulated substance must maintain records that indicate:

(A) That the regulated substance shipment originated in a foreign country;

(B) That the regulated substance shipment is destined for another foreign country; and

(C) That the regulated substance shipment will not enter U.S. commerce within the United States.

(4) *Additional recordkeeping requirements - importers of used regulated substances for destruction.* A person receiving a non-objection notice from the relevant Agency official to import used regulated substances for destruction must maintain the following records:

(i) A copy of the petition to import for destruction;

(ii) The EPA non-objection notice;

(iii) A copy of the export license, export license application, or official communication from the appropriate government agency in the country of export;

(iv) An English translation of the document in paragraph (c)(4)(iii) of this section;

(v) U.S. Customs entry documents for the import that must include the Harmonized Tariff Schedule codes;

(vi) The date, amount, and name of the regulated substances sent for destruction, per shipment;

(vii) An invoice from the destruction facility verifying the shipment was received; and

(viii) Records from the destruction facility indicating that the substance has been destroyed.

(5) *Recordkeeping requirements - aggregators.* A person aggregating a regulated substance prior to destruction, regardless of whether the person is an importer, must:

(i) Maintain transactional records that include the name and address of the entity from whom they received the regulated substance imported for destruction;

(ii) Maintain transactional records that include the name and address of the entity to whom they sent the regulated substance imported for destruction;

(iii) Maintain records that include the date and quantity of the imported regulated substance received for destruction;

(iv) Maintain records that include the date and quantity of the imported regulated substance sent for destruction; and

(v) If the person is the final aggregator of such a regulated substance before the material is destroyed, maintain a copy of records indicating that the substance has been destroyed.

(6) *Recordkeeping requirements-vessel owners/operators.* A person offloading regulated substances recovered from equipment aboard a marine vessel, aircraft, or other aerospace vehicle while in a U.S. port must maintain records of the company name, vessel name or identifier, location of the appliance, date of recovery, person doing the recovery, the amount of regulated substances recovered and type of refrigerant recovered for each servicing event, and the amount of each regulated substance or blend of regulated substances offloaded and the date it was offloaded.

(7) *Additional reporting for importers.* A person importing a regulated substance, or their agent, must include the following no later than 14 days before importation via a Customs and Border Protection-authorized electronic data interchange system, such as the Automated Broker Interface:

(i) Cargo Description;

(ii) Quantity;

(iii) Quantity Unit of Measure Code;

(iv) Quantity Unit of Measure;

(v) Weight;

(vi) Weight Unit of Measure;

(vii) Port of Entry;

(viii) Scheduled Entry Date;

(ix) Harmonized Tariff Schedule (HTS) code;

(x) Harmonized Tariff Schedule (HTS) Description;

(xi) Origin Country;

(xii) Importer Name and Importer Number;

(xiii) Consignee Entity Name;

(xiv) CAS Number(s) of the regulated substance(s) imported and, for regulated substances that are in a mixture, either the ASHRAE numerical designation of the refrigerant or the percentage of the mixture containing each regulated substance;

(xv) If importing regulated substances for transformation or destruction, a copy of the non-objection notice issued consistent with § 84.25; and

(xvi) If importing regulated substances as a transhipment, a copy of the confirmation documenting the importer reported the transhipment consistent with § 84.31(c)(3)(i).

(8) *One-time report – payment of antidumping and countervailing duties.* By November 30, 2021, any entity importing regulated substances subject to an antidumping and countervailing duty order issued by the Department of Commerce that is receiving allowances for 2022 or 2023 must provide documentation of cash deposit of and final payment of such duties for the regulated substances imported from January 1, 2017, through May 19, 2021, or provide evidence that those imports were not subject to such duties for those years.

(d) *Exporters.* Persons ("exporters") who export regulated substances must comply with the following reporting requirements:

(1) *Reporting requirements - exporters.* Within 45 days after the end of each quarter, each exporter of a regulated substance must submit to the relevant Agency official a report containing the following information if such information was not already reported under paragraph (b)(2) of this section:

(i) The names and addresses of the exporter and the recipient of the exports;

(ii) The exporter's Employer Identification Number;

(iii) The quantity of each specific regulated substance exported, including the quantity of regulated substance that is used, reclaimed, or recycled;

(iv) The date on which, and the port from which, the regulated substances were exported from the United States or its territories;

(v) The country to which the regulated substances were exported;

(vi) The Harmonized Tariff Schedule codes for the regulated substances shipped;

(vii) For persons exporting for transformation or destruction of the regulated substance, the invoice or sales agreement containing language similar to the transformation verifications that importers use, or destruction verifications showing that the purchaser or recipient intends to destroy the regulated substances; and

(viii) For the fourth quarter report only, the quantity of each regulated substance held in inventory on December 31.

(2) *Used regulated substances.* Any exporter of used regulated substances must indicate on the bill of lading or invoice that the regulated substance is used.

(e) *Second-party transformation and destruction.* Any person who transforms or destroys regulated substances produced or imported by another person must comply with the following recordkeeping and reporting requirements:

(1) *Reporting – second-party transformation and destruction.* Any person who transforms or destroys regulated substances produced or imported by another person must report the following for each facility:

(i) The names and quantities (in kilograms) of the regulated substances transformed for each calendar year within 45 days after the end of that year; and

(ii) The names and quantities (in kilograms) of the regulated substances destroyed for each calendar year within 45 days after the end of that year.

(2) *Recordkeeping – second-party transformation and destruction.* Any person who transforms or destroys regulated substances produced or imported by another person must maintain the following:

(i) Copies of the invoices or receipts documenting the sale or transfer of the regulated substances to the person;

(ii) Records identifying the producer or importer of the regulated substances received by the person;

(iii) Dated records of inventories of regulated substances at each plant on the first day of each quarter;

(iv) Dated records of the quantity (in kilograms) of each regulated substance transformed or destroyed;

(v) In the case where regulated substances were purchased or transferred for transformation purposes, a copy of the person's transformation verification;

(vi) Dated records of the names, commercial use, and quantities (in kilograms) of the resulting chemical(s) when the regulated substances are transformed;

(vii) Dated records of shipments to purchasers of the resulting chemical(s) when the regulated substances are transformed; and

(viii) In the case where regulated substances were purchased or transferred for destruction purposes, a copy of the person's destruction verification.

(3) *Transformation verifications.* Any person who purchases regulated substances for purposes of transformation must provide the producer or importer of the regulated substances with a transformation verification that the regulated substances are to be used in processes that result in their transformation. The verification can only be valid for one year. The transformation verification shall include the following:

(i) Identity and address of the person intending to transform the regulated substances;

(ii) The quantity (in kilograms) of regulated substances intended for transformation;

(iii) Identity of shipments by purchase order number(s), purchaser account number(s), location(s), or other means of identification;

(iv) Period of time over which the person intends to transform the regulated substances; and

(v) Signature and title of the verifying person.

(4) *Destruction verifications.* Any person who purchases or receives regulated substances in processes that result in their destruction shall provide the producer or importer of the regulated substances with a destruction verification that the regulated substances are to be used in processes that result in their destruction. The verification can only be valid for up to 120 days. The destruction verification shall include the following:

(i) Identity and address of the person intending to destroy regulated substances;

(ii) The quantity (in kilograms) of regulated substances intended for destruction;

(iii) Identity of shipments by purchase order number(s), purchaser account number(s), location(s), or other means of identification;

(iv) The destruction efficiency at which such substances will be destroyed;

(v) Period of time over which the person intends to destroy regulated substances; and

(vi) Signature and title of the verifying person.

(5) *Transformation reporting - one-time report*. Within 120 days of January 1, 2022, or within 120 days of the date that an entity first transforms a regulated substance, whichever is later, any person who transforms a regulated substance must provide EPA with a one-time report containing the following information:

(i) A description of the transformation use;

(ii) A description of all technologies and actions taken to minimize emissions of regulated substances;

(iii) The name of the product manufactured in the process;

(iv) A list of any coproducts, byproducts, or emissions from the line on which the regulated substance is to be transformed that are other regulated substances; ozone-depleting substances listed in 40 CFR part 82, subpart A; or hazardous air pollutants initially identified in section 112 of the Clean Air Act, and as revised through rulemaking and codified in 40 CFR part 63;

(v) The estimated annual fugitive emissions by chemical associated with the transformation process;

(vi) The anticipated ratio of regulated substance used for transformation to the amount of end product manufactured; and

(vii) A mass balance equation of the transformation reaction.

(f) *All destruction facilities.*

(1) *Destruction – one-time report.* Within 120 days of January 1, 2022, or within 120 days of the date that an entity first destroys a regulated substance, whichever is later, every person who destroys regulated substances, whether in a process for destruction or for disposal of a used substance, shall provide EPA with a report containing the following information:

(i) The destruction unit's destruction efficiency;

(ii) The methods used to determine destruction efficiency;

(iii) The methods used to record the volume destroyed;

(iv) The name of other relevant federal or state regulations that may apply to the destruction process; and

(v) Any changes to the information in this paragraph must be reflected in a revision to be submitted to EPA within 60 days of the change(s).

(2) *Proof of destruction*. Any person who destroys used regulated substances for disposal of that substance, shall provide the importer or aggregator with a record indicating the substance was destroyed within 30 days of the date of destruction.

(g) *Process agents.*

(1) *Reporting- one-time report*. Within 120 days of January 1, 2022, or within 120 days of the date that an entity first uses a regulated substance as a process agent, whichever is later, any person who uses a regulated substance as a process agent must provide EPA a one-time report containing the following information:

(i) A description of the process agent use that includes details of the percentages of process agent retained within the process, recovered after the process, and emitted or entrained in the final product;

(ii) A description of all technologies and actions taken to minimize emissions of regulated substances;

(iii) The name of the product and byproducts manufactured in the process; and

(iv) The anticipated ratio of process agent emissions to end product manufactured.

(2) *Annual report*. Any person who uses a regulated substance as a process agent must provide an annual report containing the following information:

(i) Contact information including email address and phone number for a primary and alternate contact person;

(ii) The amount of regulated substance used as a process agent;

(iii) The amount of product and the amount of byproducts manufactured (including amounts eventually destroyed or used as feedstock);

(iv) The stack point source emissions; and

(v) A description of any regulated substance emission reduction actions planned or currently under investigation.

(h) * * *

(1) *Reporting.* Any person allocated application-specific allowances, except for persons receiving application-specific allowances for mission-critical military end uses, must submit to the relevant Agency official a report by July 31 (covering prior activity from January 1 through June 30) and January 31 (covering prior activity from July 1 through December 31) of each year. The report shall contain the following information:

(i) The quantity (in kilograms) of regulated substances acquired through conferring allowances during the previous six months;

(ii) The quantity (in kilograms) of regulated substances acquired through expending allowances and directly imported during the previous six months;

(iii) The quantity (in kilograms) of regulated substances purchased for application-specific use without expending application-specific allowances during the previous six months (i.e., from the open market);

(iv) The quantity (in kilograms) of inventory on the last day of the previous six-month period of each regulated substance for application-specific use held by the reporting company or held under contract by another company for the reporting company's use;

(v) The quantity (in kilograms) of each regulated substance for application-specific use that was destroyed or recycled during the previous six months;

(vi) The names and contact information of each company to which application-specific allowances were conferred, and the quantity of allowances conferred from each company, and the quantity of regulated substances received from each company;

(vii) In the July 31 report only, a description of plans to transition application-specific use of regulated substances to regulated substances with a lower exchange value or alternatives to regulated substances;

(viii) In the July 31 report only, if a company is requesting additional allowances due to one or more of the circumstances listed in 84.13(b)(1), the report must include a projection of the monthly quantity of additional regulated substances needed for application-specific use(s) by month in the next calendar year and a detailed explanation, including relevant supporting documentation to justify the additional need; and

(ix) In the July 31 report only, if a company is contracting out the manufacturing of defense sprays or metered dose inhalers, or paying another person (whether it is in cash, credit, goods, or services) to perform the servicing of onboard aerospace fire suppression, the name, address, and email address for a representative of the person doing the manufacturing or servicing, and clarification on whether the responses in paragraph (h)(1) apply to the company that is allocated application-specific allowances or the company receiving the contract for manufacturing and/or servicing using application-specific allowances.

* * * * *

(4) *Conferral of allowances.* Entities who confer application-specific allowances, except for the conferral of allowances for mission-critical military end uses, must submit the following information about each conferral to the relevant Agency official prior to conferring allowances:

(i) The identities and addresses of the conferrer and the conferee;

(ii) The names, telephone numbers, and email addresses of contact persons for the conferrer and the conferee;

(iii) The specific application for which application-specific allowances are to be conferred;

(iv) The quantity (in MTEVe) of application-specific allowances being conferred;

(v) The amount of unexpended application-specific allowances of the type and for the year being conferred that the conferrer holds under authority of this subpart as of the date the claim is submitted to EPA; and

(vi) A certification from the conferrer and the conferee stating that the regulated substances being acquired, produced, or imported are solely for an application listed in § 84.5(c)(2) and will not be resold for use in a different application or used in any other manufacturing process.

(5) *Confirmation of conferral.* If the conferrer has sufficient application-specific allowances for the conferral, the conferral will occur and the relevant Agency official will issue a confirmation notice to both the conferrer and conferee documenting the conferral occurred. The relevant agency official will reduce the conferrer's balance of unexpended allowances by the quantity conferred. However, if EPA ultimately finds that the conferrer did not have sufficient unexpended allowances to cover the conferral or that the regulated substances produced or imported with conferred allowances are used for anything other than the specific application identified in the conferee's submittal and for the application those allowances were allocated for, the conferrer and conferee will be liable for any violations of the regulations of this subpart that occur as a result of, or in conjunction with, the improper conferral.

(6) *Recordkeeping.* Entities who receive via allocation, transfer, or conferral of application-specific allowances, except for mission-critical military end uses, must maintain the following records for five years:

(i) Records necessary to develop the biannual reports;

(ii) A copy of certifications provided to entities when conferring and transferring allowances for application-specific use;

(iii) A copy of confirmation notices when conferring allowances for application-specific use;

(iv) A copy of the annual submission requesting application-specific allowances;

(v) Invoices and order records related to the purchase of regulated substances;

(vi) Records related to the transfer and conferral of application-specific allowances to other entities; and

(vii) Records documenting how regulated substances acquired with application-specific allowances were used.

(7) *Recordkeeping – Mission-Critical Military End Uses.* The Department of Defense must maintain the following records:

(i) Records necessary to develop the annual report;

(ii) A copy of certifications provided to entities when conferring allowances for application-specific use;

(iii) Invoices and order records related to the purchase of regulated substances;

(iv) Records documenting the conferral(s) of application-specific allowances to other entities up to and including the producer and or importer of the chemical;

(v) Records documenting the transfer of regulated substances to an agent or unit of the Department of Defense where the regulated substance will be used for mission-critical applications; and

(vi) Copies of current and historical plans prescribed by the Office of the Secretary of Defense documenting internal Department of Defense monitoring and review procedures for accuracy.

(i) *Reclaimers.* Persons ("reclaimers") who reclaim regulated substances must comply with the following recordkeeping and reporting requirements:

(1) *One-time report*. By February 14, 2022, any person who reclaims a regulated substance must provide a one-time report containing the following information:

(i) The quantity of each regulated substance held in inventory as of December 31, 2021, broken out by whether the regulated substance is recovered, reclaimed, and virgin;

(ii) The name of the laboratory that conducts batch testing and a signed statement from that laboratory confirming there is an ongoing business relationship with the reclaimer;

(iii) The number of batches tested for each regulated substance or blend containing a regulated substance in the prior year; and

(iv) The number of batches that did not meet the specifications in Appendix A of 40 CFR part 82, subpart F in the prior year.

(2) *Quarterly Reporting.* Within 45 days after the end of each quarter, each reclaimer of a regulated substance must submit to the relevant Agency official a report containing the quantity of material (the combined mass of regulated substance and contaminants) by regulated substance sent to them for reclamation, the total mass of each regulated substance, and the total mass of waste products.

(3) *Annual Reporting.* Within 45 days after the end of the fourth quarter, each reclaimer of a regulated substance must submit to the relevant Agency official a report containing the quantity of each regulated substance held in inventory onsite as of December 31 broken out by whether the regulated substance is recovered, reclaimed, and virgin.

(4) *Recordkeeping*. (i) Reclaimers must maintain records, by batch, of the results of the analysis conducted to verify that reclaimed regulated substance meets the necessary specifications in Appendix A to 40 CFR Part 82, Subpart F, based on AHRI Standard 700-2016. Such records must be maintained for five years.

(ii) Reclaimers must maintain records of the names and addresses of persons sending them material for reclamation and the quantity of the material (the combined mass of regulated

substance and contaminants) by regulated substance sent to them for reclamation. Such records must be maintained on a transactional basis for five years.

(j) *Fire suppressant recycling.* Persons ("recycler") who recycle regulated substances used as a fire suppressant must comply with the following recordkeeping and reporting requirements:

(1) *Quarterly Reporting.* Within 45 days after the end of each quarter, each recycler of a regulated substance used as a fire suppressant must submit to the relevant Agency official a report containing the quantity of material (the combined mass of regulated substance and contaminants) by regulated substance sent to them for recycling, the total mass of each regulated substance recycled, and the total mass of waste products.

(2) *Annual Reporting.* Within 45 days after the end of the fourth quarter, each recycler of a regulated substance used as a fire suppressant must submit to the relevant Agency official a report containing the quantity of each regulated substance held in inventory onsite broken out by recovered, recycled, and virgin.

(3) *Recordkeeping*. Recyclers must maintain records of the names and addresses of persons sending them material for recycling and the quantity of the material (the combined mass of regulated substance and contaminants) by regulated substance sent to them for recycling. Such records must be maintained on a transactional basis for five years.

(k) Treatment of Data submitted under 40 CFR Part 84.

(1) Except as otherwise provided in paragraph (i), 40 CFR 2.201 through 2.215 and 2.301 do not apply to data submitted under this Part that EPA has determined through rulemaking to be either of the following:

(i) Emission data, as defined in 40 CFR 2.301(a)(2), determined in accordance with section 114(c) and 307(d) of the Clean Air Act; or

(ii) Data not otherwise entitled to confidential treatment.

(2) Except as otherwise provided in paragraph (4), 40 CFR 2.201 through 2.208 and 2.301(c) and (d) do not apply to data submitted under this part that EPA has determined through rulemaking to be entitled to confidential treatment. EPA shall treat that information as confidential in accordance with the provisions of 40 CFR 2.211, subject to paragraph (h)(4) of this section and 40 CFR 2.209.

(3) Upon receiving a request under 5 U.S.C. 552 for data submitted under this part that EPA has determined through rulemaking to be entitled to confidential treatment, the relevant agency official shall furnish the requestor a notice that the information has been determined to be entitled to confidential treatment and that the request is therefore denied. The notice shall include or cite to the appropriate EPA determination.

(4) A determination made through rulemaking that information submitted under this part is entitled to confidential treatment shall continue in effect unless, subsequent to the confidentiality determination through rulemaking, EPA takes one of the following actions:

(i) EPA determines through a subsequent rulemaking that the information is emission data or data not otherwise entitled to confidential treatment; or

(ii) The Office of General Counsel issues a final determination, based on the requirements of 5 U.S.C. 552(b)(4), stating that the information is no longer entitled to confidential treatment because of change in the applicable law or newly discovered or changed facts. Prior to making such final determination, EPA shall afford the business an opportunity to submit comments on

pertinent issues in the manner described by §§ 2.204(e) and 2.205(b). If, after consideration of any timely comments submitted by the business, the Office of General Counsel makes a revised final determination that the information is not entitled to confidential treatment, the relevant agency official will notify the business in accordance with the procedures described in 40 CFR 2.205(f)(2).

8. Effective **[INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]** add §§ 84.33 through 84.35 and appendix A to part 84 to read as follows:

§ 84.33 Auditing of recordkeeping and reporting.

(a) Any person producing, importing, exporting, reclaiming, or recycling for fire suppression a regulated substance, as well as any person receiving application-specific allowances, must arrange for annual third-party auditing of reports submitted to EPA except for persons receiving application-specific allowances for mission-critical military end uses.

(b) For producers, importers, and exporters, auditors must review the inputs the regulated entities used to develop quarterly and annual reports including:

(1) The amount of production and consumption allowances allocated;

(2) The amount, timing, and parties to allowance transfers, and the associated documentation and offset amount;

(3) Records documenting the amount of regulated substances imported, exported, produced, and destroyed, transformed, or sent to another entity for such purpose;

(4) Records documenting any application-specific allowances allocated or conferred from other companies, including the amounts of allowances conferred, regulated substances purchased

and/or sold, the specific application for which the regulated substances were provided, and the names, telephone numbers, and email addresses for contact persons for the recipient companies;

(5) The date and the port from which regulated substances were imported or exported;

(6) A copy of the bill of lading and the invoice indicating the quantity of regulated substances imported or exported;

(7) Relevant Harmonized Tariff Schedule codes;

(8) The number and type of railcars, ISO tanks, individual cylinders, drums, small cans, or other containers used to store and transport regulated substances;

(9) The inventory of regulated substances as of the end of the prior calendar year;

(10) A random sample (5 percent or 10, whichever is higher) of batch testing results;

(11) A random sample (5 percent or 10, whichever is higher) of certification identifications requested and generated and where associated regulated substances are sold and distributed; and

(10) All other reports submitted to EPA under this subpart.

(c) For companies issued application-specific allowances by EPA, auditors must review the following:

(1) Records documenting the amount of application-specific allowances allocated;

(2) The amount, timing, and parties to allowance transfers, and the associated documentation and offset amount;

(3) Records documenting any application-specific allowances conferred to or from other companies, including the amounts of allowances conferred, regulated substances purchased, the specific application for which the regulated substances were provided, and the names, telephone numbers, and email addresses for contact persons for the recipient companies;

(4) Records documenting the total amount of regulated substances purchased for the application-specific end use, and the amount of regulated substances sold to another company for application-specific used;

(5) Inventory of regulated substances at the end of the calendar year; and

(6) All other reports submitted to EPA under this subpart.

(d) For reclaimers and fire suppressant recyclers, auditors must review the following:

(1) The quantity of regulated substances received for reclamation or recycling;

(2) A random sample (5 percent or 10, whichever is higher) of records documenting the names and addresses of persons sending them material and the quantity of the material, measured in the combined mass of refrigerant and contaminants, by regulated substance to them;

(3) Records documenting the quantity of regulated substances reclaimed;

(4) A random sample (5 percent or 10, whichever is higher) of certification identifications requested and generated and where the associated regulated substances are sold and distributed; and

(5) All other reports submitted to EPA under this subpart.

(e) An auditor must meet the following requirements:

(1) The auditor must be a certified public accountant, or firm of such accountants, that is independent of the regulated person. Such an auditor must comply with the American Institute of Certified Public Accountants (AICPA) Code of Professional Conduct, including its independence requirements, the AICPA Statements on Quality Control Standards (SQCS) No. 8, A Firm's System of Quality Control (both incorporated by reference in 40 CFR1090.95), and applicable rules of state boards of public accountancy. Such an auditor must also perform the

attestation engagement in accordance with the AICPA Statements on Standards for Attestation Engagements (SSAE) No. 18, Attestation Standards: Clarification and Recodification, (incorporated by reference in 40 CFR 1090.95).

(2) The auditor must meet the independence requirements in paragraph (f) of this section.

(3) Any auditor suspended or debarred under 2 CFR part 1532 or 48 CFR part 9, subpart 9.4, is not qualified to perform attestation engagements under this section.

(f) All reports required under this paragraph must be signed and certified as meeting all the applicable requirements of this subpart by the independent third-party auditor. The auditor must:

(1) Attest that the information in the audit report is accurate;

2) Attest that the company submitted all required reports to the Agency or specify which reports are missing and provide an assessment on whether missing reports should have been submitted; and

3) Obtain a signed statement from a responsible corporate officer that all reports submitted to the EPA for the prior calendar year are complete and accurate.

(g) The following provisions apply to each audit performed under this section:

(1) The auditor must prepare a report identifying the applicable procedures specified in this section along with the auditor's corresponding findings for each procedure. The auditor must submit the report electronically to EPA by May 31 of the year following the compliance period.

(2) The auditor must identify any instances where compared values do not agree or where specified values do not meet applicable requirements under this part.

(3) Laboratory analysis refers to the original test result for each analysis of a product's properties.

(4) For a reclaimer that relies on a third-party laboratory for batch testing, the laboratory analysis consists of the results provided by the third-party laboratory.

(h) The independent third party, their contractors, subcontractors, and their organizations must be independent of the regulated party. All the criteria listed in paragraphs (a)(1) and (2) of this section must be met by each person involved in the specified activities in this section that the independent third party is hired to perform for a regulated party.

(1) *Employment criteria*. No person employed by an independent third party, including contractor and subcontractor personnel, who is involved in a specified activity performed by the independent third party under the provisions of this section, may be employed, currently or previously, by the regulated party for any duration within the 12 months preceding the date when the regulated party hired the independent third party to provide services under this section.

(2) *Financial criteria*. (i) The third-party's personnel, the third-party's organization, or any organization or individual that may be contracted or subcontracted by the third party must meet all the following requirements:

(A) Have received no more than one-quarter of their revenue from the regulated party during the year prior to the date of hire of the third party by the regulated party for any purpose.

(B) Have no interest in the regulated party's business. Income received from the third party to perform specified activities under this section is excepted.

(C) Not receive compensation for any specified activity in this section that is dependent on the outcome of the specified activity.

(ii) The regulated party must be free from any interest in the third-party's business.

(i) Department of Defense data and reports for application-specific allowances for mission-critical military end uses shall be subject to internal Department of Defense monitoring and review for accuracy as prescribed by the Office of the Secretary of Defense. The results of this review shall be reported electronically to EPA by May 31 of the year following the compliance period.

§ 84.35 Administrative consequences.

(a) The relevant agency official may retire, revoke, or withhold the allocation of allowances, or ban a company from receiving future allowance allocations, using the process outlined in paragraph (b). Applying an administrative consequence to retire, revoke, or withhold allocation of allowances does not, in any way, limit the ability of the United States to exercise any other authority to bring an enforcement action under any applicable law or regulation.

(b) The relevant agency official will provide a company notice if the Agency intends to retire, revoke, or withhold allocation of allowances, or ban the company from receiving future allowance allocations. The notice will specify the conduct leading to the administrative consequence and what the consequence will be. The relevant agency official will provide such notice no less than 30 days before the impending consequence.

(i) After the relevant agency official provides notice of an impending administrative consequence, the company for which such consequence is pending may not expend, transfer, or confer any allowances.

(ii) Any company receiving such a notification may provide information or data to EPA on why the administrative consequence should not be taken within 14 days of the date of the EPA's notice.

(iii) If EPA does not receive a response within 14 days of the date of the Agency notice of impending administrative consequence, the administrative consequences will be effective on the date specified in the notice.

Subpart B – [RESERVED]

Appendix A to Part 84 – Regulated Substances

HFCs Listed as Regulated Substances in the AIM Act [1]		
HFC	**Chemical Formula**	**Exchange Value**
HFC–134	CHF_2CHF_2	1,100
HFC–134a	CH_2FCF_3	1,430
HFC–143	CH_2FCHF_2	353
HFC–245fa	$CHF_2CH_2CF_3$	1,030
HFC–365mfc	$CF_3CH_2CF_2CH_3$	794
HFC–227ea	CF_3CHFCF_3	3,220
HFC–236cb	$CH_2FCF_2CF_3$	1,340
HFC–236ea	CHF_2CHFCF_3	1,370
HFC–236fa	CF_3CH2CF_3	9,810
HFC–245ca	$CH_2FCF_2CHF_2$	693
HFC–43–10mee	$CF_3CHFCHFCF_2CF_3$	1,640
HFC–32	CH_2F_2	675
HFC–125	CHF_2CF_3	3,500
HFC–143a	CH_3CF_3	4,470
HFC–41	CH_3F	92
HFC–152	CH_2FCH_2F	53
HFC–152a	CH_3CHF_2	124
HFC–23	CHF_3	14,800

[1] This table includes all isomers of the substances above, regardless of whether the isomer is explicitly listed on its own.