

## ENVIRONMENTAL PROTECTION AGENCY

### 40 CFR Parts 9 and 84

[EPA-HQ-OAR-2021-0044; FRL-10023-08-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:** Proposed rule.

**SUMMARY:** The Environmental Protection Agency is proposing to issue regulations to implement certain provisions of the American Innovation and Manufacturing Act, as enacted on December 27, 2020. This rulemaking proposes to: Establish the hydrofluorocarbon production and consumption baselines based on historical data; establish the allowance allocation program to phase down hydrofluorocarbon production and consumption; determine an initial methodology to allocating allowances and allowing for the transfer of those allowances; establish provisions for the international transfer of allowances; establish requirements to support compliance with phasing down hydrofluorocarbon production and consumption; establish recordkeeping and reporting requirements; release certain data to provide transparency and support implementation of the program; and, address certain other elements related to the effective implementation of the American Innovation and Manufacturing Act. In addition to the proposed provisions, EPA is seeking advance input on how the Agency may alter its determination of company-specific allocations in later years. EPA is considering these issues, and therefore is seeking public input on them, but is not making any particular proposal in relation to them, and therefore will not finalize any requirements on these topics before issuing a notice of proposed rulemaking and requesting public comment.

**DATES:** Comments on this notice of proposed rulemaking must be received on or before July 6, 2021. Under the Paperwork Reduction Act (PRA), comments on the information collection provisions are best assured of consideration if the Office of Management and Budget (OMB) receives a copy of your comments on or before June 18, 2021. The

Environmental Protection Agency (EPA) will hold a virtual public hearing on June 3, 2021. The date, time, and other relevant information for the virtual public hearing will be available at <https://www.epa.gov/climate-hfcs-reduction>.

**ADDRESSES:** You may send comments, identified by Docket ID No. EPA-HQ-OAR-2021-0044, by any of the following methods:

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

*Instructions:* All submissions received must include the Docket ID No. for this rulemaking. Comments received may be posted without change to <https://www.regulations.gov>, including any personal information provided. EPA is temporarily suspending its Docket Center and Reading Room for public visitors, with limited exceptions, to reduce the risk of transmitting COVID-19. Our Docket Center staff will continue to provide remote customer service via email, phone, and webform. We encourage the public to submit comments via <https://www.regulations.gov> as there may be a delay in processing mail. Hand deliveries and couriers may be received by scheduled appointment only. For further information on EPA Docket Center services and the current status, please visit us online at <https://www.epa.gov/dockets>.

You may find the following suggestions helpful for preparing your comments: Direct your comments to specific sections of this proposed rulemaking and note where your comments may apply to future separate actions where possible; explain your views as clearly as possible; describe any assumptions that you used; provide any technical information or data you used that support your views; provide specific examples to illustrate your concerns; offer alternatives; and, make sure to submit your comments by the comment period deadline. Please provide any published studies or raw data supporting your position.

Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (e.g., on the web, cloud, or other file sharing system).

If you produced, imported, exported, or destroyed hydrofluorocarbons (HFCs) and were subject to the regulatory Greenhouse Gas Reporting Program (GHGRP)<sup>1</sup> requirements (under 40 CFR part 98) and are seeking to provide EPA with your past HFC activity, you must report that data to EPA's electronic Greenhouse Gas Reporting Tool (e-GGRT) (<https://ghgreporting.epa.gov/ghg/login.do>). Companies that were not subject to the GHGRP may also submit HFC activity through e-GGRT. Information on how to report through e-GGRT in general is available at: <https://ccdsupport.com/confluence>, and specific guidance on HFC reporting is available at: <https://ccdsupport.com/confluence/display/help/e-GGRT+and+HFC+Data+Reporting+related+to+AIM>. EPA requests that any company that reports on HFC activity to the GHGRP in response to the requests in this proposed rule also submit a comment to the docket noting the date that the company submitted the information to e-GGRT so that EPA can more easily track such submissions.

EPA recognizes that given the nature of this proposed rulemaking, potentially affected entities may wish to submit Confidential Business Information (CBI) or other confidential information. CBI should not be submitted through <https://www.regulations.gov>. For submission of confidential comments or data (e.g., information relevant to your company's use of a hydrofluorocarbon in an application listed in subsection (e)(4)(B)(iv) titled Mandatory Allocations), please work with the person listed in the **FOR FURTHER INFORMATION CONTACT** section, particularly if submitting a comment containing CBI. For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

**FOR FURTHER INFORMATION CONTACT:** Andy Chang, U.S. Environmental Protection Agency, Stratospheric Protection Division, telephone number:

<sup>1</sup> OMB Control No. 2060-0629.

202–564–6658; or email address: [chang.andy@epa.gov](mailto:chang.andy@epa.gov). You may also visit EPA's website at <https://www.epa.gov/climate-hfcs-reduction> for further information.

#### SUPPLEMENTARY INFORMATION:

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  
 CAA—Clean Air Act  
 CBI—Confidential Business Information  
 CBP—Customs and Border Protection  
 CFC—Chlorofluorocarbon  
 CO<sub>2</sub>—Carbon Dioxide  
 DRE—Destruction and Removal Efficiency  
 e-GGRT—Electronic Greenhouse Gas Reporting Tool  
 EVe—Exchange Value Equivalent  
 GHG—Greenhouse Gas  
 GHGRP—Greenhouse Gas Reporting Program  
 GWP—Global Warming Potential  
 HCFC—Hydrochlorofluorocarbon  
 HFC—Hydrofluorocarbon  
 IPCC—Intergovernmental Panel on Climate Change  
 MDI—Metered Dose Inhaler  
 MMTCO<sub>2</sub> eq—Million Metric Tons of Carbon Dioxide Equivalent  
 MMTEVe—Million Metric Tons of Exchange Value Equivalent  
 MT—Metric tons  
 MTCO<sub>2</sub> eq—Metric Tons of Carbon Dioxide Equivalent  
 MVAC—Motor Vehicle Air Conditioner  
 NAICS—North American Industry Classification System  
 NPRM—Notice of Proposed Rulemaking  
 NRC—National Research Council  
 ODP—Ozone Depletion Potential  
 ODS—Ozone-Depleting Substance  
 RIA—Regulatory Impact Analysis  
 SC-HFCs—Social Cost of HFCs  
 TRI—Toxics Release Inventory  
 USGCRP—U.S. Global Change Research Program

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#### I. What is the background for this proposed action?

A. Does this proposed action apply to me?

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

refrigeration and air conditioning systems, foams, aerosols, and fire suppression systems, and the six applications eligible for an allocation

under section (e)(4)(B)(iv) of the American Innovation and Manufacturing Act of 2020 (AIM Act or the Act). Potentially affected categories,

North American Industry Classification System (NAICS) codes, and examples of potentially affected entities are included in Table 1.

TABLE 1—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.  |
| 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.  |
| 493110 .....      | General Warehousing and Storage.   |

TABLE 1—NAICS CLASSIFICATION OF POTENTIALLY AFFECTED ENTITIES—Continued

| NAICS code    | NAICS industry description  |
|---------------|---|
| 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 provide a guide for readers regarding entities likely to be affected by this action. Other types of entities not listed in this section could also be affected. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed under **FOR FURTHER INFORMATION CONTACT**.

*B. What is the AIM Act, and what are its main areas of focus?*

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).<sup>2</sup> The AIM Act directs EPA to address HFCs by providing new authorities in three main areas: To phase down the production and consumption of listed HFCs, manage these HFCs and their substitutes, and facilitate 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. EPA anticipates that there will be future rulemakings including those related to the latter two main areas, and therefore EPA is only accepting comment on the first area in this proposed rulemaking.

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<sup>3</sup> of a regulated substance from a raw material or feedstock chemical,” but excludes from the definition destruction of HFCs using approved technologies; reclamation, reuse, or recycling of HFCs; and HFCs for transformation.<sup>4</sup> 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. Congress also assigned an “exchange value”<sup>5 6</sup> to

<sup>3</sup> While the AIM Act and the proposed 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.

<sup>4</sup> 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 is the definition used in Part 82 for the term “transform.” The AIM Act subsequently uses the terms “transformation” and “use as a feedstock” interchangeably. These two terms are intended to have the same meaning and are also used interchangeably in this proposal.

<sup>5</sup> EPA has determined that the exchange values included in subsection (c) of the AIM Act are identical to the global warming potentials (GWPs) included in IPCC (2007). EPA uses the terms “global warming potential” and “exchange value” interchangeably in this proposal.

<sup>6</sup> 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,

each regulated substance (along with other chemicals that are used to calculate the baseline). The table in subsection (c)(1), reproduced here in Table 2, lists the 18 regulated substances and their exchange values.

TABLE 2—LIST OF REGULATED SUBSTANCES AND THEIR EXCHANGE VALUES

| Chemical name   | Common name        | Exchange value |
|---|--------------------|----------------|
| CHF <sub>2</sub> CHF <sub>2</sub> .....                               | HFC-134 .....      | 1,100          |
| CH <sub>2</sub> FCF <sub>3</sub> .....                                | HFC-134a .....     | 1,430          |
| CH <sub>2</sub> FCHF <sub>2</sub> .....                               | HFC-143 .....      | 353            |
| CHF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub> .....                | HFC-245fa .....    | 1,030          |
| CF <sub>3</sub> CH <sub>2</sub> CF <sub>2</sub> CH <sub>3</sub> ..... | HFC-365mfc .....   | 794            |
| CF <sub>3</sub> CHFCF <sub>3</sub> .....                              | HFC-227ea .....    | 3,220          |
| CH <sub>2</sub> FCF <sub>2</sub> CF <sub>3</sub> .....                | HFC-236cb .....    | 1,340          |
| CHF <sub>2</sub> CHFCF <sub>3</sub> .....                             | HFC-236ea .....    | 1,370          |
| CF <sub>3</sub> CH <sub>2</sub> CF <sub>3</sub> .....                 | HFC-236fa .....    | 9,810          |
| CH <sub>2</sub> FCF <sub>2</sub> CHF <sub>2</sub> .....               | HFC-245ca .....    | 693            |
| CF <sub>3</sub> CHFCF <sub>2</sub> CF <sub>3</sub> .....              | HFC-43-10mee ..... | 1,640          |
| CH <sub>2</sub> F <sub>2</sub> .....                                  | HFC-32 .....       | 675            |
| CHF <sub>2</sub> CF <sub>3</sub> .....                                | HFC-125 .....      | 3,500          |
| CH <sub>3</sub> CF <sub>3</sub> .....                                 | HFC-143a .....     | 4,470          |
| CH <sub>3</sub> F .....   | HFC-41 .....       | 92             |
| CH <sub>2</sub> FCH <sub>2</sub> F .....                              | HFC-152 .....      | 53             |
| CH <sub>3</sub> CHF <sub>2</sub> .....                                | HFC-152a .....     | 124            |
| CHF <sub>3</sub> .....  | 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 outlined in Table 3, beginning on January 1 of each year.

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 <https://www.ipcc.ch/report/ar4/wg1>.

<sup>2</sup> EPA is proposing to interpret 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.”

TABLE 3—PHASEDOWN SCHEDULE

| Date                | Percentage of production baseline | Percentage of consumption baseline |
|---------------------|-----------------------------------|------------------------------------|
| 2020–2023           | 90                                | 90                                 |
| 2024–2028           | 60                                | 60                                 |
| 2029–2033           | 30                                | 30                                 |
| 2034–2035           | 20                                | 20                                 |
| 2036 and thereafter | 15                                | 15                                 |

The AIM Act requires that the EPA Administrator ensure the annual quantity of all regulated substances produced or consumed<sup>7</sup> 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 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<sup>8</sup> 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 of allowances. Subsection (e)(2)(A) also 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 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 chemical vapor deposition (CVD) chambers within the semiconductor manufacturing sector; mission-critical military end uses; and on board 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 outlines 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. The Act also states that Clean Air Act (CAA) sections 113, 114, 304, and 307 apply to the AIM Act and any regulations EPA promulgates under the AIM Act as though the AIM Act were part of Title VI of the CAA. Accordingly, this rulemaking is subject to CAA section 307(d) (42 U.S.C. 7607(d)(1)(I)) (CAA section 307(d) applies to “promulgation or revision of regulations under subchapter VI of this chapter (relating to stratosphere and ozone protection)).

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,<sup>9</sup> 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. For example, EPA uses the recordkeeping and reporting provisions that the Agency has refined over time in the ODS context as the starting point for the proposed recordkeeping and reporting requirements in this rule. 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 section 601 of the CAA 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

<sup>7</sup> 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 everyone who charges an appliance or fills an aerosol can with an HFC to expend allowances.

<sup>8</sup> 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 in this proposal. Using this shorthand, however, does not alter the applicability of the Act's requirements and prohibitions.

<sup>9</sup> 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.

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 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 proposed 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 the rulemaking, reliance on EPA’s expertise will help achieve the goals outlined by Congress in implementing the AIM Act.

### C. What are HFCs?

HFCs are intentionally produced<sup>10</sup> 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 greenhouse gases (GHGs) with 100-year global warming potentials (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<sub>2</sub>).

Although HFCs represent a small fraction (~1.5 percent) of the current total GWP-weighted amount of GHG emissions,<sup>11</sup> their use is growing worldwide due to the global 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.<sup>12</sup>

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.<sup>13</sup>

In 2016, HFCs accounted for a radiative forcing of 0.025 W/m<sup>2</sup>, not including additional forcing from HFC-23 of 0.005 W/m<sup>2</sup>; this is a 36 percent increase in total HFC forcing relative to 2012. This radiative forcing was projected to increase an order of magnitude to 0.25 W/m<sup>2</sup> 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 outlines a global phasedown of the production and consumption of HFCs. If the Kigali Amendment were to be fully implemented, it is expected to reduce the future radiative forcing due to HFCs (excluding HFC-23) to 0.13 W/m<sup>2</sup> in 2050, a reduction of about 50 percent compared to the radiative forcing projected in the baseline scenario of uncontrolled HFCs.<sup>14</sup>

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 primarily used in refrigeration and air-conditioning equipment in homes, commercial buildings, and industrial operations (~75 percent of total HFC use in 2018) 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).<sup>15</sup>

EPA considered the emissions reductions from an HFC phasedown in the United States and presented the results in the 2016 Biennial Report to the United Nations Framework Climate Change Convention (UNFCCC).<sup>16</sup> At the time, EPA provided a reductions estimate of 113 million metric tons of carbon dioxide equivalent (MMT CO<sub>2</sub>e) of reduced U.S. HFC emissions 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 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*. 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.<sup>17</sup> The

<sup>15</sup> Calculations 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 agents, 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, and retired or converted each year, and the quantity of the compound required to manufacture, charge, and/or maintain the equipment. Additional 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>.

<sup>16</sup> 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. Web. 15 March 2021. [http://unfccc.int/national\\_reports/biennial\\_reports\\_and\\_jar/submitted\\_biennial\\_reports/items/7550.php](http://unfccc.int/national_reports/biennial_reports_and_jar/submitted_biennial_reports/items/7550.php)

<sup>17</sup> The “Current Measures” scenario in the Biennial Report included HFC reductions estimated under a final rule EPA issued on July 20, 2015, which, among, other things, changed listings for

Continued

<sup>10</sup> While the overwhelming majority of HFC production is intentional, EPA is aware that HFC-23 can be a byproduct associated with the production of other chemicals, including but not limited to HCFC-22.

<sup>11</sup> World Meteorological Organization (WMO), *Scientific Assessment of Ozone Depletion: 2018*, World Meteorological Organization, Global Ozone Research and Monitoring Project—Report No. 58, 67 pp., Geneva, Switzerland, 2018. <https://ozone.unep.org/sites/default/files/2019-05/SAP-2018-Assessment-report.pdf>

<sup>12</sup> Ibid.

<sup>13</sup> Ibid.

<sup>14</sup> Ibid.

emissions reductions for the *Additional Measures* were estimated to be 63 MMTCO<sub>2</sub>e in 2020 and 113 MMTCO<sub>2</sub>e in 2025.

#### *D. How do HFCs affect public health and welfare?*

Elevated concentrations of GHGs including HFCs have been warming the planet, leading to changes in the Earth's climate including changes in the frequency and intensity of heat waves, precipitation, and extreme weather events, rising seas, and retreating snow and ice. The changes taking place in the atmosphere as a result of the well-documented buildup of GHGs due to human activities are changing the climate at a pace and in a way that threatens human health, society, and the natural environment. While EPA does not need 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).<sup>18</sup> 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<sub>2</sub>, methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), HFCs,

perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>)—"may reasonably be anticipated to endanger the public health and welfare of current and future generations" (74 FR 66523). 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 U.S. population. It explained that by raising average temperatures, climate change increases the likelihood of heat waves, which are associated with increased deaths and illnesses (74 FR 66497). 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). 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). 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). Children, the elderly, and the poor are among the most vulnerable to these climate-related health effects (74 FR 66498).

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<sup>19</sup> 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 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).

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).<sup>20</sup> 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).

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. These updated observations and projections document the rapid rate of current and future climate change both globally and in the United States.<sup>21 22 23 24</sup>

<sup>20</sup> In describing these 2016 Findings in this proposal, EPA is neither reopening nor revisiting them.

<sup>21</sup> 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. <https://nca2018.globalchange.gov>.

<sup>22</sup> Roy, J., P. Tschakert, H. Waisman, S. Abdul Halim, P. Antwi-Agyei, P. Dasgupta, B. Hayward, M. Kanninen, D. Liverman, C. Okereke, P.F. Pinho, K. Riahi, and A.G. Suarez Rodriguez, 2018: Sustainable Development, Poverty Eradication and Reducing Inequalities. In: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E.

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, some of which were included in a final rule EPA issued on December 1, 2016, that EPA anticipated under a proposed amendment to the Montreal Protocol to phase down HFC production and consumption. 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 final rule issued December 1, 2016. See *Mexichem Fluor, Inc. v. EPA*, 866 F.3d 451, 462 (D.C. Cir. 2017); see also *Mexichem Fluor, Inc. v. EPA*, Judgment, Case No. 17-1024 (D.C. Cir., April 5, 2019), 760 Fed. Appx. 6 (Mem).

<sup>18</sup> In describing these 2009 Findings in this proposal, EPA is neither reopening nor revisiting them.

<sup>19</sup> 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).



## II. What is the summary of this proposed action?

In this rulemaking, EPA is proposing to: Establish the HFC production and consumption baselines based on historical data; establish the allowance allocation program to phase down HFC production and consumption; determine an initial approach to allocating calendar-year allowances and allowing for the transfer of those allowances; establish provisions for the international transfer of allowances; establish recordkeeping and reporting requirements; release certain data to provide transparency and support implementation of the program; and, address certain other elements related to the effective implementation of the AIM Act.

The AIM Act directs EPA to issue a final rule by September 23, 2021, to provide for the phasedown of the production and consumption of HFCs through an allowance allocation and trading program. This rulemaking, when finalized, is intended to fulfill that statutory directive. 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. Thus, by October 1, 2021, EPA must calculate and determine the quantity of production and consumption allowances for 2022. EPA intends to issue allowances for the 2022 calendar year no later than October 1, 2021, using the procedure established through this rulemaking. EPA proposes that this be a single year allocation 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 promulgate by September 23, 2021, a regulation governing the transfer of production and consumption allowances, and EPA is herein proposing regulatory requirements related to this statutory directive. The AIM Act also directs EPA to issue by December 27, 2021, regulations related to the international transfer of production allowances. EPA is herein proposing regulatory requirements

related to this statutory directive as well.

EPA is proposing to establish a regulatory framework under the statutory timelines required by the AIM Act, but also acknowledges at the outset that we intend to revisit how to allocate allowances for 2024 and beyond and further build out aspects of the program. To accurately reflect that intention in this rule, EPA is proposing that the initial approach for determining allowance allocations that EPA would establish in this framework rule be time-limited. This would necessitate completion of another notice-and-comment rulemaking prior to October 1, 2023, to issue allowances for calendar year 2024 and later years. As a result, section XI of this preamble, which includes an ANPRM, explains ideas the Agency is considering for a separate future rulemaking that will address the criteria/framework for issuing allowances for 2024 and later years. Given high baseline health risks related to air toxics in communities near facilities that produce HFCs, EPA is seeking input in sections III and XI (the ANPRM) on whether there are potential environmental justice concerns that could be affected by the phasedown of HFCs, allowance transfers, and/or the production of substitutes. EPA is also seeking input on ways to ensure that these elevated risks not be further exacerbated by changes in the use patterns for production of HFCs or their substitutes. The Agency is soliciting comments on the concepts introduced in the ANPRM but is not proposing any action associated with those elements in this rulemaking. Instead, any comments received on elements of the ANPRM will be taken under advisement by the Agency and incorporated, as appropriate, in future and separate rulemakings with an opportunity for public comment prior to finalization of any provisions.

EPA estimates that in 2022 the annual net benefits are \$2.6 billion, reflecting compliance costs of \$200 million and social benefits of \$2.8 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 \$17.9 billion. The present value of cumulative net benefits evaluated from 2022 through 2050 is \$283.9 billion at a three percent discount rate or \$278.6 billion at a seven percent discount rate.<sup>25</sup> The present

value of net benefits are 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, at a three percent discount rate the present value of cumulative compliance costs are negative \$5 billion, or \$5 billion in savings, the present value of cumulative social benefits is \$103.6 billion, and the present value of cumulative net benefits is \$108.2 billion. Evaluated at a seven percent discount rate, the present value of cumulative compliance costs are negative \$3 billion, or \$3 billion in savings, and the present value of cumulative net benefits is \$106.6 billion. Climate benefits 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). The benefits presented in this paragraph are the benefits associated with the average SC–HFC at a 3 percent discount rate, but the Agency does not have a single central SC–HFC point estimate. The Interagency Working Group on the Social Cost of Greenhouse Gases (IWG) emphasized the importance and value of considering the benefits calculated using all four estimates.

As summarized further in section X of the preamble and described more fully in the Regulatory Impact Analysis (RIA) for this proposed rulemaking, 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 Social Cost of HFCs (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 which estimates SC–HFCs by using the GWP (or exchange value) of HFCs and scaling to the known social cost of another GHG, e.g., CO<sub>2</sub>, CH<sub>4</sub>, or N<sub>2</sub>O.

## III. 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

of the discount rate are found in the Regulatory Impact Analysis.

Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)). In Press. <https://www.ipcc.ch/sr15/chapter/chapter-5>.

<sup>23</sup> National Academies of Sciences, Engineering, and Medicine. 2019. *Climate Change and Ecosystems*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25504>.

<sup>24</sup> NOAA National Centers for Environmental Information, State of the Climate: Global Climate Report for Annual 2020, published online January 2021, retrieved on February 10, 2021, from <https://www.ncdc.noaa.gov/sotc/global/202013>.

<sup>25</sup> 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



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.<sup>26</sup> Meaningful involvement means that: (1) Potentially affected 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.<sup>27</sup> 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.<sup>28</sup>

<sup>26</sup> See, e.g., "Environmental Justice." *Epa.gov*, Environmental Protection Agency, 4 Mar. 2021, [www.epa.gov/environmentaljustice](http://www.epa.gov/environmentaljustice).

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

<sup>28</sup> The definitions and criteria for "disproportionate impacts," "difference," and "differential" are contained in EPA's June 2016 guidance document "Technical Guidance for Assessing Environmental Justice in Regulatory Analysis." *Epa.gov*, Environmental Protection

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 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." 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 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.

As described elsewhere in this notice, this rule proposes to establish the framework for, and begin, the United States' phasedown of HFCs, which is projected to achieve significant benefits by reducing production and consumption of certain chemicals with high GWPs. Section I.D. of this proposal 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 U.S. 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. These reports concluded that poorer communities can be especially vulnerable to climate change impacts because they tend to have more limited adaptive capacities 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 possess unique vulnerabilities to climate change, particularly those impacted by degradation of natural and cultural resources within established reservation boundaries and threats to traditional subsistence lifestyles. Tribal communities whose health, economic well-being, and cultural traditions that depend upon the natural environment will likely be affected by the degradation of ecosystem goods and services associated with climate change. 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.

As alluded to elsewhere in this proposal, and detailed in the RIA, which can be found in the docket for this rulemaking, the provisions in this proposed rulemaking as part of the phasedown of HFCs in the United States

would, if finalized, achieve significant benefits associated with reducing climate change. However, as described in the RIA and summarized below, there is significant uncertainty about how the phasedown of HFC production, the issuance of allowances, and market trends independent of this proposed rulemaking could affect production of HFCs and HFC substitutes—and associated air pollution emissions—at individual facilities, particularly in communities that are disproportionately burdened by air pollution. EPA is soliciting comment and/or data or other information in section XI that could help reduce 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.

More specifically, EPA is seeking 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 phasedown, the associated ability to transfer allowances, or other unrelated changes in the market. EPA also seeks 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 solicits 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 grow HFC production, which could potentially increase air emissions at that location. In such instances, where other authorities may be a more appropriate avenue, EPA expects that effects would be addressed through that avenue outside of AIM Act regulatory processes under timelines appropriate to those other programs.

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 and could possibly address any identified environmental justice concerns past the year 2023. The HFC phasedown schedule prescribed by Congress may also reduce the potential for a facility to increase emissions above current levels for a prolonged period. EPA notes that this rule affects a small number of entities through a distinct 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 identified here and possible remedies may not be broadly applicable or practicable in other rulemakings.

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. Where applicable and practicable, the Agency's Regulatory Impact Analysis, available in the docket for this rulemaking, examines certain metrics for an environmental justice analysis comprising more than just climate change effects, including: The proximity of companies receiving allowances to minority populations, low-income populations, and/or indigenous peoples; the number of companies receiving allowances that may be impacting population groups of concern; the nature, amounts, and location of regulated HFC production that may impact 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 is described in the 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. The analysis of potential environmental justice concerns focuses 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 relatively small number of facilities affected by the proposed rule has enabled EPA to assemble a uniquely granular assessment of the characteristics of these facilities and the communities where they are located.

Overall, this rule would reduce GHG emissions, which would 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, 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 examines racial and economic demographic and health risk information, finds heterogeneity in community characteristics around individual facilities. The analysis shows 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 three miles of a HFC production facility. The analysis also finds 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. It is not clear the extent to which these baseline risks are directly related to HFC production, but some HFC production feedstocks, catalysts, and byproducts are toxic, particularly with respect to potential carcinogenicity (*e.g.*, carbon tetrachloride, tetrachloroethylene, trichloroethylene, etc.). Additionally, some HFC alternatives, *e.g.*, HFOs, use the same chemicals as feedstocks in their production or released as byproducts, potentially raising concerns about local exposure to them. 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 proposed rule would affect baseline risks from hazardous air toxics for communities living near HFC production facilities. EPA requests commenters provide data or other information to help better characterize these changes and their implications for

nearby communities for analysis of the final rule.

As discussed, EPA's preliminary analysis of potential environmental justice concerns is contained in the RIA, which is available in the docket, as well as information on non-production releases (as defined by TRI), water releases, and off-site disposal for chemicals used in HFC production. EPA seeks input on the environmental justice analysis contained in the RIA, as well as broader input on other health and environmental risks the Agency should assess. To support the development of comments, EPA is seeking data or analysis to identify whether it is reasonable to expect net increases in emissions; and if so how we might isolate the impacts of this program (*i.e.*, effects resulting from the phasedown itself, the trading of production allowances, or some other factor) that would enable the Agency to conduct a more nuanced analysis of changes in releases associated with chemical feedstocks and byproducts for HFC substitutes, given the inherent uncertainty regarding where, and in what quantities, substitutes will be produced. EPA is also seeking comment on whether there are other regulatory tools better suited than adjustments to the HFC program design to address potential increases in emissions in non-HFC feedstocks and byproducts observed at facilities subject to the Congressionally mandated phasedown of HFCs under the AIM Act, if any. EPA is also soliciting comment on key assumptions underlying the environmental justice analysis. In addition to the questions asked in this section III, EPA is also soliciting input in section XI on what mechanisms the Agency could consider to prevent or mitigate any increase in exposure to air toxics emissions from facilities located near high risk communities, including from the proposed provisions relating to transfer of allowances. EPA invites readers to refer to section XI for that discussion.

#### IV. What definitions are proposed to implement the AIM Act?

EPA is proposing to establish definitions that would implement the framework for the AIM Act generally and the allowance allocation and trading program specifically. Where possible, EPA is proposing to adopt definitions as written in 40 CFR part 82, subpart A, with modifications if needed to conform to differences in the AIM Act.

##### *A. What definitions is EPA proposing to adopt from 40 CFR 82.3 without substantive change?*

EPA is proposing to adopt definitions for the following defined terms as used in 40 CFR 82.3 with only those changes that are needed to conform with the AIM Act. These defined terms are used in the same or substantially similar manner as in the ODS phaseout under the CAA. In many instances, the only proposed change to the definition of a term is to replace "controlled substances" with "regulated substances," as the latter is the term used to describe HFCs in the AIM Act. In other instances, EPA is not including citations to 40 CFR part 82, subpart A, that were found in those definitions but that are not directly relevant for implementing the AIM Act. Because there is significant overlap between the regulated community of the AIM Act and those who partook in the ODS phaseout under Title VI of the CAA, maintaining the same definitions, where consistent with AIM Act requirements, would provide certainty to those that have been using and are familiar with these terms from the ODS phaseout experience. EPA welcomes comment on whether any of these terms should be updated or modified.

These terms are: Administrator, Central Data Exchange, Consumption, Consumption allowances, Export, Exporter, Foreign country, Heel, Importer, Individual shipment, Non-objection notice, Person, Production allowances, Source facility, Transform, Transshipment, and Used regulated substances.

##### *B. What definitions is EPA proposing to adopt from 40 CFR 82.3 with substantive change?*

EPA is proposing to adopt the definitions for the following defined terms as written in 40 CFR 82.3 with some changes necessary to align the definition with the AIM Act beyond those described in the previous section. The terms are: Confer, Destruction, Facility, Import, Metered Dose Inhaler (MDI), and Reclaim.

**Destruction.** EPA is proposing to define destruction as "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." Inclusion of the second sentence clarifies that the listed technologies in proposed section 84.29 that are conversion technologies are included within the proposed definition for destruction and are not

considered transformation. Unlike the definition for this term in 40 CFR part 82, subpart A, EPA is proposing not to distinguish between destruction and completely destroy. The Agency expects that all destruction of regulated substances occurs at 98 percent or greater, which was the definition for "completely destroy." EPA is also proposing that the new definition not include a reference to the Parties. Lastly, in place of the part 82 list of approved technologies, EPA is proposing to list the technologies approved by the Administrator in § 84.29.

**Confer.** EPA is proposing to define 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 another entity for the production or import of a regulated substance for use by the end user." This proposed term is intended to distinguish conferring an allowance, which is not subject to an offset, from an allowance transfer, which is subject to an offset.

**Facility.** EPA is proposing to define this term in 40 CFR part 84 to mean "one or more production lines at the same location owned by or under common control of the same person." This is similar to the definition of "plant" in 40 CFR part 82. This would align the definition of "facility" more closely with definitions used in other CAA regulatory programs, including the GHGRP. As discussed in the following section of the preamble, EPA is creating a new definition "production line" that has the same meaning as the definition of "facility" in 40 CFR part 82.

**Import.** EPA is proposing to adopt 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 add one of the three exemptions from the part 82 definition. EPA is proposing to include an exemption for the off-loading of used regulated substances from a ship during servicing. This occurs, for example, when a foreign ship's refrigeration system is serviced in a U.S. port and refrigerant that is recovered from that system is offloaded for reclamation or destruction. The alternatives would be requiring shipping companies to hold allowances or store the used refrigerant on board until reaching another country. Issuing allowances to shipping companies would be impractical as servicing can happen unexpectedly to any type of vessel and EPA does not have data on which to base an allocation. Prohibiting offloading is potentially problematic because it could result in venting of the

refrigerant when the ship is offshore rather than the proper reclamation or disposal that is required under EPA's refrigerant management regulations at 40 CFR part 82, subpart F.

**Metered dose inhaler.** EPA is proposing to define MDIs 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 U.S. Food and Drug Administration (FDA).” This definition is substantially similar to the definition of “essential metered dose inhaler” in 40 CFR part 82 (except that the part 82 definition refers to a determination of essentiality by either the Parties to the Montreal Protocol or the FDA).

**Reclaim.** EPA is proposing to define 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.”

### C. What new definitions is EPA proposing?

Subsection (b) of the AIM Act defines some specific terms and the Act as a whole introduces other new terms that it does not define. EPA is proposing to establish definitions for a number of new terms that are relevant for the allowance allocation and trading program. These terms are: Allowance, Application-specific allowance, Bulk, Chemical vapor deposition chamber cleaning, Defense spray, Etching, Exchange value, Exchange value equivalent, Final customer, Mission-critical military end uses, On board aerospace fire suppression, Process agent, Production/Produce, Production line, Regulated substance, and Structural composite preformed polyurethane foam.

**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 proposing to adopt that definition and add that an allowance allocated under this subsection does not constitute a property right as stated in subsection (e)(2)(D)(ii)(aa) and that an allowance allocated under the authority of the AIM Act can be retired, revoked, or withheld at the discretion of the relevant Agency

official. EPA notes that the framework for issuing allowances is subject to change through notice and comment rulemaking.

**Application-specific allowance.** EPA is proposing to establish a new category of allowances that would be issued only to entities in the six listed applications at (e)(4)(B)(iv) of the AIM Act. EPA is proposing to define this term as “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 and can be retired, revoked, or withheld at the discretion of the relevant Agency official.”

**Bulk.** EPA is proposing to define 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.” EPA is proposing to define this term so as 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. The examples provided in the definition are not exclusive.

**Chemical vapor deposition chamber cleaning.** EPA is proposing 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 closely based on the source category definition for electronics manufacturing in the GHGRP (40 CFR 98.90(a)(2)).

**Defense spray.** EPA is proposing to define 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.” EPA is taking comment on whether this definition is inclusive of defense sprays potentially covered by subsection (e)(4)(B)(iv) of the AIM Act.

**Etching.** EPA is proposing 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 definition is closely based on the definition of the electronics manufacturing source category in the GHGRP (40 CFR 98.90(a)(1)).

**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 proposing to adopt the definition contained in the AIM Act, including the tables, which EPA would replicate in Appendix A of 40 CFR part 84.

**Exchange value equivalent.** This proposal also uses the term “exchange value equivalent” or “EVe” to provide a common unit of measure. EPA is proposing to define EVe to be 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). EPA is proposing to issue allowances in units of one MTEVe. This proposal also uses the term “EV-weighted” to describe a number presented in exchange value equivalents. For example, EPA is proposing that the size of an allowance be one EV-weighted ton.

EVe allows for the comparison between, and calculation with, 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., hydrofluoroolefins or 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,<sup>29</sup> R-449A, and R-450A, which contain a mix of HFCs and HFOs.

*Final customer.* EPA is proposing 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 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, fire extinguisher manufacturers would be the final customer. EPA seeks comment on whether a list of examples like this should be incorporated into the definition.

*Mission-critical military end uses.* EPA is proposing 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, 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.”

*On board aerospace fire suppression.* EPA is proposing to define this term as “use of a regulated substance in fire suppression equipment used on board commercial and general aviation aircraft 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.” EPA takes comment on whether this definition should include

general aviation, which consists of private and/or business aircraft, which may not have the same requirements as commercial aircraft for on board fire suppression systems. This definition excludes military aircraft because they are already covered under the definition of mission-critical military end uses. 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 takes comment on whether space vehicle, as defined above, is inclusive of applications that would be considered as on board fire suppression. EPA requests relevant information on HFC use in these applications.

*Process agent.* The AIM Act uses the term “process agent” without defining it. EPA is proposing to define the term as “the use of a regulated substance to form the environment for a 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.”<sup>30</sup> 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.<sup>31</sup>

*Production/Produce.* EPA is proposing to adopt 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.

In addition, EPA is proposing to specifically exclude from production “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.” EPA is proposing that the exclusion of these insignificant quantities is more properly considered in defining what qualifies as production given they describe acts of “creation” or “resulting from” or “byproduct of.” Under this proposal, such insignificant quantities created in the above-listed circumstances would be considered regulated substances, but would not be considered production. Combining all of the exclusions under one term increases clarity when interpreting the terms “produce” and “regulated substance” together.

*Production line.* EPA is proposing to define the term “production line” to mean “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.” In 40 CFR part 82, EPA used this same description to define the term “facility.” The Agency considers the term “production line” to be more consistent with common usage in the chemical industry to refer to a specific set of process equipment, as opposed to the buildings and land where production takes place.

*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 future consistent with subsection (c)(3)(A). EPA is proposing to define 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

<sup>29</sup> There are a number of different blends that contain HFCs and non-regulated substances such as HFOs. As an example, the blend R-448A is made of five components, three of which are HFCs regulated under the AIM Act and two 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  $(0.26 \times 675) + (0.26 \times 3,500) + (0.21 \times 1,430) + (0.20 \times 0) + (0.07 \times 0) = 1,385.8$ .

<sup>30</sup> 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).

<sup>31</sup> Montreal Protocol on Substances that Deplete the Ozone Layer, *Medical and Chemical Technical Options Committee 2018 Assessment Report* (United Nations Environment Programme, 2018). <https://ozone.unep.org/sites/default/files/2019-04/MCTOC-Assessment-Report-2018.pdf>.

the authority granted in subsection (c)(3). A current list of regulated substances can be found in appendix A of this part.”

*Structural composite preformed polyurethane foam.* EPA is proposing to define 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.”

EPA welcomes comment on these proposed defined terms and whether any additional terms should be defined in this rulemaking.

#### **V. How is EPA proposing to establish 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 the total annual production and consumption allocations can be derived in a stepwise manner over time.

##### *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*

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

Similarly, the AIM Act defines the consumption baseline as equal to the sum of (i) the average annual quantity of the consumption<sup>32</sup> 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*

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

In developing the proposed HFC consumption baseline, EPA is proposing to include HFCs that are bulk chemicals and exclude HFCs that are contained in a product. This proposal is based on EPA’s experience implementing similar provisions under CAA Title VI for ODS.<sup>33</sup> The CAA Title VI provisions are written and structured similarly to the AIM Act provisions, and therefore it is reasonable to interpret and implement those terms in a similar manner. 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.<sup>34</sup> Using a different mechanism under the HFC phasedown could create confusion and would likely cause disruption within the imported products market. Specifically, many companies that import bulk HFCs also imported bulk ODS substances and are therefore familiar with EPA’s regulations and allocation program used to phaseout ODS under Title VI of the

Clean Air Act. If the HFC allocation framework under the AIM Act were expanded beyond bulk substances to include products containing HFCs, the regulated importer community would be many times greater, would likely be caught unawares, and would encompass entities unfamiliar with EPA’s general approach to the allocation program. Further, 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

<sup>32</sup> Consumption is equal to production plus imports minus exports.

<sup>33</sup> 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.

<sup>34</sup> 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 container, vessel, or piece of equipment in order to realize its intended use, the listed substance or mixture is a “controlled substance.”

contained in products in 1989 to complete the baseline formula. The Agency does not have this data and given the amount of time that has passed since 1989, it would be administratively infeasible to collect such data now (as opposed to bulk CFC and bulk HCFC data which the Agency already collected many years ago). Given the indications that subsection (e) of the AIM Act does contemplate regulation of bulk substances—such as the exceptions for feedstocks and process agents (which are both examples of bulk substances) in subsection (e)(4)(A) and the references in (e)(4)(B)(i) and (iv) to allocation of allowances for use of regulated HFCs in particular applications—and given that it does not appear to contemplate the implications of importing products or equipment, EPA believes that this proposed interpretation is consistent with the goals of the Act.

EPA is also proposing not to include transshipments within the baseline. A transshipment 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. Transshipments do not enter interstate commerce in the United States. EPA proposes to not include transshipments in the baseline calculation because the sum effect of this activity would be zero—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 proposing to determine the HFC component of the production and consumption baselines?

In order to calculate the production and consumption baselines, EPA must determine the annual production and consumption of the statutorily listed HFCs in the years 2011, 2012, and 2013. EPA is proposing to use three sources of data in order to calculate HFC consumption and production figures for 2011 through 2013: (1) Data reported to EPA's GHGRP; (2) data received in response to EPA's ongoing and planned outreach, including the notice of data availability (NODA) published February 11, 2021, stakeholder meetings, and planned letters sent out, including under CAA section 114; and (3) any data received in response to this notice of proposed rulemaking by the comment due date.

(a) What is the GHGRP and what data are available from it?

The GHGRP was established in 2009 and requires various facilities and suppliers to annually report data related to GHGs to EPA (see 40 CFR part 98). The relevant subpart that relates to reporting on HFC production and consumption is subpart OO, "Suppliers of Industrial Greenhouse Gases." Because the HFCs listed as regulated substances under the AIM Act are industrial GHGs, EPA has been collecting since the GHGRP's inception a significant amount of data relevant to HFC production and consumption as defined under the AIM Act. EPA can use these data to begin approximating the historic HFC production and consumption figures necessary to calculate baselines under the AIM Act.<sup>35</sup>

Under the GHGRP, reporting and other requirements apply to the facility or supplier based on the source and/or supplier categories located at the facility, their emission and/or supply levels (as applicable to a source or supplier category), and other factors. Facilities that undertake some types of activities (e.g., import or export of fluorinated GHGs)<sup>36</sup> must report for that source or supplier category only if their emissions or supplies (or related quantities) meet or exceed a threshold. Facilities that undertake other types of activities (e.g., fluorinated GHG production) are required to report for at least three years regardless of the magnitude of their emissions or supplies. Once data are submitted, EPA conducts a multi-step verification process to ensure reported data are complete and accurate.

Subpart OO captures the vast majority of the bulk HFC production, import, and export in the United States. Subpart OO requires reporting from producers of HFCs and certain importers, exporters, and destroyers of HFCs. The data reported are by chemical, and thus, EPA can exclude from the calculation of baselines any HFCs reported to the GHGRP that are not listed as regulated

substances under the AIM Act. All producers of HFCs, as defined in 40 CFR 98.410(b), are required to report the quantities that they produce, transform (unless the transformed feedstock is produced onsite), destroy, or send off-site for transformation or destruction, unless otherwise provided in subpart OO. Importers with bulk imports of N<sub>2</sub>O, fluorinated GHGs, and CO<sub>2</sub> that in combination are equivalent to 25,000 metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e) or more are required as part of their annual report to report the quantities that they import, destroy, or send off-site for transformation or destruction. Exporters with bulk exports of N<sub>2</sub>O, fluorinated GHGs, and CO<sub>2</sub> that in combination are equivalent to 25,000 MTCO<sub>2</sub>e or more are required as part of their annual report to report the quantities that they export.

As a result of these requirements, the data provided through the GHGRP reflects most of the production, import, export, and destruction of regulated substances for the baseline years. However, EPA is aware of some data that are not collected through GHGRP that are relevant for calculating the HFC component of the AIM Act baselines.

Companies that import or export fewer than 25,000 MTCO<sub>2</sub>e of industrial gases, including HFCs, are exempted from reporting.<sup>37</sup> Analyses performed during the development of the GHGRP indicated that this threshold would have minimal impact on the overall topline number of HFCs imported and exported, exempting less than one percent of the GWP-weighted quantities of industrial GHGs in containers that are imported or exported.<sup>38</sup> This high coverage is due in part to the high GWPs of fluorinated GHGs, including HFCs, which trigger reporting at relatively low volumes (e.g., 17.5 metric tons (MT) for HFC-134a or 7.2 MT of HFC-125), and in part to the fact that the largest importers and exporters account for the

<sup>37</sup> For importers and exporters, the GHGRP also exempts the reporting of individual shipments containing less than 25 kg of fluorinated GHGs. In an analysis performed in 2006, EPA found that exempting such shipments would reduce the total quantity of industrial GHGs reported by only 0.01 percent. Thus, this exemption is not likely to have a material impact on the figures used for imports and exports in calculating the AIM Act consumption baseline.

<sup>38</sup> See the Technical Support Documents for subpart OO (below). One caveat is that this is based on data from 2006, and it is possible that import and export patterns have changed since then. U.S. Environmental Protection Agency, Office of Air and Radiation, *Technical Support Document for Bulk Imports and Exports of Fluorinated GHGs N<sub>2</sub>O and CO<sub>2</sub> Proposed Rule for Mandatory Reporting of Greenhouse Gases*, 2009. [https://www.epa.gov/sites/production/files/2015-07/documents/tsd\\_bulk\\_imports\\_exports\\_2-02-09.pdf](https://www.epa.gov/sites/production/files/2015-07/documents/tsd_bulk_imports_exports_2-02-09.pdf).

<sup>35</sup> While EPA determined that chemical-specific GHG data at the facility and importer/exporter level is CBI, EPA also determined that it would release the data in aggregated amounts as long as the aggregations meet the criteria outlined in the **Federal Register** notice cited here. For purposes of the data presented in the NODA accompanying this rulemaking and in the docket for this proposed rule, EPA determined that release of the aggregated data would not disclose CBI. The data presented in this proposed rule are aggregations for which the aggregation criteria have been met to ensure the underlying CBI is shielded from public disclosure, and the individual reporters have been notified of EPA's intent to aggregate.

<sup>36</sup> For the purposes of the GHGRP and this proposal, the term "fluorinated GHGs" does not include controlled substances under CAA Title VI.



majority of the imported and exported quantities.

EPA routinely reviews import data provided by U.S. Customs and Border Protection (CBP) to verify reported supply data and identify facilities that may be subject to annual GHG reporting under 40 CFR part 98. Based on this review and other information, there also appear to be companies that imported or exported more than 25,000 MTCO<sub>2</sub>e of HFCs annually that have not reported imports or exports to the GHGRP. Section V.B.2 of this proposal provides instructions for late reporting.

Subpart OO also does not require the reporting of HFC–23 that is intentionally coproduced, captured, and refined for use, or unintentionally created. Consequently, EPA is lacking data related to the creation of HFC–23 and any subsequent destruction or refinement for sale. To address this data gap, EPA has sought information from facilities that create HFC–23, either intentionally or unintentionally. EPA is not docketing the individual responses related to HFC–23 due to companies' CBI claims, but has included aggregated data in the analyses in the docket.

Two other data gaps include (1) the amounts of HFCs other than HFC–23 that were destroyed by free-standing destruction facilities (*i.e.*, facilities that destroy HFCs but do not import or produce) during the baseline years <sup>39</sup> and (2) any amounts of HFCs that were transformed by facilities that transform HFCs but that do not also produce them (which is necessary to determine the quantity of HFCs that are produced for use as feedstock).

Not accounting for quantities that were destroyed or transformed would result in overestimates of production and consumption as those quantities are defined under the AIM Act, since the quantities destroyed or transformed are subtracted from GHGRP production to obtain AIM Act production. While EPA is not aware of any facilities in the U.S. that transform HFCs but do not produce HFCs, we cannot rule out the possibility that they exist.

(b) What outreach is EPA doing to collect data to fill known gaps in the GHGRP?

As outlined in the prior section, the data available through GHGRP will 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 is making best efforts to fill these gaps. Specifically, EPA published a NODA on February 11, 2021, outlining the same information provided in the prior section concerning what data are available through GHGRP and where EPA perceived data gaps (86 FR 9059). EPA invited the public to provide additional data and identify other potential gaps in EPA's knowledge. In response to the NODA, EPA received 29 public comments which can be found in the docket for this rulemaking, five comments containing material claimed as CBI, and at least one additional report of historic HFC data not previously reported to the GHGRP. EPA received a number of public comments that were outside of the scope of the NODA, *i.e.*, several comments were not germane to additional data that could help inform the HFC production and consumption baselines for 2011, 2012, and 2013. Some of these comments focused on implementation of various provisions of the AIM Act, including but not limited to allocation methodology, the statutory years used to establish the HFC production and consumption baselines, application-specific allowances, and projected market trends for, and associated with, various end uses of the regulated HFCs. EPA appreciates these comments and, in some instances, has proposed provisions in this rulemaking that address several of the specific points or has integrated specific points into section XI of the preamble, which includes the ANPRM. Nonetheless, the Agency's intent in releasing the NODA was to ask for additional data that could inform the HFC production and consumption baseline for 2011, 2012, and 2013. The Agency has reviewed the comments submitted containing material claimed as CBI as well as the data submitted via e-GGRT, and to the extent that these submissions fill in our known data gaps, the proposed HFC production and consumption baseline reflect this information and data accordingly. Some of the information received starts to fill in the gaps EPA identified in the NODA and above. EPA continues to invite public input through this proposed rulemaking and welcomes provision of additional data related to HFC production and consumption in the years 2011, 2012, and 2013.

EPA has separately requested approval under the Paperwork Reduction Act to collect missing data <sup>40</sup> and intends to send letters under the

authority of subsection (k)(1)(C) of the AIM Act and section 114 of the CAA to companies who may have relevant data.

EPA also held a stakeholder meeting on February 25, 2021. Approximately 200 people participated in the stakeholder meeting to learn more about the AIM Act and how EPA was moving forward with implementation. At that meeting, EPA reminded stakeholders to submit relevant data to help inform this rulemaking. Additionally, five stakeholder workshops were held between March 11, 2021, and March 12, 2021, specific to stakeholders interested in the statutorily listed applications identified in AIM Act section (e)(4)(B)(iv); as with the February 25, 2021, stakeholder meeting, these workshops provided participants the opportunity to learn more about the AIM Act and how EPA was moving forward with implementation. One workshop was held for each sector identified in AIM Act section (e)(4)(B)(iv). EPA did not hold a stakeholder workshop for the mission-critical military sector because, as will be explained in a subsequent section of this preamble, EPA is working directly with the Department of Defense on distributing allowances for mission-critical military end uses. Stakeholders at each workshop were similarly reminded during these workshops to submit relevant data to help inform this rulemaking. In addition, EPA has met with numerous stakeholders and participated in meetings sponsored by other government and non-government entities (*e.g.*, Small Business Administration's February 26, 2021, small business environment roundtable). A full list of meetings EPA has conducted with stakeholders is provided in the rulemaking docket.

For anyone seeking to submit data to the Agency regarding HFC production, consumption or use in the six applications listed in subsection (e)(4)(B)(iv) of the AIM Act, please contact the individual listed under **FOR FURTHER INFORMATION CONTACT**.

2. What is the current 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 31, 2013. Based on the information reported to the GHGRP and gathered through recent data collection efforts, EPA estimates average HFC consumption at 256 million metric tons of exchange value equivalent (MMTEVe) and HFC production at 331 MMTEVe for those

<sup>39</sup> Such facilities have only been required to report the quantities that they destroy since 2019, when they reported their destruction for 2018.

<sup>40</sup> View Information Collection Request (ICR) Package; [https://www.reginfo.gov/public/do/PRAViewICR?ref\\_nbr=202103-2060-005](https://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=202103-2060-005).

three years. A memo to the docket (“HFC Production and Consumption Data—Proposed Rule”) provides the current aggregated data for each of the three years similar to that provided in the NODA, as well as a list of companies that have reported data to EPA for those years. EPA anticipates that these values will change in the final rule as the Agency continues to collect additional data.

### 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 and is therefore not specifically requesting comment on that value.<sup>41</sup>

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.

### B. What are the proposed HFC production and consumption baselines?

Using the equation provided in the AIM Act, based on the data currently available to EPA (which, as noted in the prior section, EPA is still working to refine), EPA proposes to find that the U.S. production baseline is 375 MMTEVe and the U.S. consumption baseline is 299 MMTEVe. To provide the most accurate production and consumption baselines, EPA reiterates its request for data submissions and other information relevant to HFC production and consumption in 2011, 2012, and 2013. Once established through the final rule, EPA does not intend to amend the baselines. While EPA is taking comment on the inputs to the calculation, the Agency notes that the formulas used for calculating the baselines are established in the AIM Act.

TABLE 4—INPUTS FOR CALCULATION OF PRODUCTION AND CONSUMPTION BASELINES

| Input                                   | Value (MMTEVe) | Percentage in baseline | Modified value (MMTEVe) |
|---|----------------|------------------------|-------------------------|
| 2011–2013 average HFC production .....  | 331            | 100                    | 331                     |
| 1989 HCFC production .....              | 216.9          | 15                     | 32.5                    |
| 1989 CFC production .....               | 2,799.8        | 0.42                   | 11.8                    |
| Production baseline .....               | .....          | .....                  | 375                     |
| 2011–2013 average HFC consumption ..... | 256            | 100                    | 256                     |
| 1989 HCFC consumption .....             | 210.3          | 15                     | 31.5                    |
| 1989 CFC consumption .....              | 2,784.5        | 0.42                   | 11.7                    |
| Consumption baseline .....              | .....          | .....                  | 299                     |

## VI. How is EPA proposing to establish allowances?

This section provides an overview of how EPA intends to establish a system providing for HFC production and consumption allowances and EPA’s proposed methodology for issuing allowances. The AIM Act in subsection (e)(3) requires EPA to conduct a rulemaking to phase down production and consumption of regulated substances in the United States through an allowance allocation and trading program. Aside from establishing the cap on the allowance program (by defining how to calculate the baseline and requiring a set percentage reduction 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. Because EPA has experience

phasing out production and consumption of ODS under Title VI of the CAA in similar industries, EPA is using that experience to inform this proposal.<sup>42</sup>

### A. What is an allowance?

EPA uses an allowance as the unit of measure that controls production and consumption. 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. EPA is proposing that the Agency would issue allowances that would be 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. EPA proposes to

allocate production allowances, consumption allowances, and “application-specific allowances” for six uses specified in the Act.<sup>43</sup> EPA proposes that producing HFCs would require expending both production allowances and consumption allowances, since production is a component of the AIM Act definition of what composes consumption. Importing HFCs would require expending only consumption allowances. This is the mechanism EPA has used to implement the ODS phaseout and would meet the expectations of, and be understood by, producers and importers of HFCs. This design also helps EPA ensure that both the production and consumption caps from the AIM Act will be met through the allowances allocated. As discussed later, EPA is proposing that “application-specific allowances” are a third category of allowances that can be

<sup>41</sup> For more information on historic U.S. ODS production and consumption data, please visit the United Nations Environment Program’s website at <https://ozone.unep.org/countries/profile/usa>.

<sup>42</sup> Collectively, EPA’s regulations governing the phaseout of ODS can be found in Subpart A to 40 CFR part 82. <https://ecfr.federalregister.gov/current/title-40/chapter-I/subchapter-C/part-82>.

<sup>43</sup> The ODS framework also issued allowances for specific uses such as an essential use allowance or a critical use allowance.

expended to either produce or import HFCs.

EPA is proposing that 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) would 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. As such, EPA is proposing that an importer must submit a petition and receive a non-objection notice before importing HFCs for transformation. EPA discusses proposed recordkeeping and reporting requirements for HFCs that are intended to be used for transformation in section IX.D of this preamble.

The definition of “Produce” in the AIM Act and as proposed in this rulemaking explicitly excludes the reclamation, reuse, or recycling of a regulated substance. Because the definition of “Consumption” includes production, EPA intends to not include 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 proposing to require consumption allowances for the import of reclaimed HFCs, unless the reclaimed HFCs are being imported solely for the purpose of destruction. In the situation of reclaimed HFCs imported solely for the purpose of destruction, if the imported reclaimed HFCs were counted towards consumption, it would be subtracted back out when destroyed. If a consumption allowance were required to be expended in this circumstance, EPA would likely give that allowance back after the substance was 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. EPA is accordingly proposing recordkeeping and reporting requirements in § 84.31. There is further discussion of the proposed process related to import of used HFCs for destruction in section VIII.F. of this preamble.

EPA is also proposing that producers of HFCs need not expend production or consumption allowances if the HFCs are destroyed in a timely manner using an approved technology. More specifically, EPA proposes that 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. If a company intends to utilize offsite destruction capability, the company need not expend allowances for the HFC production if the HFCs are destroyed within 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. EPA welcomes comment on this question and would consider longer time windows if necessary, to allow companies adequate time to destroy these chemicals.

This proposal 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. As discussed in the definitions section, EPA is proposing to exclude from production “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.” Under this proposal, such insignificant quantities created through the above-listed circumstances would not be considered production. The necessary implication of this proposed definition is that 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 subsection F). This proposal 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 outlined 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 is proposing that any import of bulk regulated substance in any quantity requires consumption allowances. This would include a company that brings into the United States a rail car, tank truck, or ISO tank containing a heel of regulated substances. It would also include imports of HFCs that are classified as “U.S. goods returned.” In such situations, the company would need to expend consumption allowances for the import. As with the proposal related to production, this proposal is intended to ensure that all the regulated substances identified under the AIM Act are appropriately phased down according to the schedule outlined. EPA is additionally concerned that providing an exemption for imports of heels or U.S. goods returned could provide avenues for illegal imports of HFCs if an entity were to mislabel a full container as only containing a heel or foreign produced material as a U.S. good returned. EPA is interested in comments, however, on whether it should consider exempting heels or U.S. goods returned as a necessary part of importers’ standard practice to enable easier import and export of regulated substances.

However, EPA is proposing that companies that tranship HFCs do not need to expend allowances for that transshipment. In order to meet the definition of transhipped material, the HFCs cannot enter interstate commerce. Transhipped materials are also, by design, intended to be imported into, and then exported out of, the country in identical quantities. EPA is proposing that an entity does not have to expend consumption allowances for transhipped materials if the regulated substances are exported within 6 months of import. If a company does not tranship HFCs within six months of entry, EPA is proposing that the company would have to expend allowances. As explained in the reporting section, EPA is proposing that companies notify the Agency when a transshipment arrives and leaves the U.S. The intent of this proposal is to minimize the risk of illegal imports through the guise of transshipments. The United States experienced this method of illegal importation during the phaseouts of CFCs and HCFCs. EPA requests comment on the length of time a transshipment could reasonably be expected to be in the United States and

whether it is appropriate to allow as little as two months or as much as twelve months. EPA also requests comment on other ways to reduce the risk of HFC transshipments entering interstate commerce, such as monthly reporting (or other reporting frequency) of status while it remains in transit; making the bonded warehouse the responsible party for any transshipments that enter the market unaccounted for or vented; requiring a label; or registration with the certification ID tracking system discussed later in this proposal.

EPA is proposing that allowances issued under the AIM Act be an exchange value-weighted number rather than having allowances that are specific to each HFC. This approach would align with the approach for calculating the baseline envisioned in the AIM Act. Such an approach also maintains flexibility in the market if a producer or importer decides to switch between regulated substances. This would allow 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 statutorily outlined schedule, which could lead to greater environmental and health benefits.

Under this proposed approach, one allowance would be equal to one metric ton of exchange value equivalent (MTEVe). Producers and importers would multiply the quantity of the HFC they seek to produce or import, in kilograms, by its exchange value and then divide by 1,000 to determine the total number of allowances needed. For example, based on the exchange values assigned to regulated substances in the tables provided in subsection (c) of the AIM Act, an importer would need to expend 1.43 consumption allowances to import one kilogram of HFC-134a. Given the variation in exchange values, one would need to expend between 0.053 allowances to produce one kg of HFC-152 and 14.8 allowances to produce one kg of HFC-23. EPA is proposing to adopt the table of regulated substances and their corresponding exchange values provided in section (c) of the AIM Act into appendix A to the subpart established for this rule.

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 global warming potentials (GWPs) of each substance, as given in the Errata to Table 2.14 of the IPCC's Fourth

Assessment Report (AR4)<sup>44</sup> 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 EVE 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 would be included in determining the EVE. As a result, the EVE would be lower than the CO<sub>2</sub>e value for blends that are not limited to regulated substances.

Under CAA Title VI, EPA allocated baseline allowances and annual year allowances derived from those company-specific baselines.<sup>45</sup> EPA is proposing to take a different approach for allowances allocated under the AIM Act. Specifically, EPA is proposing to only issue calendar-year allowances and not create company-specific baseline allowances. Under the ODS phaseout, baseline allowances were revisited periodically and updated based on transfers between companies. However, 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 is proposing to only issue calendar-year allowances, which are only usable in the year they are issued, without the system of baseline allowances. This is intended to promote more flexibility in future years to adjust approaches and issuances of allowances to a dynamic marketplace as opposed to having allocations tied to a singular time in the past.

<sup>44</sup> 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. <https://www.ipcc.ch/report/ar4/wg1>.

<sup>45</sup> See, e.g. 78 FR 20007; April 3, 2013. <https://www.federalregister.gov/d/2013-07758/p-93>.

## B. What are EPA's proposed options for determining allocations?

### 1. For which years is EPA proposing to issue allowances?

EPA is planning to issue allowances for 2022 according to the framework and procedure established through this rulemaking by October 1, 2021. EPA intends to provide notice of 2023 allowances by October 1, 2022, using the framework and procedure to be established in this action. Given the AIM Act's deadline of finalizing a rule within 270 days of enactment, EPA has focused on what can be implemented in a short timeframe. EPA recognizes that phasing down a regulated substance as required under the AIM Act may have different implications for stakeholders than the Agency's past experience with phasing out ODS. To allow more time for consideration of these differences, EPA intends to seek additional input from stakeholders for later years. As such, EPA intends to develop another rule before allowances are allocated for calendar year 2024 that may alter the approach and procedure for allowance allocations past the year 2023. Given the phasedown schedule in the AIM Act, EPA is intending to revisit the initial approach for determining allowance allocations established through this rulemaking before the 2024 phasedown step to consider whether any changes would be appropriate and further build out aspects of this program. In 2024 the number of allowances will decrease from 90 percent of baseline to 60 percent of baseline. 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 that stepdown.

EPA welcomes comment on its intention to issue allowances later this year only for 2022. EPA is also considering issuing allowances for 2022 and 2023 by October 1 of this year. EPA's preference for proposing to establish a framework but issuing allowances only one year at a time provides time for the Agency to solicit and consider other potential mechanisms for issuing allowances. The Agency is also uncertain it can accurately forecast at this time the full quantity of allowances necessary for application-specific uses at this time. As discussed further in this section, application-specific allowances must be provided from within the general cap of available allowances. Until EPA can determine the number of application-specific allowances needed by the statutorily identified end users, it cannot know how many allowances remain from within the cap for general

allowances. As a result, EPA is proposing to determine the general pool of available allowances, and subsequently provide for individual company allocations, each calendar year, as opposed to allocating for multiple years at a time.

2. Based on currently available data, which companies is EPA proposing to issue allowances to?

EPA is proposing to issue allowances to companies that produced or imported HFCs in 2017, 2018, and/or 2019, and were still active in 2020. There are two elements within this proposal to discuss: Which companies will be eligible to receive allowances and which years of operation will be relevant to EPA's determination. Note that this is separate but related to how many allowances each company may be allocated. How EPA proposes to determine individual allocation amounts are discussed separately later.

EPA proposes that considerations for determining who should receive allowances in this initial rulemaking would 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 proposing to issue allowances to active HFC producers and importers operating in 2020 while providing a set aside for new entrants as a way to meet these objectives.

With regards to production allowances, EPA is proposing to issue allowances to companies that produced HFCs in the United States in 2017, 2018, or 2019 that were also still producing HFCs in 2020. In determining the appropriate approach for issuing allowances, EPA seeks to avoid issuing production allowances to entities that are unable to use them. In particular, EPA would like to avoid issuing allowances to companies that no longer produce HFCs or for HFC production capacity that has been shut down. EPA also seeks to avoid encouraging the creation of new high-GWP HFC production capacity within the United States, as that would be contrary to the intended goal of the AIM Act to phase down EV-weighted production by 85 percent from the calculated baseline figure within 15 years. Production facilities are capital intensive and are typically used for long periods of time. The list of HFC producers in the United States is included in a memo included in the docket ("HFC Production and Consumption Data—Proposed Rule"). As noted at an earlier point in this section, EPA is proposing that

production of HFCs would require expenditure of both production and consumption allowances, since production is a component of the AIM Act's definition of consumption. As a result, EPA is proposing to issue production allowances to those companies that are currently listed as HFC producers, as well as any additional companies that can document their production of HFCs during the relevant years by the close of the comment period listed above in the **DATES** section of this preamble and report to the GHGRP.<sup>46</sup>

Consistent with the definition of "Produce," EPA proposes that companies receive production allowances based on the total EVE quantity produced minus amounts for transformation minus amounts destroyed. EPA proposes that consumption allowances be 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, if a company produced HFCs, but then exported HFCs, their production allowances would be higher than their consumption allowances, assuming the company did not import more HFCs than it exported.

With regards to consumption allowances, EPA is taking a similar approach and proposing to issue allowances to companies that produced and/or imported HFCs during 2017, 2018, or 2019 that were still active in 2020. Similar to the discussion in the baseline section, EPA is proposing to use data reported to GHGRP under subpart OO requirements to determine companies' import and export activities in 2017–2020. As discussed in the section on establishing the baseline, there may be companies that imported and exported HFCs in quantities less than 25,000 MTCO<sub>2</sub>e and therefore were not required to report to the GHGRP. EPA is proposing to issue allowances to importers under the 25,000 MTCO<sub>2</sub>e threshold so long as the company provides import and export records to

EPA, such as Customs forms or bills of lading, to document their historic practice consistent with that required under subpart OO. EPA will consider all data provided by the close of the comment period listed above in the **DATES** section of this preamble. EPA plans to verify any claimed import and export before a company is included in the allowance allocation.

EPA is also proposing to issue allowances at the parent company level. If multiple companies and/or facilities that imported HFCs in 2020 are controlled or owned by the same corporate entity, EPA is proposing to issue allowances only to their parent company. If a parent company had multiple subsidiaries reporting consumption or production, EPA is proposing to base the parent company's allocation on the single year where all subsidiaries combined were at their highest level. This approach would be administratively easier and improve transparency in the market. It would also avoid providing allowances at a higher level than is warranted for parent companies that have imported under multiple company names. As discussed later, to ensure the integrity of the set aside, EPA is proposing that new entrants cannot be a subsidiary or otherwise related to a calendar-year allowance holder. EPA therefore intends to request corporate ownership information from all companies for which allowances may be allocated.

EPA discusses the question of who could receive allowances in greater detail in another section of this proposal. As noted previously, EPA intends to revisit the initial approach and procedure for determining allowance allocations and for trading for the 2024 and later control periods in a subsequent rulemaking after additional public input and seeks advanced comment later in this proposal on ideas that are currently under consideration.

EPA is proposing to allocate allowances only to companies that produced or imported in 2020, even if they were active in prior years, to increase the likelihood that allowances are allocated to companies that are active in the HFC market. If a company was not actively producing or importing in 2020, EPA would generally presume this means the business exited the production and/or import market. Allocating allowances to companies no longer producing or importing would be at the expense of companies who are still actively invested in HFC production and import. However, the Agency is open to consider something different from this presumption for individual companies if their inactivity

<sup>46</sup> As noted previously, there is no minimum threshold for production of HFCs in the GHGRP. People may have previously noticed that e-GGRT was limited to submitting and revising GHGRP annual reports for years 2015 to 2020. However, EPA has now made available a supplemental XLS form for years 2011 to 2014 for HFC producers who were subject to the GHGRP, did not submit an annual report for one or more of those years, and would now like to submit their supply data for those corresponding years. If you have questions, please contact the person listed under **FOR FURTHER INFORMATION CONTACT**.

was due to the COVID-19 pandemic or some other reason, and they have documentation to justify such inactivity. If a company wants individualized consideration of their market inactivity or activity in 2020, it must submit comments on this rulemaking containing relevant information no later than the end of the comment period.

EPA recognizes that some importers may be unaware of EPA's regulatory activity in this area. EPA is undertaking best efforts to develop a comprehensive dataset for purposes of allowance allocation by determining the universe of potential importers. EPA is using data available through the GHGRP, its 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 invites public input on whether there are any other means EPA should use to reach this potentially regulated community. EPA provides a list of companies that would be eligible for consumption allowances under this framework based on currently available data in the docket to this rule. EPA is proposing to issue allowances to those importers that are currently listed, as well as any additional importers that can provide import records to EPA such as Customs forms or bills of lading. As noted previously, EPA is also willing to consider individual circumstances of businesses that are generally active in the HFC import market, but did not import HFCs in 2020, if the reason for their inactivity is adequately justified to EPA by the close of the comment period.

For companies that have not previously reported their HFC import relevant data, such as through the GHGRP's e-GGRT or in response to the February 11, 2021, NODA, they should report to EPA no later than by the close of the comment period listed above in the **DATES** section of this preamble if they wish to be eligible for allowances in 2022 and 2023. Please contact the person listed under **FOR FURTHER INFORMATION CONTACT** and report your HFC import data for years 2011 through 2020 at <https://ghgreporting.epa.gov/ghg/login.do> if you have not reported previously. EPA needs to verify production and consumption data for companies that have not reported previously. Failure to provide data by the stated date will mean companies will not receive allowances for 2022 or 2023 if EPA finalizes the allocation approach as proposed, except for the possible availability of the set aside pool

for importers not previously subject to GHGRP requirements. Any company that was required to report to the GHGRP under 40 CFR part 98, but did not do so in accordance with the regulatory requirements, should be aware that information on potential noncompliance will be forwarded to the appropriate EPA enforcement staff.

As an alternative to looking to data from 2017–2019, EPA is also taking comment on issuing allowances only to those companies that produced or imported HFCs in 2011–2013 or some other combination of years, including all years, between 2011 and 2019, assuming the company is still actively producing or importing as of 2020. To develop the baseline, EPA has been working to address data gaps and develop a fuller understanding of production and import in those years. EPA has already provided the public with a list of those companies through a Notice of Data Availability in the **Federal Register** (February 11, 2021; 86 FR 9059). EPA sees advantages and disadvantages to this approach. For example, once companies began to suspect that they might receive allowances based on the quantities that they imported, new importers may have entered the market with more HFCs than the level of demand. 2011–2013 is also prior to any anti-dumping and countervailing duties (AD/CVD) were finalized (see the memo to the docket on AD/CVD). To reward such behavior could harm companies that were already participating in the market and/or have invested heavily in developing new alternatives to replace HFCs. On the other hand, to exclude all newcomers based on the actions of a few could penalize those companies that had not entered the market to game their potential for allowances. Another factor to consider is when companies may have become aware that a phasedown on HFCs was likely and whether companies significantly changed their behavior. Reasonably, companies would have been aware that the United States may be taking action to phase down HFCs as of October 15, 2016, which is when countries agreed to the Kigali Amendment. EPA could consider relying on years prior to 2016, or, assuming companies that changed behavior did not significantly do so between October 15, 2016, and January 1, 2017, EPA could consider years prior to 2017. Using years prior to 2016 or 2017 would reflect the production and import market prior to this global agreement to phase down HFCs. Other proposed considerations surrounding eligibility for allowances are discussed

in section VII.C of this proposal. EPA is also seeking 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.

3. What is EPA's proposed framework for determining how many allowances each company receives?

This section discusses how EPA proposes to determine how many allowances each company receives from the general allocation pool. EPA is proposing that under this initial framework, the amount of allowances to allocate to producers and importers would be determined based on the levels of production and import in 2017–2019. Specifically, EPA is proposing to use a company's highest year of production or import, on an Eve basis, in those years. Every company's highest year amount would then be added together and used to determine a percentage market share for each company. EPA proposes to then multiply each company's percentage market share with the total amount of available calendar-year allowances to determine each company's production or consumption allowances. As noted earlier, EPA is proposing to establish this process as an initial approach to allocating allowances, but intends to revisit this procedure and consider whether any changes to it would be appropriate before the 2024 phasedown step.

EPA is proposing to choose the highest year over multiple recent years, rather than an average or a single year, to account for fluctuations in the market. As noted in the previous section, EPA is proposing to base the allocation amount on 2017–2019 data, but only companies who were actively producing or importing in 2020 would be eligible to receive allowances (unless EPA agrees that the company merits individualized determination based on comments received through this proposed rulemaking process). The Agency could also consider using a company's highest market share—a company's exchange value-weighted production and consumption relative to the total exchange value-weighted production and consumption in a given year—over the selected years.

As mentioned previously, EPA is proposing to set aside a small amount of allowances out of the total cap for new market entrants. As will be discussed in the next section, EPA is also proposing

to issue allowances for statutorily defined applications according to the AIM Act requirements outlined 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.<sup>47</sup> Therefore, 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 would be conducted by EPA to protect company claims of CBI. EPA intends to issue allowances to individual companies for 2022 and release information on the amount of allowances allocated to each company publicly no later than October 1, 2021. EPA discusses its approach to releasing data in a later section of the proposal. EPA intends to issue allowances to individual companies for 2023 and release that information publicly no later than October 1, 2022. As discussed previously, EPA is proposing this annual process for allowance allocations from the general allowance pool because application-specific allowance figures may change, and those would need to be subtracted from the general pool before EPA determines how many allowances are remaining in the general pool to be allocated.

#### 4. What is EPA's proposed framework for issuing allowances?

This section contains EPA's proposed formula for determining the amount of production and consumption allowances to be issued to each producer and importer.

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

Second, EPA would subtract from the consumption and production caps the amount of application-specific allowances that EPA has determined are necessary for the year at issue and the

amount of allowances for the set aside pool, if EPA finalizes the set aside option proposed. As discussed in the next section, EPA is proposing to recalculate the amount of application-specific allowances every year. The remainder is the general allowance pool for that year.

Third, EPA would determine the list of companies that meet the framework eligibility criteria for allowances, add up each company's EV-weighted high production and consumption amounts in the relevant years, and divide each company's high production and consumption amount by the total amount to determine what each company's market share would be.<sup>48</sup>

Fourth, EPA would multiply each producer or importer's market share by the general allowance pool to determine each company's calendar year production or consumption allocation amounts. For 2022 and 2023, EPA proposes to issue allowances in whole units of MTEVe. This could result in rounding issues. Any HFC with an exchange value more than 1,000 would be issued allowances at less than a kilogram of regulated substance. When deducting allowances to account for production or import, EPA would round up if the value was greater than or equal to 0.5 MTEVe and down if below that level. For example, HFC-134a has an exchange value of 1,430 and importing one kg would require 1.4 allowances. However, EPA would only deduct one allowance. Rarely is someone importing only one kg of a chemical though, so importing 100 kg of HFC-134a, for example, would require 143 allowances and no rounding is needed at the total tonnage level. EPA may revisit this approach if low-exchange value HFCs become more prevalent and greater precision is needed. For example, HFC-152a has an exchange value of 124 and thus the import of one kg would require expenditure of 0.1 allowances. EPA is taking comment on whether to use less or more granular detail for allowance allocations, such as issuing allowances out to one or two decimal points.

Lastly, EPA would then issue by October 1st the list of companies receiving production or consumption allowances and application-specific allowances as well as the quantities received.

For allowances for the 2022 calendar year, EPA intends to also issue allowances from the set aside pool (see section VI.E. of the preamble) by March 31, 2022, if finalized, and distribute any unused allowances from the set aside at the same time.

#### 5. What process is EPA proposing to respond to requests for additional consumption allowances?

EPA is proposing a process in § 84.17 to allow a person to obtain consumption allowances equivalent to the quantity of newly produced ("virgin") regulated substances that the person exported, provided that the substances were originally produced or imported with consumption allowances in the same calendar year. Given that the AIM Act excludes exports from the definition of "consumption" under subsection (b)(3), it would be consistent with the Act to essentially refund consumption allowances that were expended to import or produce regulated substances if those regulated substances were later exported from the country. In order to ensure that the statutorily defined production and consumption reduction targets are met each year, EPA proposes that both the export and the request for additional consumption allowances (RACA) must occur in the year in which consumption allowances were expended. This approach would prevent a producer or importer from over producing or importing high-GWP HFCs prior to January 1, 2022, and exporting them to gain additional allowances for the initial phasedown years.

EPA is proposing to require the exporter to submit certain information to EPA for the Agency to review before either granting or denying the request. This information is needed to verify that the regulated substances were in fact exported and would include: (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; (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; and (vii) a written statement from the producer that the regulated substances were produced with expended allowances or a written statement from the importer that the

<sup>47</sup> Under the ODS phaseout, essential uses were exempt from the phaseout and were therefore in addition to the amounts allocated. Under the AIM Act, application-specific and essential use allocations are not exemptions from the cap but rather receive priority within the cap. In this NPRM, EPA is not proposing to issue essential use allocations.

<sup>48</sup> If EPA finalizes an approach where it uses each company's highest market share instead of highest production and consumption level, the Agency would add up each company's high production and consumption market share in the relevant years, and divide each company's high production and consumption market share by the total amount to determine what each company's revised market share would be for allowances available in the year.



regulated substances were imported with expended allowances. The full list of required information in a request for additional consumption allowances can be found at § 84.17. EPA is seeking comment on whether additional records should be provided to verify allowances were expended as part of the request, at least until the proposed certification ID tracking system is established.

*C. What are EPA's proposals for the sectors to receive application-specific allowances?*

This section discusses EPA's proposal to 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, this reinforces that application-specific allowances are to be part of the annual production and consumption caps.

In order to carry out this statutory direction, EPA is proposing to create a third category of allowances called "application-specific allowances" that can be expended to either produce or import HFCs. EPA is proposing to create this third category, and permit the allowance to be used for either produced or imported HFCs, because manufacturers of products in the statutorily identified applications may not know in advance how HFCs will be procured, and EPA wants to promote flexibility to ensure that end users receive the "full quantity of allowances necessary." In order to ensure that these application-specific allowances are provided from within the overall annual production and consumption caps, EPA proposes to subtract the amount of application-specific allowances allocated from both the production and consumption general allowance pools.

This section provides an overview of the applications receiving allocations, estimated demand for HFCs in these applications in 2022, and EPA's proposed process for issuing and transferring allowances for these applications.

**1. Overview of the Application-Specific Sectors**

The AIM Act lists six applications in subsection (e)(4)(B)(iv) that are to receive the full quantity of allowances needed, based on projected, current, and historical trends. As part of the docket to the NODA that preceded this proposed rule, EPA released reports characterizing the Agency's current understanding of the market for five of the six applications (86 FR 9059; February 11, 2021). These reports provided data on projected, current, and historical trends for the use of HFCs in each sector. EPA received comments on four of the five reports (all except defense sprays) noting agreement with definitions, consideration of additional applications, and potential updated sources for projections of HFC use in certain applications. EPA has updated the reports based on the information provided in the comments, where applicable, and has included the updated reports in the docket to this rule. EPA held a broad stakeholder meeting on February 25, 2021, related to the AIM Act and the Agency's plans for implementation. EPA also held five workshops March 11–12, 2021, related to the AIM Act and focused on HFC use for the five applications that can receive allocations. Materials from the stakeholder meeting and the five workshops are included in the docket to this rule.

**Metered Dose Inhalers**

MDIs are handheld pressurized inhalation systems that deliver small, precisely measured therapeutic doses of medication directly to the airways of a patient. MDIs provide reliable and effective therapy for asthma and chronic obstructive pulmonary disease (COPD).

The pharmaceutical industry historically used CFCs, specifically CFC-11, CFC-12, and CFC-114, as a propellant. The pharmaceutical industry began introducing HFC propellants (also known as hydrofluoroalkanes (HFAs)) for MDIs as replacements for CFCs in the mid-1990s, specifically HFC-134a in 1996 followed by HFC-227ea in 2006. CFCs continued to be used after their phaseout in MDIs through the essential use exemption authorized by the CAA and the Montreal Protocol. EPA, along with interagency partners, annually assessed demand for CFCs in MDIs and the ability of the pharmaceutical industry to transition in order to nominate an exempted amount under the Montreal Protocol procedures. The United States stopped making annual requests for CFCs for MDIs in 2009. By 2014, the CFC MDI market was replaced

with HFC MDIs and not-in-kind (NIK) medical inhalers. EPA estimates that in 2020, approximately 458 MT of HFC-134a and 78 MT of HFC-227ea propellant were contained in MDIs sold in the United States. EPA received comments to the market characterizations released with the NODA stating that the demand was twice what EPA estimates. The use of HFC MDIs in the United States, absent a transition to alternatives, is expected to continue as they may be more appropriate for certain patients than NIK medical inhalers, such as when the patient requires a reliever medication for exacerbations of asthma or other requirements (e.g., inhalation strength).

**Defense Sprays**

Defense sprays are aerosol-based sprays intended for self-defense and include pepper spray and animal sprays. The defense spray industry historically used CFCs as a propellant. The defense spray industry transitioned to HFC propellants as replacements to CFCs in the mid-1990s, specifically HFC-134a.

EPA estimates that in 2020, approximately 125 MT of HFC-134a propellant was contained in defense sprays sold in the United States. The use of HFC-134a propellant in defense sprays in the United States, absent a transition to alternatives, is expected to continue due to its non-flammability and physical properties to provide adequate spray distance for foam, fog, and vapor defense sprays. Efforts to reformulate are underway but aerosol fillers report that alternatives have not yet reached their desired specifications.

EPA is proposing to interpret the AIM Act statutory text to mean that EPA provide an allocation for the propellant used in defense sprays. EPA is not aware of any other reasonable interpretation, but seeks comment on this. EPA's proposed definition states that these products use capsaicin and related capsaicinoids (derived from oleoresin capsicum) as an irritant. EPA is taking comment on whether this definition is inclusive of defense sprays potentially covered by subsection (e)(4)(B)(iv) of the AIM Act. One type of defense spray, bear spray, is designed to be more potent than pepper sprays designed for personal self-defense. EPA regulates bear spray as a pesticide, and requires labeling consistent with 40 CFR 156.70 for human hazards associated with a product. Labels for bear sprays often contain language on hazards to humans & domestic animals similar to the following statement: "DANGER: May cause irreversible eye damage if sprayed in the eyes at close range."

Contact through touching or rubbing eyes may result in substantial but temporary eye injury. Strongly irritating to nose and skin. Do not get in eyes, on skin or on clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.”<sup>49</sup> Recent news reports indicate there may be use that is inconsistent with the label in the product (*i.e.*, use of bear spray on people instead of bears).<sup>50</sup> Bear sprays are not intended for use against people, and EPA lacks the authority to regulate or authorize such use under the Federal Insecticide, Fungicide and Rodenticide Act. EPA is taking comment on whether the Agency should distinguish between misuse and proper use when evaluating “the full quantity of allowances necessary” for such sprays.

#### Structural Composite Preformed Polyurethane Foam

Structural composite preformed polyurethane (PU) foams are used for increased structural integrity and weight reduction in marine and trailer applications. The structural composite foam industry historically used HCFCs as a foam blowing agent (*i.e.*, HCFC-22) and transitioned to HFC blowing agents as replacements for HCFCs in the early 2000s, specifically HFC-134a.

The PU foam and recreational boating industries estimate that in 2020, structural composite preformed PU foam for marine and trailer uses used approximately 28 MT of HFC-134a blowing agent. This specific use of HFC-134a blowing agent is expected to continue in the United States due to performance issues with alternatives (*e.g.*, lack of structural integrity, shrinking). However, it is projected that at some point HFC-134a blowing agent will no longer be used in structural composite PU foam for marine and trailer use as it is anticipated that alternatives will replace HFC-134a throughout the market.

EPA is proposing to interpret the statutory text to mean that EPA provide application-specific allocations for HFC blowing agent used to manufacture structural composite preformed polyurethane foam for use in manufacturing boats and trailers. EPA is not aware of any other reasonable

interpretation, but seeks comment on this.

#### Semiconductors

The fourth listed application is “the etching of semiconductor material or wafers and the cleaning of chemical vapor deposition chambers within the semiconductor manufacturing sector.”

Semiconductor devices are critical to the functioning of electronic equipment. Semiconductor manufacturers use a variety of high-GWP fluorinated gases, including HFCs, perfluorocarbons, and sulfur hexafluoride, in two main stems of the manufacturing process: Etching, also known as plasma etching, and to clean CVD chambers. Depending on the complexity of the product, the manufacturing process may require upwards of 100 steps utilizing high-GWP gases.

Semiconductor manufacture uses HFC-23, HFC-32, and HFC-41, primarily in etching processes, but also minimally in CVD chamber cleaning processes. HFC use in semiconductor manufacturing began in the mid-1980s.

EPA estimates that in 2019, semiconductor fabrication facilities in the United States used 43 MT of HFC-23, HFC-32, and HFC-41. Absent the uptake of alternatives or use of used HFCs that meet the acceptable purity levels, the use of HFCs in semiconductor manufacture is likely to continue as HFCs have physical properties that make them well suited for this use.

#### Mission-Critical Military End Uses

Mission-critical military end uses of HFCs are those uses 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. Based on preliminary information, near-term annual EV-weighted use of HFCs in mission-critical military end uses is anticipated to be less than 2 MMTEVe.

#### On Board Aerospace Fire Suppression

EPA is proposing to define on board aerospace fire suppression as use of a regulated substance in fire suppression equipment used on board commercial and general aviation aircraft and space vehicles. This definition excludes military aircraft because they are

already covered under the definition of mission-critical military end uses. On board commercial aviation fire suppression systems have historically used halons and are installed on mainline and regional passenger and freighter aircraft to protect valuable and sensitive assets. Fire suppression systems on board aircraft can be divided into two main product categories: Total flooding systems and streaming applications; currently HFC-236fa and HFC-227ea have replaced halon 1301 in total flooding systems in lavatory trash receptacles. Due to weight and volume restrictions or penalties (*e.g.*, increased fuel consumption), HFCs have not been popularized in other fire suppression systems on board aircraft. HFCs have replaced halon 1301 lavatory trash receptacle fire suppression systems in new and existing commercial aircraft. EPA estimates that in 2020, approximately 0.38 MT of HFC-227ea and 0.30 MT of HFC-236fa were installed in new aircraft lavatory fire suppression systems. Absent transition to use of alternatives or of used HFCs, the use of HFCs in lavatory fire suppression systems is expected to continue as new aircraft are sold.

EPA has previously defined “space vehicle” under the Title VI regulations at 40 CFR 82.62 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 takes comment on whether space vehicle, as defined above, is inclusive of applications that would be considered as on board fire suppression. EPA requests relevant information on HFC use in these applications.

2. At which point in the application-specific sector production process is EPA proposing to issue allowances?

EPA is requesting comment on which entity should be the recipient of application-specific allocations. The Act does not specify who should be issued these allowances so the Agency has 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 is proposing to issue application-specific allowances to the end user of the HFC who is manufacturing the product listed in subsection (e)(4)(B)(iv)

<sup>49</sup> Labeling Notification per Pesticide Registration Notice (PRN) 2007-4, dated July 3, 2019. Available at [https://www3.epa.gov/pesticides/chem\\_search/ppls/072265-00001-20190703.pdf](https://www3.epa.gov/pesticides/chem_search/ppls/072265-00001-20190703.pdf).

<sup>50</sup> 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, [www.washingtonpost.com/lifestyle/wellness/bear-spray-pepper-riot-dangerous/2021/03/19/053c3870-87fb-11eb-bfdf-4d36dab83a6d\\_story.html](http://www.washingtonpost.com/lifestyle/wellness/bear-spray-pepper-riot-dangerous/2021/03/19/053c3870-87fb-11eb-bfdf-4d36dab83a6d_story.html).

of the Act or the Department of Defense, in the case of mission-critical military end uses. 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 have power 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. Because EPA has seen these advantages in its past practice, EPA is proposing to use this established process for the application-specific allocations. In other words, EPA is proposing to issue application-specific allocations to the end users for the six statutorily listed applications.<sup>51</sup>

One challenge EPA foresees in issuing application-specific allowances to end users is identifying all of the end users. Essential use allowances were issued by EPA to companies that had submitted applications to the Agency. EPA attempted to identify all of the end users for each of the applications listed in subsection (e)(4)(B)(iv) of the Act and put this understanding of the market in the characterization reports contained in the docket for the NODA. Through its NODA, EPA invited potentially affected entities to provide EPA with further information or point to existing or suspected data gaps. EPA also held five workshops March 11–12, 2021, related to the AIM Act and focused on HFC use for five of the six applications (not including mission-critical military end uses) that can receive allocations. Materials from the five workshops are included in the docket to this rule. EPA still through this proposed rulemaking welcomes information on whether this is a complete listing of companies. Acknowledging the potential limits on

its knowledge, EPA also recognizes that it will need to provide application-specific allowances on a certain schedule, and so proposes to limit the application-specific allocation to 2022 for those companies that EPA is aware of by the close of the comment period listed above in the **DATES** section of this preamble. In a subsequent section, “*What is EPA’s Proposed Set Aside Pool of Allowances*,” EPA outlines its proposed approaches for setting aside additional allowances in the event that other end users are identified after the finalization of the rule. EPA recognizes that the preferred approach may vary by application depending upon the current methods for acquiring HFCs. EPA specifically requests comment from end users in these applications and the suppliers of those HFCs.

### 3. How is EPA proposing to address transfers of application-specific allowances?

EPA is proposing to allow limited transfer of application-specific allowances. Specifically, end users within a specific application may transfer their allowances only with another end user that will use the application-specific allocation for that same application. These could be viewed as “intra-application transfers.” EPA is proposing to prohibit transfers with companies in other applications. 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 would help to ensure that, after EPA allocates the full quantity of allowances necessary for each application, the full quantity stays 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 takes comment on this proposed approach, which seems consistent with Congress’s intent in creating this application-specific allocation program.

EPA is similarly proposing to prohibit the transfer of application-specific allowances back into the larger market for production and consumption allowances. 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 could not be transferred to produce or import HFCs for a use that was not enumerated. Note that there is no restriction on a company who uses HFCs in one of the listed applications from acquiring calendar-year allowances from the general pool or from

purchasing HFCs produced or imported with calendar-year production and consumption allowances. In other words, any company that uses HFCs in one of the six listed applications has several avenues for acquiring HFCs, for example if their actual demand exceeds the amount of HFCs covered by their application-specific allowances.

EPA is proposing similar restrictions to the sale of HFCs acquired by expending application-specific allowances. If an application-specific allowance was expended for the production or import of a regulated substance, that substance must be used solely for the application it was produced or imported for. EPA is therefore proposing to also prohibit the sale of that HFC for use in a different application from the one that was intended. This would be 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 proposing to allow the intra-application sale of material (*i.e.*, amongst companies within the same application), since such intra-application sale would be consistent with the exclusive use limitation. EPA requests comment on the described approach for allowances and HFCs acquired with those allowances.

### 4. What are the criteria EPA is proposing to use for evaluating application-specific allowance requests?

As discussed in section IX.D, EPA is proposing to collect information from companies who use HFCs in five of the six applications listed in the AIM Act. As noted previously, companies who believe they qualify for application-specific allowances should provide data on their historical and current use of HFCs in the relevant application to EPA by the date the comment period closes on this proposed rule. This information should also include 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

<sup>51</sup> For the purposes of clarity and consistency, any reference or mention of EPA issuing application-specific allowances in this proposed rulemaking to the end user of the HFC who is manufacturing the product excludes mission-critical military end uses. Instead, as noted earlier, EPA proposes to directly allocate application-specific allowances to the Department of Defense for mission-critical military end uses.

basis. For the initial five years after enactment of the AIM Act, EPA is proposing to base application-specific allowances on the eligible amount of HFCs used by each company requesting such allowances based on the higher of the two approaches:

- HFC use by the company in the specific application in the prior year multiplied by the average growth rate of use for the company over the past three years; or
- HFC use by the company in the specific application in the prior year multiplied by the average growth rate of use by all companies requesting that type of application-specific allowances (e.g., for MDIs) over the past three years.

EPA is seeking comment on whether the gross domestic product or U.S. population growth rates would be appropriate for each of the applications, and whether EPA should allow for consideration of individual circumstances factually documented to the Agency (e.g., when a company projects significant growth due to acquiring another company). EPA could also factor in the availability of reclaimed HFCs (if suitable), inventory of previously produced and imported HFCs, availability of alternatives, or other relevant features. EPA seeks comment on this proposed approach and other approaches it could adopt to allocate the amount of allowances necessary for each of the applications specified in subsection (e)(4)(B)(iv) of the Act. EPA also proposes that if future information reveals a company applying for application-specific allowances has provided false information, EPA reserves the right to revoke allowances, require future retirement of allowances at a greater level than the number of application-specific allowances allocated, prohibit companies from receiving future allowances if there is noncompliance with relevant legal and regulatory requirements, and pursue any other appropriate enforcement action.

#### *D. What are EPA's proposed provisions for transferring allowances?*

Subsection (g) of the AIM Act directs EPA to issue rules that govern the transfer of production and consumption allowances. EPA is proposing to establish transfer provisions in § 84.19 that are based in large part on the ODS transfer provisions.

EPA is proposing to require that the transferor must submit to the Administrator 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 or consumption 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 allowances issued for use in one of the applications listed in AIM Act subsection (e)(4)(B)(iv), 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 would then certify with records in its possession that the transferor has unexpended allowances sufficient to cover the transfer claim. Within three working days of receiving a complete transfer claim, EPA intends to issue either an objection letter or non-objection letter to the transferor and transferee. The transfer cannot proceed until EPA issues a non-objection notice. Given reporting to the Agency is often after the fact for quarterly activity, EPA is also proposing that if after issuance of a non-objection notice the Agency finds that the transferor did not have sufficient unexpended allowances to cover the claim, 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 transferor or transferee may file a notice of appeal, with supporting reasons, with the relevant Agency official within 10 working days after receipt of notification that a transfer was disallowed. 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 solely confirm that the transferor has sufficient allowances to cover the transfer. EPA also proposes to collect 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.

Additionally, subsection (g)(2) of the Act requires that the regulations “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 also specifies that, for transfers between two or more persons, the transferor's allowances be reduced by an amount greater than the amount of allowances being transferred.

EPA is proposing to allow transfers of allowances for HFCs provided the transferor's remaining allowances are reduced by the amount it transferred plus some percentage of the amount transferred (i.e., an offset). EPA is proposing that the offset be five percent, and is taking comment on a range from one percent to 10 percent. A five percent offset would meet the AIM Act statutory directive and provide a net environmental benefit without discouraging trading necessary to meet market demands.

EPA analyzed HCFC inter-company transfer data for 2010 through 2018. The amount of consumption allowances transferred each year ranged between five percent and thirty percent of the total number of allowances allocated. Thus, a five percent offset would 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 is considering and taking comment on an offset as low as one percent and as high as 10 percent. EPA is less inclined to use an offset as low as one percent because it would result in the least environmental benefit of the proposed options. EPA anticipates that the transaction costs resulting from a one percent offset would be minimal. Under the class I ODS allowance system, EPA required through rulemaking an offset of one percent for any U.S. transfer to achieve the reductions in production and consumption required for transfers by section 607 of the CAA (60 FR 24970, May 10, 1995). However, the phaseout of HCFCs included chemical-specific allowances and required a company to exchange allowances for one specific HCFC for another specific HCFC (See 68 FR 2820, January 21, 2003). In this rulemaking, EPA is proposing to issue allowances on an exchange value-weighted basis, which would provide allowance holders with the flexibility to determine which HFCs to produce or import without needing to make a transfer from one HFC to another HFC. In other words, the Agency is proposing to structure the HFC allocation program

in a way that negates the need to transfer allowances between regulated substances, and thus EPA anticipates fewer transfers overall than would occur under a chemical-specific phasedown schedule. EPA is also considering an offset amount as high as 10 percent to be more protective of the environment. This level of offset, however, could discourage transfers, resulting in less efficient allocation of production and consumption allowances. On the other hand, it may encourage the recovery and reclamation of HFCs.

EPA seeks comment on setting the offset at five percent and is also seeking comment on the full range presented. While numerically all the percentages would result in a greater total reduction, EPA is specifically seeking comment on how to balance the statute's intent of providing flexibility through transfers yet doing so in a manner that further reduces overall production and consumption, which would result in greater environmental protection. This proposal seeks to maximize the protection of the environment, while also providing for the ability to transfer allowances. However, it may be the case that tolling agreements, the fact that most HFCs are used in blends, or other factors result in market dynamics for HFC production and import that EPA has not considered. Evidence supported by data of harm to the market for HFCs or consumer access could be compelling to the Agency.

EPA is proposing that an offset would apply to all transfers of allowances under the AIM Act, including transfers of application-specific allowances, as subsection (g) appears to apply generally to transfers of allowances and does not exempt any allowances from its requirements. However, EPA is proposing a one percent offset, but is seeking comment on whether a lower offset amount in a range of 0.1 percent to one percent is more appropriate for the transfer of application-specific allowances between companies in a particular application. Since the AIM Act states that EPA should provide allowances under subsection (e)(4)(B)(iv) of the Act at the levels necessary for the statutorily listed applications, a lower transfer offset level may be more consistent with the intent of that subsection of the AIM Act.

Note that EPA is proposing that an application-specific allowance holder could confer their allowances to an importer or producer, who would procure the HFC for the end user, without any offset. EPA does not consider the conferral of allowances to be a transfer but rather an actualization of the allowance 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 proposing to allow these conferrals as part of the inherent process of ensuring end users can receive the necessary amount of HFCs. As discussed previously, EPA is proposing to define the term "confer," to distinguish the concept from "transfer."

EPA welcomes comments on the proposed size of the offset, the Agency's assumptions about the likely amount of transfers, and the treatment of transfer of allowances issued under subsection (e)(4)(B)(iv). EPA seeks comment in a later section of this proposal on the applicability of subsection (g) to international transfers.

#### *E. What is EPA's proposed set aside pool of allowances?*

As explained previously, it is reasonable for this initial allocation period to largely allocate allowances based on companies' practice in the market since 2017, but EPA also acknowledges that this approach could exclude companies that have historic practice in the HFC market that is not reflected in EPA's existing data and could create a market barrier to new market entrants. As a potential way to avoid these problems, in addition to the allocation framework and procedure outlined in the prior sections, EPA is also proposing to establish a single set aside pool of consumption and production allowances. The set aside pool as proposed would be available 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 recognized in the initial allocation of allowances (*i.e.*, the allocation called for by October 1, 2021); (2) importers of HFCs in 2017 through 2019 that have not been required to report through the GHGRP under 40 CFR part 98, where EPA does not learn 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. EPA is proposing that the set aside pool would not be open to companies looking to newly enter as producers of HFCs because the Agency does not wish to encourage the construction of new HFC production capacity.

EPA proposes to give priority access to the set aside pool to end users in the applications identified in subsection (e)(4)(B)(iv) of the Act. EPA acknowledges that not all end users may

be aware of EPA's regulatory activity in the HFC space, and providing access to the proposed set aside pool would ensure end users in the statutorily identified applications have the allowances necessary for their continued business. EPA proposes to issue allowances to these end users only for 2022, recognizing that once aware of the requirements these entities will be able to apply for 2023 in the same manner as all other application-specific allowance holders.

After allowances are provided to the (e)(4)(B)(iv) of the Act identified applications, EPA would provide allowances from the same set aside pool to importers that were not previously required to report to GHGRP and were not identified in time to be included in the general allowance pool. EPA is not including producers in this stage because all HFC producers were required to report to the GHGRP. EPA proposes to issue allowances to these previously unidentified importers only for 2022. EPA's expectation would be that once these importers came into the allocation system, these entities will have provided sufficient information to receive allocations through the general pool for 2023.

Finally, EPA is proposing to issue remaining allowances to new market entrants seeking to import HFCs in line with the criteria outlined later in this subsection. EPA is proposing to provide allowances for these new market entrants for both 2022 and 2023. EPA proposes to issue the new market entrants allowances for 2022 and 2023 at the same time in the same quantity for both years. As noted elsewhere in this proposal, EPA intends to revisit the overall process for allocating allowances for all years past 2024, but would generally expect these new market entrants to be able to participate the same as historic importers in those later future years.

EPA acknowledges that creating a set aside pool for new market entrants would deviate from historic regulatory practice under CAA Title VI, but given that the AIM Act outlines a phasedown, but not phaseout, of HFC production and consumption in the United States, in this instance it may be appropriate to continue to facilitate participation by new market entrants in the HFC import business. EPA further proposes to have this set aside pool accessible only to businesses that meet the Small Business Administration (SBA) criteria for a small business.<sup>52</sup> During the HCFC

<sup>52</sup> A small business is principally defined and determined based on size standards as established by the SBA. The size of a small business is defined

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's proposal would allow small businesses experiencing this challenge to request allowances as a new market entrant and import HFCs directly.

If the set aside program is established as outlined in this proposal, EPA specifically encourages businesses to apply for set aside allowances that may have had particular challenges entering the HFC import market due to systemic racism, market-access barriers, or other challenges particularly faced by small disadvantaged businesses such as minority- and woman-owned small businesses. EPA is mindful of the Executive Order on Tackling the Climate Crisis at Home and Abroad (E.O. 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). EPA conducted a preliminary review of HFC importers and HCFC allowance holders (available in the docket). EPA is specifically soliciting 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. The Agency is concerned that certain businesses historically have and could continue to experience difficulty entering the HFC market due to societal problems, such as systemic racism or sexism, and the Agency is 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.

EPA has reviewed data available to the Agency and determined that of the companies that imported HFCs between 2011–2013, eight companies were no longer importing HFCs by 2017–2019. It is possible some of these companies were still importing under a different name. Nineteen companies reported imports of HFCs in 2017–2019 that were not importing HFCs in 2011–2013. Again, it is possible that some companies changed names, which would reduce this number. With the exceptions of companies that were reporting under a different name, EPA would generally view these nineteen companies as new market entrants. If EPA establishes a set aside allowance pool, 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 is proposing to establish a set aside pool for new HFC importers of a total of five MMTEVe of consumption allowances for 2022, but is considering a range up to 15 MMTEVe. Because application-specific allowances can also function as production allowances, EPA is proposing to set aside one MMTEVe of production allowances as well. Because EPA anticipates the application-specific end users to be a smaller group than the other two groups, EPA is proposing a smaller set aside amount. EPA specifically invites comments on the size of the set aside for consumption and production allowances.

As noted previously, EPA proposes that priority access would be given to end users that would have been eligible for application-specific allowances. Such end users would be given an allocation equal to what EPA determines that end user would need. For the other applicants to the set aside pool, EPA proposes 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 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<sub>2</sub>e. EPA seeks comment on whether it should finalize a higher limit for companies other than those seeking application-specific allowances, up to one MMTEVe.

If there are more applicants for allowances than EPA has set aside, EPA

proposes to reduce each new market entrant applicant's share on a pro rata basis. EPA proposes that allowances received by applicants to the set aside pool would be nontransferable because this is the best way 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. If there are fewer applicants for allowances such that 2022 allowances remain in the pool, EPA proposes to redistribute them to the general pool of existing allowance holders on a pro rata basis by March 31, 2022. Alternatively, EPA could auction the remaining allowances by March 31, 2022, should it finalize this proposed set aside. An auction would promote a more dynamic market in which companies could choose to participate if they are seeing additional demand for allowances than they were allocated, and an auction allows companies to purchase allowances based on what the allowance is worth to the company.

EPA is proposing that companies would have until November 30, 2021, to apply to the set aside pool. For 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, they would apply to EPA in the same manner as they would for the application-specific allowances. For all other applicants, in order to apply to the set aside pool, EPA proposes that businesses would need to demonstrate that they have the ability and intention to enter the HFC import market. Specifically, EPA proposes to require applicants to the pool to submit an application showing: (1) Name and address of the company and the complete ownership of the company (with percentages of ownership); (2) whether the company is a woman or minority owned business; (3) contact information for the owner of the company; (4) the date of incorporation and State in which the company is incorporated and State license identifier; (5) a plan for importing HFCs; and (6) a prospective foreign exporter that the applicant anticipates working with. EPA recognizes that this new entrants pool, if not structured appropriately, could result in allowances going to companies that are already importing HFCs or are associated with companies that currently import HFCs. To prevent fraud and to ensure that these allowances go to new entrants in the HFC import business, EPA seeks comment on whether there are other data it should

by either the average number of employees over the past 12 months or the average annual receipts over the past three years and may vary based on a business's economic activity, or industry, under the North American Industry Classification System (NAICS). SBA further defines a small business as a for-profit business of any legal structure, independently owned and operated, not nationally dominant in its field, and physically located and operated in the United States or its territories (13 CFR part 121). <https://ecfr.federalregister.gov/current/title-13/chapter-I/part-121>.

request. EPA also proposes to limit the set aside to owners of companies, not operators or designated agents, and that businesses applying to the set aside pool cannot be a subsidiary of or have any common ownership stake or familial relationship with another allowance holder. EPA also seeks comment on whether it should limit new entrants to companies that have not previously imported HFCs. Given the focus of the set aside is to allow for companies that seek to newly import HFCs, providing allowances to companies who exited the import business seems at odds with the general goal of the set aside. If the set aside pool is limited to small businesses, applicants would also need documentation demonstrating that they meet the SBA criteria for a small business. EPA is soliciting comment on this list and invites public input on whether any of these items should not be included or if other elements should be added. EPA proposes that it would review the information provided, conduct follow-up verification as needed, and issue allowances to applicants that meet the stated program criteria no later than March 31, 2022. EPA also proposes that if future information reveals a company has provided false information or has not disclosed 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.

*F. What is EPA proposing to require for HFC-23 emission controls for allowance holders?*

As outlined in the definition section, EPA is proposing that the creation of a regulated substance beyond insignificant quantities inadvertently or coincidentally created in three specific circumstances would be considered “production.” As explained in an earlier portion of this section, EPA is proposing that such production, whether intentional or unintentional, would generally require expenditure of production and consumption allowances unless the regulated substance is timely destroyed. In this subsection, EPA is outlining a narrowing of this general approach particular to HFC-23. Specifically, EPA is proposing that HFC-23 must be captured and controlled to a specific standard outlined later in this subsection. Entities could either destroy the HFC-23 or expend production and consumption allowances to capture, refine, and sell it for consumptive uses.

As noted at the start of this section, the AIM Act provides EPA with significant discretion in how to establish an allowance allocation system. EPA is proposing to exercise this significant 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 currently, some HFC-23 is unintentionally created as a byproduct in chemical production processes and vented to the atmosphere.<sup>53</sup> EPA proposes that allowances created through the AIM Act cannot be expended for HFC-23 that is vented. An entity that creates HFC-23 would need to capture the HFC-23 and could either (1) expend production and consumption allowances to sell that HFC-23 for consumptive uses or (2) destroy the captured HFC-23 using a technology approved by the Administrator.

In the alternative, if EPA does not finalize the definition of production as proposed, or does not finalize the requirements around the exemption from expending allowances for production if regulated substances are timely destroyed, EPA proposes to use the significant discretion provided in the AIM Act to require that, in order to be eligible to receive production allowances under the system created through this rulemaking, companies must control, capture, and/or destroy HFC-23 byproduct that is created at facilities that produce regulated substances and that would otherwise be emitted to a specific standard outlined later in this subsection.

As further support for both EPA’s main and alternative proposed approaches to addressing HFC-23, EPA notes that HFC-23 is a regulated substance under the AIM Act. In the Congressionally provided table in subsection (c) of the Act, HFC-23 is assigned the highest exchange value of any regulated substance of 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). EPA has data available through the GHGRP indicating that there are emissions of HFC-23 at fewer than four

facilities in the country that produce other HFCs controlled by the AIM Act.<sup>54</sup> Because existing data suggests that absent control, there may be significant emissions of HFC-23 at facilities that produce regulated substances under the AIM Act, the AIM Act does not prevent a new entrant from producing HFCs if they have the necessary allowances, and because HFC-23 has a significantly higher exchange value than any other regulated substance under the AIM Act, EPA is proposing to require that an entity that creates HFC-23 would need to capture the HFC-23 and could either (1) expend production and consumption allowances to sell that HFC-23 for consumptive uses or (2) destroy the captured HFC-23 using a technology approved by the Administrator. Specifically, EPA is proposing that, no later than 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. The HFC-23 must be destroyed using a technology approved by EPA as outlined in section VII.B. of this rulemaking and 40 CFR 84.29(b). As explained further in the supporting documentation provided in the docket, EPA is aware that these facilities are already taking steps to control, capture, and/or destroy their HFC-23 emissions and that current information suggests that some facilities are controlling HFC-23 emissions to the proposed 0.1 percent standard or lower. EPA is also aware of continuous improvement projects underway to limit HFC-23 emissions at these facilities. Since some facilities have already achieved this standard, EPA is proposing that it is reasonable to require facilities to meet this standard. EPA acknowledges that some facilities may need to install and calibrate new equipment in order to meet this standard, and therefore is proposing a compliance date of October 1, 2022.

EPA recognizes that individual circumstances could arise that make it impossible for an individual facility to install necessary controls by October 1, 2022. Therefore, for companies that can 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

<sup>53</sup> See, e.g., “Fluorinated Greenhouse Gas Emissions and Supplies Reported to the GHGRP.” *Epa.gov*, Environmental Protection Agency, 24 Feb. 2021, [www.epa.gov/ghgreporting/fluorinated-greenhouse-gas-emissions-and-supplies-reported-ghgrp#production](http://www.epa.gov/ghgreporting/fluorinated-greenhouse-gas-emissions-and-supplies-reported-ghgrp#production).

<sup>54</sup> There are also reported emissions from other sources including from the production of HCFC-22 regulated under CAA Title VI. If EPA were to finalize under the alternative interpretation proposed, EPA intends to take separate action to address HFC-23 byproduct emissions from HCFC production.



under GHGRP, and provide information to EPA regarding their plans to meet the 0.1 percent HFC–23 emissions limit, EPA proposes that the Agency may grant a six-month deferral, subject to a one-time additional six-month extension. Alternatively, EPA is taking comment (in addition to taking comment on all proposals in this section) on whether the Agency should grant a one-time, one-year deferral with no possible extension. Under either method, companies would need to request such a deferral by August 1, 2022. EPA proposes to make a determination on an application within 30 days based on whether the company has demonstrated good faith efforts to comply with the HFC–23 emissions reduction requirement, there are reasons that have necessitated compliance deferral, and there are clear plans for the company to come into full compliance by the deferred date. EPA intends to publicly announce any compliance deferrals granted under this process.

EPA understands that destruction of HFC–23 may occur both at the facility where it is generated (on-site) and may also occur off-site at another facility, which may or may not be owned by the same corporate entity. In instances where HFC–23 is destroyed off-site, EPA proposes that the transportation to and destruction at the off-site facility would be considered in calculating compliance with the 0.1 percent emissions standard.

## VII. What other elements of the AIM Act is EPA addressing in this proposed rulemaking?

### A. How is EPA proposing to address 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.<sup>55</sup> 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.<sup>56</sup>

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 proposing to interpret 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) 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 is proposing that it would 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.

International transfers of production allowances allow for the production of a chemical to be consolidated at fewer plants in order to be able to achieve economies of scale as demand shrinks and the HFC phasedown progresses. EPA proposes to allow such production transfers where the requirements of the AIM Act are met.

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 their 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 proposed regulations that would 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 is proposing to 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.<sup>57</sup> If the foreign country does not meet the conditions in subsection (j)(1), EPA would notify the

<sup>55</sup> 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 intend to further address this aspect of subsection (j)(1) in this rulemaking.

<sup>56</sup> This review would be an internal procedure, but EPA would engage in notice and comment rulemaking to revise the regulations.

<sup>57</sup> 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 is thus not proposing to establish a list of countries that meet the conditions in (j)(1) at this time. EPA may consider whether to implement such a list at a future time, such as when the Agency starts implementing the Jan. 1, 2033, export prohibition in (j)(1).

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 would consider whether the applicable requirements in subsection (j)(2) of the AIM Act are met. For transfers to a foreign country, a U.S. company may engage in the transfer 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 lessor 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 proposing to issue 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 proposed § 84.7(b), which is an exchange value-weighted amount. EPA would 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 proposing that the U.S. company seeking to transfer allowances (*i.e.*, the “transferor”) must submit to EPA a signed statement requesting that EPA revise the number of production

allowances consistent with the requirements of subsection (j)(2)(A)(i)–(iii). EPA would determine which is the lesser of the three values. The transferor would also need to submit to EPA 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 seeks comment on whether it should additionally require prior 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 some 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.

In reviewing submissions for transfers to a company in a foreign country, EPA would consider whether the transfer and revised production limits meet the requirements in subsection (j), as discussed above. EPA is also proposing to define 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, EPA sees 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, and the total unexpended allowances held by entities in the United States, given EPA would not be able to approve a transfer if there were insufficient allowances to transfer, and is thus proposing to include these factors among those that could be taken into account. The Agency seeks comment on this proposal, and on whether and how it should consider other factors, including possible economic hardships created by an international transfer (*e.g.*, on U.S. employment) and potential effects on trade.

For transfers from a foreign country, subsection (j)(2)(B) of the Act provides

that the U.S. company may engage in the transfer if EPA finds that the foreign country has revised the domestic production limits of the regulated substances in the same manner as for transfers by a company in the United States. Accordingly, EPA proposes that the company must 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.” EPA is proposing that if the country uses an exchange value-weighted system similar to what EPA has proposed, 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 would be interpreted to mean the production level for the particular regulated substance involved in the transfer. In such a scenario, the production allowances transferred would be translated into exchange value-weighted amounts for purposes of tracking compliance with obligations under the AIM Act. EPA would 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 would 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.

EPA is proposing that the language in (j)(2)(A)(i) that establishes one of the thresholds for determining the appropriate reduction in production allowances as the maximum production level permitted “under this section” for the applicable regulated substance in the year of the international transfer be interpreted to restrict 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 in order 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. Under this proposal, subsections (j)(2)(A) and (j)(2)(B) would 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.

EPA seeks comment on this proposal and also seeks comment on whether those provisions could instead be interpreted to allow transfers from foreign countries where the country has satisfied the requirements in (j)(1) of the Act and established domestic production controls for the 18 HFCs regulated under the AIM Act, even if they are on a different phasedown schedule, and revised the maximum production limit established under those provisions to account for the transfer. The language in (j)(1) would allow for transfers of production allowances to a company in a foreign country if EPA has determined that the country has put in place “the same or similar requirements” as are contained in the AIM Act. In relevant part, this language appears to allow for transfers (*i.e.*, of allowed production) between the United States and countries that have capped their production and are phasing down listed HFCs, even if the requirements are not identical. EPA specifically solicits comments on how

the phrase “in the same manner as provided with respect to transfers by a person in the United States under this subsection” in (j)(2)(B) would be understood under such an interpretation.

For international production allowance transfers to a U.S. company, the company would need to submit to EPA a request that includes information on 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 U.S. market. This information would be helpful to EPA because once the transfer is complete, EPA proposes to 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. EPA seeks comment on whether EPA should require prior approval by a foreign country or some other commitment from the foreign country’s embassy in the United States verifying it has decreased allowable production before approving of the transfer. Additionally, EPA seeks comment on whether it could approve such a transfer if the foreign country has committed that it will decrease the allowable production after EPA approves but before the transfer occurs. For these transfers, any allowance revisions for the company in the United States would be reflected at the individual company level. In reviewing submissions for transfers from a company in a foreign country, the Administrator would consider whether the transfer and revised production limits meet the relevant requirements under subsection (j).

For both transfers from and to foreign countries, EPA, following review, would 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 proposed required conditions. In approving an international transfer, EPA would 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 would 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 would not adjust available allowances until the foreign country’s representative had confirmed the appropriate number of allowances were deducted in the foreign country.

For a transfer to a foreign country, the AIM Act does not limit the quantity of production allowances that may be transferred. EPA is seeking 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 seeks comment on what policies might be relevant in this context. Additionally, EPA is proposing 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.

If EPA approves the proposed transfer, EPA would 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 aggregate national U.S. 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 U.S. production during the three-year period prior to the date of the transfer is less than the total allowable U.S. production for that substance under § 84.7(b), then by the time of the transfer, U.S. 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 requests comment on whether there are any other scenarios where a greater reduction would be needed. In such circumstances, EPA is proposing to conclude that it would be appropriate for the required reduction in U.S. 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 would be 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 proposing 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 useable. If there is only one transferor, the reduction would be applied exclusively to that company. EPA would notify each transferor of the revised production limit before January 1 and the allowances would be useable as of January 1 for the full calendar year. The transfers would be deemed to occur as of January 1, the date the transferor's production limit is revised and the allowances are useable, for purposes of determining the three-year period for purposes of this analysis. The transferor would then be able to make timely market decisions with the remaining production allowances. EPA would rely upon the three most recent calendar years' worth of data. For example, if a request were submitted by October 1, 2022, EPA would 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, the timing for the availability and/or release of another country's data is unknown. Thus, EPA is proposing that it is reasonable to implement this provision through the three most recent calendar years' worth of data.

EPA requests comments on this proposal, including the proposed dates for submission of requests and approvals of the transfers, and additionally solicits comment on whether it should use a different three-year period for purposes of this analysis, such as based on the three-year period starting from the quarter closest to the date of the transfer that has data reviewed for accuracy by EPA. For example, EPA requests comments on an alternative under which if requests were submitted by December 31, 2022, they would be approved by March 1, 2023, and useable for the rest of that year, and the three-year period would be evaluated from October 1, 2019, to September 30, 2022. EPA further requests comments on how it should

proceed if information on the actual national production level for the applicable regulated substances is not available for all of the relevant three-year period. EPA also requests comment on whether rather than grouping the requests together, it should alternatively allow requests for international transfers to be submitted individually on a rolling basis over the year, evaluate them separately as they come in, and if any request happens to trigger a need to reduce the aggregate national U.S. production by an additional amount beyond a simple deduction of the number of allowances transferred, that additional amount would be applied exclusively to that requestor's balance.

EPA is proposing the following method to determine the transferor's balance of production allowances after a transfer to a company in a foreign country: The Administrator would determine which of the values under (j)(2)(A) of the Act leads to the lowest value and adjust allowance balance(s) accordingly. EPA requests comment on the proposed provisions and method used to calculate revised production limits for those wishing to transfer production allowances internationally. EPA also requests comment on its proposal if more than one company transfers production of an HFC to a foreign country or countries in one year, and on possible alternative methods to calculate these revised production limits.

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 proposing to interpret references to that term as synonymous with references to trade, the Agency is also proposing to apply 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 is proposing to conclude 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 would be reasonable to apply those requirements to international transfers as well. This approach would also result in an additional benefit for the environment

than would occur absent the transfer, consistent with (g)(2). See the discussion earlier in this proposal for the proposed offset that would be associated with transfers generally, including international transfers. EPA seeks comment on this proposal, as well as on whether international transfers should have the same offset level as all other transfers or if a level at the lower or higher end of the proposed one to 10 percent range is more appropriate. For comments addressing this issue, EPA requests that they include the commenter's views, if any, both on what level the Agency should use as an offset for international transfers and, if at a different level than other offsets, why a different level is warranted.

#### *B. How is EPA proposing to address destruction of regulated HFCs?*

1. Which destruction technologies is EPA proposing to approve for the destruction of regulated HFCs?

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 proposes a list of destruction technologies that would be considered approved for purposes of the AIM Act.

Many of the 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.<sup>58</sup> EPA proposes to find that technologies that destroy HFCs to a DRE of 99.99 percent are appropriate to list for approval under the AIM Act. There are three broad categories of destruction technologies: Thermal oxidation (incineration), plasma, and conversion (other, non-incineration) technologies. There are twelve destruction technologies capable of destroying HFCs other than HFC-23 to a DRE of 99.99 percent, and eight technologies capable of destroying HFC-23 to a DRE of 99.99 percent.

The 12 technologies that destroy HFCs other than HFC-23 to a DRE of 99.99 percent 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.

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

- *Conversion (3)*: Chemical reaction with hydrogen (H<sub>2</sub>) and CO<sub>2</sub>, gas phase catalytic de-halogenation, and superheated steam reactor.

The eight technologies that destroy HFC–23 to a DRE of 99.99 percent 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<sub>2</sub> and CO<sub>2</sub> and superheated steam reactor.

EPA proposes creating two lists of approved destruction technologies—one for HFC–23, which is more difficult to destroy, and one for all other regulated substances. 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.

EPA solicits comment on whether the list of destruction technologies is appropriate, whether any additional destruction technology should be considered, and notes that the Agency intends to consider adding additional destruction processes to the list of approved destruction technologies in the future as further technologies are developed. EPA also solicits comment on whether it should only establish one list containing only the eight technologies that can destroy HFC–23. This would ensure the technologies can adequately destroy the HFC with the highest exchange value. EPA is concerned that HFC–23 could be mistakenly taken to a destruction facility that is incapable of destroying the compound, such as when HFC–23 is contained in a mixture of other HFCs. This could be avoided by approving only destruction technologies that can destroy all HFCs.

### VIII. What enforcement and compliance provisions is EPA proposing?

Based on EPA's experience with the ODS phaseout in the United States,<sup>59</sup> the global experience phasing out ODS,<sup>60</sup> and the recent experiences in

countries that have already begun phasing down HFCs,<sup>61</sup> 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 mechanisms that discourage and prevent illegal production, import, and subsequent sales of illegally produced or imported HFCs. These proposals are designed, when taken together, 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.

In developing this proposal, 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 (NGOs) provide evidence of significant non-compliance 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

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>.

<sup>61</sup> "Doors Wide Open." *Eia-International.org*, Environmental Investigation Agency, Apr. 2019, <https://reports.eia-international.org/doorswideopen>. "Resources." *Alliancepolicy.org*, The Alliance for Responsible Atmospheric Policy, 1 Nov. 2020, [www.alliancepolicy.org/ref-imports/resources-2](http://www.alliancepolicy.org/ref-imports/resources-2).

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)<sup>62</sup> 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 had seen or been offered refrigerants in disposable cylinders—a common feature of illegally imported HFCs despite the EU requirement that HFCs be sold in refillable containers.

The review of European customs data presented in the EIA report and others back up this perception. EIA found that "bulk HFC imports in 2018 were too high for compliance with the 2018 quota."<sup>63</sup> EIA estimated that the amount of HFCs placed on the market in 2018 could be 16.3 MMTCO<sub>2</sub>e (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)."<sup>64</sup> Honeywell estimated that illegal imports were equivalent to more than five percent of the total CO<sub>2</sub>-weighted quota in 2015.<sup>65</sup> The law firm King & Spaulding, 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.<sup>66</sup> The European FluoroCarbons Technical Committee (EFCTC) cited analysis of customs records done by Oxera, who 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 was illegally imported (above the quota amount). They found that what was reported as exported from China alone was 16 percent higher than the amounts reported as imported into the

<sup>62</sup> "Doors Wide Open." *Eia-International.org*, Environmental Investigation Agency, Apr. 2019, <https://reports.eia-international.org/doorswideopen>.

<sup>63</sup> *Ibid.*

<sup>64</sup> *Ibid.*

<sup>65</sup> "10m Tonnes of Illegal F-Gas Enters Europe." *Coolingpost.com*, Cooling Post, 1 May 2016, [www.coolingpost.com/world-news/over-10m-tonnes-of-illegal-f-gas-enters-europe/](http://www.coolingpost.com/world-news/over-10m-tonnes-of-illegal-f-gas-enters-europe/) [www.coolingpost.com/world-news/over-10m-tonnes-of-illegal-f-gas-enters-europe/](http://www.coolingpost.com/world-news/over-10m-tonnes-of-illegal-f-gas-enters-europe/).

<sup>66</sup> See King & Spaulding, 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>.

<sup>59</sup> 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, [www.nytimes.com/1996/11/10/us/a-chilling-change-in-the-contraband-being-seized-at-borders.html](http://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, [www.epa.gov/ozone-layer-protection/enforcement-actions-under-title-vi-clean-air-act#2011](http://www.epa.gov/ozone-layer-protection/enforcement-actions-under-title-vi-clean-air-act#2011).

<sup>60</sup> 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.,

EU during 2016, six percent higher in 2017, and 21 percent higher in 2018.<sup>67</sup>

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.<sup>68</sup> These reports show significant growth in legal HFC imports from China into countries neighboring the EU. King & Spaulding cites a 2020 report by Oxera showing a 40 percent increase in HFC exports from China to EU neighbor countries from 2016–2018.<sup>69</sup> 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.”<sup>70</sup>

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 cylinders. King & Spaulding 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 transshipments, allocation abuse, open smuggling, and counterfeit material.<sup>71</sup>

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 five to 33 percent of the total U.S. allocation, that would equate to 13–90 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 U.S. agencies, such as Customs and Border Protection who 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 small cans that were advertised as “Cool Penguin F-12” (or CFC-12) in small cans for use in motor vehicle air conditioners.<sup>72</sup> 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.

Through the proposed requirements that follow, EPA is proposing to put in place strong enforcement and compliance measures at the outset of this new regulatory program developed pursuant to AIM Act authority to prevent or identify illegal activity in the United States and ensure compliance with the obligations under the AIM Act. Failure to do so could significantly harm the environment, the U.S. economy, and consumer and worker safety.

The experience in the EU and the grounded belief that a similar scenario could come to fruition 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. EPA understands 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, as indications that Congress intended for the statutorily required reductions in HFC consumption and production to occur. EPA is accordingly proposing comprehensive compliance and enforcement measures to help ensure that it can implement the allowance program so that it achieves these reductions.

EPA is proposing a multifaceted approach to prevent and identify noncompliance in order 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. Each element is intended to deter illegal activity and address such activity when it is identified. The key components of this proposal include:

- Administrative consequences to deter noncompliance and create pathways to address the impacts of noncompliance;
- Packaging (including requiring use of refillable cylinders) and labeling requirements;
- Increased oversight of imports including requiring consumption allowances to import heels and U.S. goods returned, petitioning to import regulated substances for transformation or destruction processes, reporting of transshipments, and prohibiting the import of virgin HFCs for disposal.
- Establishment of a comprehensive certification ID tracking system using QR codes or similar digital technology to track the movement of HFCs through commerce, including requiring anyone that introduces into interstate commerce or sells HFCs to be registered in the system;
- Recordkeeping and reporting;
- Third-party auditing; and
- Data transparency.

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. EPA and CBP have established working relationships regarding the imports of various goods subject to domestic regulation, including ODS. EPA intends to modify the Agency's electronic database

<sup>67</sup> “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, [www.youtube.com/watch?v=qQ08luEt7eg](https://www.youtube.com/watch?v=qQ08luEt7eg) and [https://stopillegalcooling.eu/wp-content/uploads/Oxera-webinar-slides.pdf?utm\\_source=webinar&utm\\_medium=email&utm\\_campaign=oxera](https://stopillegalcooling.eu/wp-content/uploads/Oxera-webinar-slides.pdf?utm_source=webinar&utm_medium=email&utm_campaign=oxera).

<sup>68</sup> 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>.

<sup>69</sup> See King & Spaulding (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.

<sup>70</sup> Ibid.

<sup>71</sup> 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](https://www.fluorocarbons.org/wp-content/uploads/2020/04/2020-04-15_Press-release-Kroll_final_website-1.pdf).

<sup>72</sup> 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.

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 by CBP of whether a company seeking to import HFCs is an allowance holder and has sufficient allowances for that specific import.

*A. What are the proposed administrative consequences available to EPA with respect to allowances?*

As noted elsewhere in this rulemaking, production allowances, consumption allowances, and application-specific allowances do not constitute property rights. The AIM Act gives the Administrator significant authority to determine an appropriate allowance system, which EPA proposes would include the authority to retire, revoke, or withhold allowances at the discretion of the Administrator under certain defined circumstances. For clarity and consistency, EPA intends to treat each of these potential consequences in the following manner:

- A retired allowance would be one that EPA would have otherwise issued to an entity for the next calendar year, but instead, may not be expended in the following calendar year by that entity, nor be transferred to any other entity. A retired allowance would effectively expire unused in the next calendar year. If an entity does not have sufficient allowances to retire, it would need to acquire those allowances (e.g., through a transfer) and retire them.

- A revoked allowance would be one that EPA rescinds after issuance to an entity. EPA proposes that any unexpended allowances held by an entity may be revoked as described below and then redistributed on a pro rata basis to the general pool.

- A withheld allowance would be one that EPA would have otherwise issued to that entity for the next calendar year, but instead, is redistributed on a pro rata basis to the general pool. Similar to a retired allowance, the entity that would have received the allowance would not be able to expend it nor transfer it; however, unlike a retired allowance which would expire unused, an allowance that is withheld from an entity would be redistributed.

EPA also proposes that there may be circumstances where the potential administrative consequence could be a ban on a company and/or its owner(s) receiving future allowances. In this scenario, EPA proposes that 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 regulated under the AIM Act. If EPA were to ban the company, EPA proposes that any allowances that the company has already received would be revoked, and any allowances that the company might have otherwise received in the future would be withheld and redistributed on a pro rata basis to the general pool. If EPA were to ban the owner(s), EPA proposes that any 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. EPA proposes this potential consequence both as a deterrent to prevent illegal production and import, but also to ensure that, if illegal activity occurs, 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.

These proposed administrative consequences for allowances are not intended to supplant or replace any enforcement action taken under the AIM Act. Instead, such consequences would be in addition to any applicable enforcement action.

*B. What practices could warrant EPA's proposed administrative action for allowances?*

EPA has identified the following types of practices that could warrant the Agency exercising its discretion to levy administrative consequences for allowances: falsifying information or data; not disclosing financial conflicts of interest or familial relationships in certain circumstances; noncompliance with the AIM Act or proposed prohibitions under § 84.5; and noncompliance with Department of Commerce (DoC) and CBP HFC trade provisions. Discussion of each of these categories as well as EPA's proposal regarding what administrative consequences may be taken for allowances follows. Any administrative action taken is not intended to supplant or replace any enforcement action taken under the AIM Act. Instead, such consequences would be in addition to any applicable enforcement action. In all cases, EPA could also ban a company and its owner(s) receiving future allowances for such action, depending on the severity of the noncompliance.

**1. Falsifying or Failing To Disclose Relevant Information**

As discussed previously in this rulemaking and detailed here, EPA is proposing that falsifying information with respect to application-specific allowances may warrant one or more administrative consequences for allowances. Specifically for application-specific allowances, EPA proposes that if future information reveals a company applying for application-specific allowances has provided false information, EPA reserves the right to revoke allowances and/or require future retirement of allowances at a greater level than the number of application-specific allowances allocated.

Falsifying or failing to disclose relevant information as described in the preamble section, "*What is EPA's Proposed Set Aside Pool of Allowances*" could warrant EPA exercising the right to revoke allowances and requiring the company to retire a greater number of allowances than those received through the set aside pool. 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 proposes to also have the ability to apply these provisions regarding revoking, withholding, and retiring allowances (with a premium as discussed elsewhere in this proposal), as well as banning all the companies and owner(s) involved from receiving future allowances.

**2. Compliance With the AIM Act**

EPA is proposing that the Agency could revoke or withhold allowances from an entity that has been found, through a concluded enforcement action, to have unlawfully produced or imported, or attempted to unlawfully produce or import, HFCs. EPA is also proposing that it could ban a company and its owner(s) receiving future allowances for such action, depending on the severity of noncompliance.

EPA is also proposing that if an allowance holder produces or imports, or attempts to produce or import, HFCs in excess of their allowances under the AIM Act, such as if an import arrives at a port without the appropriate allowances or there is production at a facility whose parent company does not have allowances, the allowance holder would be required to retire that amount in the following year. This administrative action would not be contingent on a concluded enforcement case. Instead it would be based on information available to EPA, such as



allowance availability at the time of production or import, or evidence from the QR code tracking system that a company is selling material that was produced or imported without allowances. EPA would have discretion to add a range of premiums based on the case specific factors such as the egregiousness of the violation and whether there are repeated violations. EPA is proposing a range of between 20 percent and 200 percent and welcomes comment on this range. In cases where the amount required to be retired in the following year exceeds the allowances held by the importing entity for the next year, EPA proposes that the allowance holder may be subject to complete revocation or retirement of its HFC allowances, or may not be issued allowances in future years or may receive a reduced allocation.

EPA is proposing these potential administrative consequences to deter illegal production and import. Illegal production and import undermine EPA's ability to meet the AIM Act requirement that EPA ensure that the United States' HFC production and consumption do not exceed the statutorily defined cap. The proposal to retire allowances also ensures there is an environmental benefit to account for noncompliance that could result in production and/or consumption above the permitted levels.

### 3. Violation of Department of Commerce and Customs and Border Protection Trade Provisions

EPA is aware of potential concerns with allocating allowances to entities that DoC has determined are dumping HFCs onto the U.S. market. 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."<sup>73</sup> 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 or the injury caused by such imports by imposing additional duties, termed Anti-Dumping/Countervailing Duties (AD/CVD). The amount of subsidies the foreign producer receives from the 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 subsidy duties are two ways that the U.S. government addresses dumping and unfair foreign subsidies. The U.S. government can require that foreign companies involved in dumping and/or benefitting from subsidization are charged a fee collected by CBP each time they import products into the United States. This helps negate the value of the dumping/subsidization and creates a fairer competition for U.S. companies. In findings of dumping, DoC issues a "Final Determination" that requires importing entities to pay AD/CVD before the case is considered resolved. EPA has placed a memo in the docket summarizing actions taken to date, as well as the HFC-relevant Final Determinations that it is aware of.

EPA is proposing that any entity that is subject to a DoC Final Determination and is requesting allowances for 2022 or 2023 must provide documentation of payment of the AD/CVD for HFC imported in 2017 through the date of this proposed rule, or provide evidence that those imports were not required to pay AD/CVD for those years. EPA is proposing not to allocate to companies in 2022 or 2023 that CBP determines are not in compliance with or are otherwise in arrears with their AD/CVD during those years. After an entity is issued allowances, if it is subject to a DoC Final Determination and does not pay the required AD/CVD within the required time frame, as determined by CBP, EPA proposes that the company may have its allowances for that year revoked or retired, or may not be issued future allowances or may receive a reduced allocation. EPA proposes that it could, after consulting with CBP, also ban a company from receiving allowances in the future as a result of noncompliance with the regulations governing payment of AD/CVD.

EPA is also proposing that the Agency would have the discretion to revoke, retire, or withhold allowances for companies that fail to use the correct Harmonized Tariff Schedule (HTS) codes with each shipment of HFCs or HFC blends. Intentionally misdeclaring the HFC or HFC blend in a shipment is one way importers may attempt to illegally import HFCs without allowances or with fewer allowances. As noted earlier, 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 would inhibit EPA's ability to conduct this crosscheck to ensure accuracy in and compliance with EPA's allowance system. EPA is

also proposing that the Agency would have the discretion to ban a company or the company owner(s) from receiving future allowances if the company repeatedly misreports HTS codes.

### C. What process is EPA proposing to apply administrative consequences for allowances?

EPA has provided examples where retirement, revocation, or future withholding of allowances may be warranted, including: falsifying or not disclosing relevant information in the case of application-specific allowances or new entrants; producing or importing, or attempting to produce or import, HFCs in excess of AIM Act allowances or otherwise not in compliance with AIM Act regulations (e.g., using HFCs claimed to be for feedstocks or in transshipments for other purposes); and an entity in arrears for any AD/CVD. 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. Additionally, any practice or combination of practices specified in the proposed regulatory text in § 84.5 "Prohibitions for regulated substances" may warrant EPA exercising discretion to apply one or more administrative consequences for allowances. EPA seeks comment on whether there are additional non-compliant activities it should explicitly list as instances where the Agency could retire, revoke, or withhold allowances. EPA has also described what a ban on a company and its owner(s) would entail with respect to allowances. As stated earlier, these administrative consequences are not meant to replace or supplant any applicable enforcement action that may be taken under any available statutory authority; rather, such consequences would be in addition to any applicable enforcement action.

EPA is proposing the following general process for retiring, revoking, or withholding allowances, and for banning a company or its owner(s) from receiving or obtaining allowances:

- Upon evidence or suspicion of practices including but not limited to the examples provided earlier, EPA would provide notice of impending allowance retirement, revocation, or withholding, or notice of impending ban, to the company that would set forth the facts or conduct that provide the basis for action. Notice would be provided no less than 30 days before the impending action. During this 30-day period, EPA proposes that the company would not be allowed to expend or transfer its allowances.

<sup>73</sup> "U.S. Antidumping and Countervailing Duties." *Trade.gov*, International Trade Administration, [www.trade.gov/us-antidumping-and-countervailing-duties](http://www.trade.gov/us-antidumping-and-countervailing-duties).

- Any company that receives such a notice of impending allowance retirement, revocation, or withholding, or notice of impending ban may choose to provide any information or data to support why their allowances should not be retired, revoked, or withheld, or why they should not be subject to a ban from receiving or obtaining allowances, 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 revoke or modify its notification, continue with the retirement, revocation, or withholding of allowances, or continue with the implementation of a ban from receiving or obtaining allowances. EPA's decision would occur within 30 days of the date of the Agency's notice. Should EPA revoke 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.

#### *D. What is EPA proposing for packaging and labeling requirements?*

This section discusses EPA's proposals to require: (1) A ban on disposable cylinders, such as DOT-39 cylinders, with limited exceptions, (2) the accurate labeling of the contents of cylinders, and (3) the use of tracking or identification technology. Together these requirements would disincentivize illegal imports, facilitate discovery of illegal imports, provide for better tracking of HFCs, and ensure that companies that have successfully maintained good standing are not put at a competitive disadvantage.

##### **1. Ban on Disposable Cylinders**

EPA is proposing a ban on the import and placement of HFCs in disposable cylinders with limited exceptions. The vast majority of HFCs packaged for sale to contractors are currently in DOT-39 disposable cylinders. A DOT-39 cylinder is strictly non-refillable and thus is designed for single use unlike refillable cylinders. A number of countries, including the EU member states, Australia, India, and Canada, have banned disposable cylinders in their countries.

Losses from all cylinders can occur under a variety of circumstances during

transport, storage, and disposal, the frequency and severity of which depends in part on the type of cylinder. However, HFC losses are most likely to occur and in the most significant quantities from disposable cylinders, including the residual amount of HFCs (heels) that remain in the cylinders. With disposable cylinders, these heels, which can measure up to eight percent of the quantity that was originally stored in the container, unless recovered would be released to the atmosphere when the cylinder is disposed of, with associated adverse consequences on the environment.

EPA is proposing to prohibit the import and placement of HFCs in disposable cylinders beginning July 1, 2023. Prohibiting the use of disposable cylinders, such as DOT-39 non-refillable cylinders, would increase environmental benefit including by ensuring the heels left in a cylinder are not released to the atmosphere when disposable cylinders are discarded. At least on two occasions, Congress has requested that EPA study the use of refillable cylinders. EPA reviewed previous studies and has provided updated analysis in a technical support document that can be found in the docket for this rulemaking. EPA estimates that replacing disposable cylinders with refillable cylinders in the United States would prevent the release of up to 5.2 MMTCO<sub>2</sub>e of HFCs per year.

In addition to the potential environmental benefit, adding a prohibition on the import and placement of HFCs in disposable cylinders would help ensure compliance with the consumption allowance system. EPA understands that other countries, such as the EU member states, have found advantages to prohibiting disposable cylinders including a recognition that often HFCs entering their markets illegally are contained in disposable cylinders. Several studies have found that illegal HFCs are entering European markets in disposable cylinders.<sup>74</sup> Prohibiting the use of disposable cylinders in the United States would provide CBP officers the ability to conduct a quick visual inspection to identify potentially illegal imports for follow-up.

EPA recognizes that the vast majority of HFCs packaged in 25-pound cylinders currently use DOT-39

disposable cylinders. Therefore, EPA is proposing to prohibit the import and placement of HFCs in disposable cylinders beginning July 1, 2023. Since similar prohibitions have been successfully implemented in many other countries, EPA does not consider a longer lead time necessary but does recognize that a prohibition consistent with the effective date of the final rule may be too short to allow for an orderly transition.

In developing this proposal, EPA considered one to two years from the publication of the final rule to transition to refillable cylinders. EPA is proposing that a compliance date of July 1, 2023, would provide appropriate time but is requesting comment on a shorter timeframe. EPA is not proposing a compliance date after January 1, 2024, since EPA wants to ensure that HFCs in heels are not vented or otherwise go unused in order to meet demand when the next stepwise reduction in production and consumption occurs. Therefore, EPA is proposing to prohibit the import and placement of HFCs in DOT-39 and other disposable cylinders starting July 1, 2023, in advance of the step down in production and consumption that occurs on January 1, 2024. This timing also supports the proposal to establish a certification system for tracking legally imported and produced HFCs. EPA is also proposing to require that all refillable cylinders have a unique etched serial number. As noted later in the proposal, this etched number would be useful under the proposed certification identification and labeling requirements.

Following the July 1, 2023, ban on disposable cylinders, EPA is proposing to still allow 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 ban as EPA perceives in banning all 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).

EPA is considering how best to address disposable cylinders that are in existing inventory on July 1, 2023, and invites comment on this issue. This compliance date may provide sufficient time and notice to this industry to transition into refillable cylinders such that no special accommodation is needed. However, EPA could establish a limited sell-through provision, such as for six months, on the condition that

<sup>74</sup> "Illegal Refrigerant Imports Could Be as Much as One Third of EU Market." *Fluorocarbons.org*, The European FluoroCarbons Technical Committee, June 26, 2020. [www.fluorocarbons.org/wp-content/uploads/2020/09/EFCTC\\_Press-Release\\_EN-2.pdf](http://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, <https://reports.eia-international.org/doorswideopen>.

anyone wishing to sell HFCs in a disposable cylinder after January 1, 2024, from their existing inventory would have to register each cylinder with EPA no later than November 15, 2023, and provide information on the HFC or HFC blend in each cylinder and the origin of the cylinders (*e.g.*, imported, purchased from supplier X on Y date) to distinguish them from new refrigerant cylinders entering the market. To support effective enforcement and compliance of the ban, EPA is proposing that as of January 1, 2025, 18 months after the disposable cylinders ban takes effect, EPA would prohibit the sale or offer for sale of regulated substances contained in disposable cylinders. Eighteen months should be sufficient to allow for existing inventory of regulated substances contained in disposable cylinders to be sold or transferred to refillable cylinders. EPA requests comment on whether 18 months is an appropriate length of time for cylinders to work their way through the market, or if more or less time is warranted.

## 2. Ban on Importing HFCs To Be Used in Feedstocks in Cylinders

EPA is proposing to prohibit the import of HFCs intended for use in a process resulting in their transformation or destruction in cylinders designed to hold 100 pounds or less of a regulated substance. As discussed in section VIII.F. of this preamble, EPA is proposing that such HFCs may be imported without a consumption allowance. These HFCs are typically imported, and used, in large volumes at specific facilities. EPA does not anticipate this proposal would affect current business practice. Instead, this proposal is intended to deter attempts to claim that imports of HFCs in cylinders do not require allowances because they are for transformation or destruction processes. EPA requests comment on the typical container size for HFCs sold for use in a process resulting in their transformation or destruction, and whether 100 pounds is an appropriate threshold for this requirement. The Agency expects it could be higher than 100 pounds, but takes comment on whether to finalize a higher or lower threshold.

## 3. Labeling

EPA is proposing 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, EPA is proposing that all containers of bulk

regulated substances should state, legibly and indelibly, in numbers and letters at least  $\frac{1}{8}$  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 seeks comment on whether the label should also include the quantity of HFC in the container. EPA does not anticipate that this proposal would result in any additional burden on refrigerant distributors or importers as such identification is the current practice. EPA requests comment on this presumption and whether there would be any burden associated with this proposal.

This proposal is intended to facilitate more effective enforcement and deter future noncompliance. EPA anticipates that smugglers will misidentify HFCs as some other compressed gas to evade import restrictions. One method used to illegally import ODS refrigerants was to identify it as an HFC, since allowances were not required to import HFCs at that time. Under this method of illegal import, once the unidentified or misidentified regulated substance entered the United States a domestic counterpart who knew the true identity of the compressed gas would relabel the cylinder with the correct substance so that it could be commercially useful. As such, EPA is also proposing that repackaging material that was initially unlabeled or mislabeled would be considered a knowing violation of this subpart.

EPA is also aware that some virgin material may not contain components in ratios that match that required of the blend. While historically that may have been due to the refrigerant being of low quality, there are now incentives for importers to intentionally misstate the contents which has implications for the allocation system. Mislabeling a blend that has a high EVE as a blend with a lower EVE or labeling a cylinder with a random mixture of HFCs as a particular blend both are misrepresentations that would cost allowances that do not reflect the actual contents of the cylinder. Such violations would hinder the Agency in meeting the requirement under subsection (e)(2)(B) of the AIM Act that EPA is charged with “ensur[ing] that the annual quantity of all regulated substances produced or consumed in the United States does not exceed” the statutorily prescribed phasedown schedule. This proposal is aimed at helping ensure EPA meets the directive of subsection (e)(2)(B).

To provide a way to check the accuracy of the label, EPA is proposing

to require producers and importers to batch test their product and retain records indicating the results of the batch testing. EPA invites comment on how to best implement this proposal.

EPA also requests 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 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 do not match that required of the blend.<sup>75</sup>

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 is proposing to 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 enters interstate commerce. Under this proposal, a company would have to expend the requisite allowances to import HFC-23 in order to be able to legally bring the unlabeled HFCs into interstate commerce (*i.e.*, clear Customs). The company could also choose to have the shipment held at port until they can arrange for testing to show what the contents are and would need to relabel the container before clearing Customs and enter interstate commerce. 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, for example at a port, so providing a clear presumption that could be used in such circumstances would facilitate compliance and enforcement efforts. This proposal would reduce the safety risk of having unlabeled cylinders at Customs or in commerce. It would also reduce the potential to damage

<sup>75</sup> See Air Conditioning, Heating, and Refrigeration Institute (2013). Reports of R-134a Contaminated with R-40 and Other Refrigerants [White paper]. [https://www.ahrinet.org/App\\_Content/ahri/files/News%20Room/Press%20Releases/2013/AHRI\\_R\\_40\\_Contamination\\_white\\_paper.pdf](https://www.ahrinet.org/App_Content/ahri/files/News%20Room/Press%20Releases/2013/AHRI_R_40_Contamination_white_paper.pdf).

equipment resulting in the release of refrigerant and harm to the environment. EPA requests comment on appropriate measures to deter the import of unlabeled cylinders. EPA also requests comment on whether the agency should instead simply deny entry or ban import of such unlabeled cylinders.

#### *E. What is EPA proposing to require for auditing?*

EPA is proposing to require external audits performed by certified public accountants (CPAs) on an annual basis for all producers, importers and reclaimers to improve the integrity of the allocation program. An audit would be a systematic review of financial records and other transaction documents to verify that the annual reports provided to EPA are accurate. EPA is proposing to require external audits conducted by an independent accountant or auditor in the United States that is certified by the American Institute of Certified Public Accountants. EPA is soliciting comments on additional ways to ensure the independence of auditors and integrity of the auditing process, including potential compliance-related efforts.

Numerous economic studies have found that third-party auditing improves company and individual compliance with the law.<sup>76 77 78</sup> EPA has used third-party auditing to improve regulatory compliance in rules, including the Renewable Fuels Standard (79 FR 42080). As noted in the Renewable Fuels Standard rulemaking, there is expert consensus that well-implemented third-party auditing is a good use of limited enforcement and oversight resources. 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 or unfair in their auditing or reporting.

EPA is proposing that entities subject to the reporting requirement 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. At a minimum, reporters would have auditors review, as appropriate:

- The amount of production and consumption allowances allocated;
  - The amount, timing, and parties to allowance transfers, and the associated documentation and offset amount;
  - The amount of HFCs imported, exported, produced, destroyed, transformed, or reclaimed;
  - For allocation-specific allowances, the amounts of allowances conferred, HFCs purchased, the specific application for which the HFCs were provided, and the names, telephone numbers, and email addresses for contact persons for the recipient companies;
  - The date and the port from which HFCs were imported or exported;
  - A copy of the bill of lading and the invoice indicating the quantity of HFCs imported or exported;
  - Relevant commodity codes;
  - The number and type of railcars, ISO tanks, individual cylinders or drums, small cans, or other containers used to store and transport HFCs;
  - List of QR codes used and the digital transaction history associated with those codes; and
  - Other information deemed relevant.
- EPA is proposing that the third-party auditor would send the results of their audit directly to EPA no later than May 31 of the subsequent year. EPA is proposing May 31st because it should allow sufficient time after the annual reports are due to conduct an audit.

EPA solicits comments on requiring an annual audit performed by a CPA covering the elements listed in this section. Among other topics, the Agency is interested in comments on the frequency of the audits, the qualifications of the auditors, and the timing for submission of the audits to EPA. Recognizing there is a cost for an audit regardless of the size and there may be less environmental value in requiring an audit for a company reporting small volumes of HFCs, EPA also seeks comment on whether it should limit the frequency of audits for companies that report less than 25,000 MTEVe. EPA also seeks comment on whether the auditor should review additional records, such as records of raw materials and feedstock chemicals used at each facility for the production of regulated substances, or whether that type of review would be more appropriate for an engineer.

#### *F. Petitions To Import HFCs as a Feedstock or for Destruction*

EPA is proposing that all bulk imports of HFCs into the United States either require the expenditure of consumption allowances or be authorized through a non-objection notice issued by EPA. This section discusses EPA's proposal to establish a petition process to authorize entities to import HFCs without expending allowances. There are two types of shipments addressed in this subsection. First, virgin HFCs are imported for use in a process resulting in their transformation (*i.e.*, as feedstocks) or destruction. Second, used HFCs are imported into the United States to be disposed of 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. HFCs used for transformation are exempt from production, and therefore consumption, and do not require allowances. Typically, companies that need HFCs for feedstock use create the HFCs at the same facility, but HFCs can also be transported from another location. This is called second-party transformation. This proposal addresses the risk of unlawful behavior associated with transporting feedstock HFCs.

With respect to destruction of HFCs that have been used and recovered, these chemicals can become contaminated beyond the point that reclamation is economical. Providing a pathway for proper disposal of these used HFCs within the United States can benefit the environment and the domestic destruction industry. EPA is proposing to limit the petition process for destruction to used HFCs, and require consumption allowances to be expended to import virgin HFCs, to keep this process narrow and tailored in an effort to reduce the potential for illegal imports.

EPA is proposing a petition process based in large part on the one found in 40 CFR 82.13(g)(5) and 82.24(c)(6) for the import of used ODS for destruction. EPA proposes to require the importer of HFCs for feedstocks or destruction to submit a petition to EPA at least 30 working days before the shipment's departure from the foreign port. EPA is proposing other elements to verify that these imports will in fact be transformed or destroyed.

<sup>76</sup> 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. doi:10.1093/qje/qjt024.

<sup>77</sup> 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) <https://doi.org/10.3982/ECTA9113>.

<sup>78</sup> Marcelo Bérigolo, Rodrigo Ceni, Guillermo Cruces, Matias Giacobasso, 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.

Specifically, EPA proposes that the petition would include the following elements: (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. 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 entry of the individual shipment into the United States; (vi) name and address of any intermediary who will hold the material before the HFCs are transformed or destroyed; and (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 (or application for an export license) from the appropriate government agency in the country of export.

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 is proposing that HFCs imported under this process for transformation or destruction be transformed or destroyed, as applicable, within 60 days of being imported into the United States. EPA is taking comment on whether it should consider a longer timeframe such as 90 days. EPA is also taking comment on whether it is appropriate to allow a longer timeframe for regulated substances to be used as feedstocks, up to 12 months. EPA is also proposing to require that the petitioner submit records indicating that the substance has been transformed or destroyed within 45 days after its transformation or destruction. EPA is also proposing 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 proposal would both expedite Customs clearance and result in a more secure border. It would prevent an importer from falsely claiming that their shipment does not require allowances or authorization from EPA because it is exempted. It also would track the movement of the import after entering the United States by attaching reporting obligations of the transformer or destruction facility.

EPA requests comment on other approaches to prevent the import of HFCs mislabeled as feedstock or intended for disposal by destruction. For example, EPA is considering whether a notification to EPA, rather than a petition, could be sufficient in preventing unlawful trade. Alternatively, EPA could require importers to register with the agency to be able to import HFCs for transformation and destruction uses or disposal and/or participate in the QR code tracking system.

#### *G. How is EPA proposing to track the movement of HFCs in commerce?*

The Agency is proposing to establish a certification program that would use tracking or identification technology such as QR codes<sup>79</sup> or some other tracking identifier to track the sale and distribution of HFCs starting January 1, 2024. This proposal seeks to ensure that HFCs introduced into and distributed or sold in the United States are covered by an allowance or were reclaimed. Distribution and sale of HFCs that did not enter the market legally would lack a certification and thus could be easily identified. This program would support compliance and, where needed, enforcement action. Buyers would also be able to know that they are purchasing legal HFCs. EPA is taking comment on the proposals related to this electronic tracking system including ways to make it simple and not burdensome to use, while maintaining the same

functionality including the ability to report electronically.

Under this proposal, EPA would assign certification IDs to producers and importers based on the quantity of production and consumption allowances they have. As allowances are expended, the certification IDs associated with those allowances would be assigned to the corresponding HFCs, prior to the shipment of HFCs clearing Customs or being readied for transport from a production facility. For imports, the appropriate QR code would need to be affixed prior to clearing Customs so the certificates could be confirmed by Customs while still at the port. The certification system would be linked to the allowance allocation to ensure that allowances were obtained for each MTEVE produced or imported. The certification would be tracked using a physical label containing 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 would point to a website with a database that would indicate at least the initial allowance holder, the quantity and common name of the HFC, the name it is currently being marketed under, and the date of production or import.

Each time the material is bought/sold, or partitioned into another container, the tracking information would be updated. If HFCs are blended, the database entry for the identifier for that container would be updated by the blender to reflect that new information. EPA would establish protocols that ensure once the tracking information is entered, the system would not allow the data to be altered retroactively, thereby preserving the integrity of the information. EPA is proposing that the certification continue to 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 product. Similarly, a factory charging HFC refrigerant into an appliance would be the final customer. HFCs used in field charged or field serviced applications would continue to have the certification accompany them until they are sold to a contractor or technician.

EPA's general understanding of the supply chain is that HFCs (from production or import) are shipped in large ISO tanks, individual cylinders or drums, and small cans. The material is then sold to entities that would be considered part of the distribution chain—that is, the entity is neither the importer nor the end user (such as a

<sup>79</sup> 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 proposed rule we use the phrase QR code as a stand-in for 'physical media that facilitate digital inventory tracking'. The final rule may or may not require QR codes specifically (bar codes and RFID chips are other possibilities, for example).

refrigeration or air conditioning contractor). 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. EPA is proposing that anyone selling HFCs would need to be registered in the system to allow for legal HFC to be tracked from the point of introduction into commerce to the point of sale to the final customer (*i.e.*, the person that will use the HFC) so that any illegal HFC offered for sale at any point in the distribution chain could be identified. Sellers would need to scan the containers as they are sold, and buyers who intend to sell the HFCs, other than the final customer, would need to do the same. EPA seeks comment on ways it could minimize burden for users, such as allowing for whole purchases or pallets to be scanned under one code, or having the system capture the information in a way where no or limited data entry is required once logged into the system.

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, would be required to enter information in the system and generate a new QR code for the new containers and add information on: the brand it would be sold under, the quantity and composition of HFC(s) in the container, the date it was packaged or repackaged, the certification IDs associated with the HFCs (if being repackaged), the quantity of containers it was packaged in, and the size of the containers. EPA is providing additional information in the docket concerning the supply chain for HFCs and the entities we believe are potentially affected by this system, and seeks comment on whether there are other entities that are not reflected in the memo. EPA also seeks comment on whether exporters should have to register and note when they export HFCs, such as destination, date of export, the certification IDs associated with the containers exported, and other Customs records (including bills of lading), to support the proposed reimbursement of allowances when HFCs produced or imported with allowances are exported.

EPA recognizes that not all HFCs would enter the market through the expenditure of an allowance. Most significantly, HFCs recovered in the field (*e.g.*, refrigerants) are sent for reclamation and can be resold into the market after they meet specific purity standards. 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. EPA would generate certification IDs for the reclaimer in an amount equal to the quantity reclaimed in the previous year plus an amount based on the average annual growth in total U.S. HFC reclamation in the prior three years or five percent, whichever is higher. EPA anticipates reclamation will increase over time. Reclaimers could request additional certification IDs from EPA if the initial distribution was insufficient and the reclaimer provides information to the Agency that can allow the Agency to confirm that additional reclamation is occurring. The data behind that QR code would be similar to that for HFCs produced or imported with allowances but would indicate that it is reclaimed and list the reclaimer.

To ensure regulated HFCs sold by reclaimers are legally reclaimed material and eligible for sale, EPA is proposing that reclaimers would need to log into the certification ID tracking system and, for each container of HFCs prior to selling regulated substances, provide information like the date the HFC was reclaimed 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; whether the purity of the batch was confirmed to meet the specifications in appendix A to 40 CFR part 82, subpart F; on what date the batch was tested; and who certified it met the specifications. If a container is filled with reclaimed and virgin HFC(s), EPA proposes that the reclaimer would have to also provide information on how much virgin HFC was used and what the origin of that material was (*e.g.*, the certificate IDs associated with that material). EPA expects there could be a way to build in a batch feature so the reclaimer could enter a total mass of HFCs that are reclaimed and a total mass of HFCs that are virgin and the certification IDs associated with the QR code on each of the containers would reflect the relative percentage of reclaimed and virgin material associated with each container, assuming the virgin and reclaimed HFCs were evenly mixed before being put into the new containers.

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 conditioner (MVAC) or MVAC-like appliance and is to be used only in an MVAC or MVAC-like appliance and recycled in accordance with 40 CFR part 82, subpart B (see 40 CFR 82.154(d)). EPA is

proposing to allow this practice to continue without requiring registration in the certification identification system. EPA requests comment on whether additional recordkeeping and/or reporting should be required, such as the total quantity of HFCs purchased, recovered, recycled on-site, sent off-site for reclamation or destruction, and charged into MVACs. If someone is selling bulk HFC, other than for use by that company for servicing MVACs, for example to another auto shop, they would 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 is proposing a compliance date of January 1, 2024, for these provisions. That would allow time for much of the HFCs in the distribution chain prior to that date to work its way through the supply chain. EPA is proposing that as of January 1, 2024, it would be unlawful to sell or distribute HFCs in a container that does not bear a legible QR code. The sale and purchase of uncertified HFC (or HFC in a container without a legible QR code) would be illegal and subject to civil and criminal enforcement to prevent smuggling and/or bypassing of the exchange system.

EPA proposes that anyone wishing to sell HFCs produced, imported, or reclaimed prior to January 1, 2024, must register each container of HFC with EPA no later than November 15, 2023, for EPA to assign a certification ID for each container. The registration must provide information on the amount(s) and type(s) of HFCs and HFC blends, the containers the HFC material is in, any unique identification numbers assigned to the containers, and the origin of the HFC(s) (*e.g.*, imported, purchased from supplier "X" on Y date) to verify they were legally imported. EPA would assign the appropriate certification ID for each container of HFCs if sufficient documentation is provided. EPA is concerned that smugglers could attempt to register illegally imported material through the process and seeks comment on whether additional requirements are needed to ensure illegal HFCs are not receiving certification IDs that would in effect make them legal. EPA is proposing to require a one-time report for anyone who requests certification IDs for previously imported, produced, or reclaimed HFCs including the company's inventory levels as of December 31 for the prior three to five years, so EPA could assess whether there was significant upward growth during that time. EPA could also require a random audit of the company's

records to ensure the information provided to EPA is accurate. EPA could also establish administrative consequences for suppliers that are found to not be in compliance or who have misrepresented information to EPA.

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,<sup>80</sup> 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 both the buyer and seller in the accountability process and provide the buyer with accurate information on the origin of the HFCs they intend to purchase.

EPA views the use of QR codes that would be generated by EPA for production, import, and reclamation of HFCs as an alternative to a more burdensome recordkeeping option described below in this paragraph. EPA seeks comment on whether such a recordkeeping and reporting provision, that would not be backed up by an EPA electronic system, would be appropriate in lieu of a system based on electronic reporting. EPA seeks comment on whether such a recordkeeping and reporting provision, which would not be backed up by an EPA electronic system, would be appropriate in lieu of a system based on electronic reporting. This type of approach might still require a QR code, additional label, or other identifier be affixed on each container at the point of import, to allow for CBP to verify the contents of the container and/or to identify the importer, or once the produced or reclaimed material is first put into a container. But the movement of HFC material would not necessarily be reported in real-time by market actors by scanning those codes. Instead, detailed recordkeeping, and potentially

reporting requirements, would be used to document every sale of HFCs to verify the chain of custody from the point of production, import, or reclamation to the end user or final seller of the HFC. EPA could also require a signed statement between the buyer and the seller verifying that the material being sold was acquired legally (e.g., imported or produced with allowances). As part of the paperwork, the seller would have to maintain records of the prior seller(s) back to the point of production, import or reclamation. EPA could also require this information be reported regularly to the Agency, similar to the requirements for Renewable Identification Numbers (RINs) under the Renewable Fuels Standard. If EPA were to require substantial recordkeeping and reporting it could create additional burden for all parties, and those at the end of the distribution chain, frequently small businesses, could be disproportionately impacted. As a result, EPA is proposing a more streamlined approach and would develop an IT system that could simplify this process and store the appropriate records and data needed to verify the chain of custody of HFCs.

EPA is soliciting comment on establishing a certification program that would follow the HFC through the supply chain including instances where the HFCs are repackaged and/or blended as described above. EPA solicits comment on alternatives to the proposed QR code mechanism, including not relying on physical media attached to the shipment, and other means to access a database. EPA understands that many companies, including companies producing, importing, and reclaiming HFCs already use digital inventory systems. EPA welcomes feedback on how it could set up such a system. EPA also welcomes comments on how to streamline data entry by entities that subsequently purchase the material after the legal HFCs are assigned a tracking ID, including the use of QR codes, starting January 1, 2024. EPA is also requesting comment on the January 1, 2024, compliance date, which would align with the proposed 2024 reduction in production and consumption and would follow closely behind the proposed prohibition on the use of disposable cylinders.

If EPA were to finalize a certification ID tracking system with QR codes, EPA is proposing 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 proposes to release the

following information: (1) Whether the HFC being sold is legal to purchase based on existing records; (2) when the HFC was produced, imported, or reclaimed and by whom; (3) what HFCs are included in the container; (4) if reclaimed HFC, whether the purity of the batch was confirmed to meet the refrigerant purity standard in appendix A to 40 CFR part 82, subpart F (based on AHRI 700–2016), when was that confirmed, and by whom; (5) what the brand name associated with the container is; and (6) all prior sales of the certification ID associated with a container of HFCs.

As noted previously, certification-specific data would accompany each kilogram of HFC moving through commerce (as tracked with a QR code). While EPA sees value in releasing all of these data to the general public in a comprehensive database both for transparency and to enable the certification ID tracking system to fully operate in support of overall program compliance, EPA anticipates that if all information was publicly available in the database, item (6) could potentially divulge information submitters customarily keep private or closely held. For example, if all the data in the database were available publicly without the need to scan every container of HFCs, someone could identify the total amount of each HFC produced or imported by a company in a given year and all the customers associated with a given producer or importer. EPA is seeking comment on whether submitters consider the information submitted for item (6) to be information they customarily keep private or closely held. If so, the Agency will make a decision in the final rule as to whether the Agency will provide an express assurance of confidentiality for the information and how it will protect that information from unauthorized disclosure.

Alternatively, to protect information submitters may customarily consider to be private or closely held, and to assuage concerns about divulging information in item (6), EPA proposes to not to make the full dataset available publicly. The Agency could limit the ability to view the data for a single container (or full shipment of containers) to the current buyer and seller. EPA sees several ways this could work. The Agency could restrict access to the system, so only registered users could scan a QR code, and a user would only be able to view active codes that they had scanned into their “inventory.” EPA could also limit the ability of an individual to view data in the system to within a certain time

<sup>80</sup> “O.C. Man Pleads Guilty to Illegal Sales of Ozone-Depleting Refrigerant.” *The Orange County Register*, Nov. 2018, [www.ocregister.com/2018/03/08/o-c-man-pleads-guilty-to-illegal-sales-of-ozone-depleting-refrigerant](http://www.ocregister.com/2018/03/08/o-c-man-pleads-guilty-to-illegal-sales-of-ozone-depleting-refrigerant).



period after scanning the code. EPA seeks comment on other ways to prevent the release of information submitters customarily consider confidential from such a system. If the Agency cannot identify a way to protect item (6), it could withhold that data element from inclusion in the publicly available data associated with the certificate tracking system.

#### **IX. What are the proposed 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 the Administrator; used and entirely consumed (except for trace quantities) in the manufacture of another chemical; or, used as a process agent.

##### *A. What generally applicable recordkeeping and reporting provisions is EPA proposing?*

EPA is proposing recordkeeping and reporting requirements for any company that produces, imports, exports, 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 would be subject to the proposed recordkeeping and reporting requirements. In other words, under this proposal, there would be 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 proposing to require quarterly reporting. Quarterly reporting helps to ensure that annual production and consumption limits are not

exceeded. The proposed frequency is necessary for the Agency to review allowance transfer requests, of which remaining allowances is a major component of the Agency’s decision. In EPA’s experience, many companies have expressed their preference for and found it easier to compile reports for a given quarter than to compile an annual report.

EPA is proposing that reports required by this section be submitted to the Administrator within 45 days of the end of the applicable reporting period, unless otherwise specified. Quantities would be stated in terms of kilograms for each regulated substance unless otherwise specified. The report would need to be signed and attested by a responsible officer (EPA is proposing to consider an appropriate responsibility officer to match the meaning of the CAA (42 U.S.C. 7401 *et seq.*)) and copies of records and reports would need to be retained for five years.

EPA is proposing that reports required by any regulations finalized in this rulemaking be submitted electronically using the EPA’s Central Data Exchange (CDX) through e-GGRT. EPA is working to minimize duplicative reporting between the AIM Act and the GHGRP and having reporting done through e-GGRT will aid in the synchronization of these systems. EPA is also proposing that 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. Reporting at the facility-level will also provide finer detail to aid in EPA’s review of compliance throughout the system.

##### *B. What recordkeeping and reporting is EPA proposing that is applicable to specific types of entities?*

This section presents a general overview of the types of records and reports EPA is proposing. EPA encourages readers to review the proposed regulatory text for the full reporting requirements.

##### **Producers**

EPA is proposing to require a one-time report from producers to allow the Agency to understand how production volumes are measured, the quantity of fugitive losses, the efficiency of the production process for the regulated substance, the production capacity of their facilities, and a description of any use of a regulated substance as a process agent. Such information will allow EPA to better understand the monitoring in place, the accuracy of reporting, and the

likelihood of emissions associated with production.

EPA is proposing to require quarterly reporting of data that includes the quantity of each regulated substance produced, the quantity of allowances expended, and quantities produced for transformation or destruction. EPA is proposing 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. EPA is taking comment on whether these reports need to be submitted quarterly or could be submitted less frequently.

EPA is proposing that producers report any companies that conferred application-specific allowances to the producer and the quantity conferred. Producers would also report the quantities of regulated substances sold for those applications, specifying amounts produced using conferred application-specific allowances and amounts produced with production and consumption allowances. This additional reporting on production for allocation-specific allowances would allow the Agency to track the use of application-specific allowances to confirm their appropriate use and calculate the level of production allowances needed in future years for the statutorily listed applications to ensure that EPA is allocating an appropriate amount.

EPA is proposing that companies that produce regulated substances maintain records similar to those for the ODS program. This includes, among other things: records of the quantity of each regulated substance produced at each facility; copies of invoices or receipts documenting sale of regulated substances for use in processes that result in their transformation or destruction, or use as a process agent; and records of raw materials and feedstock chemicals used at each facility for the production of regulated substances. In addition, EPA is proposing that producers keep records that distinguish between regulated substances produced with application-specific allowances and those produced with general pool production and consumption allowances for an application listed in (e)(4)(B)(iv) and the quantity sold for use in those applications. As outlined in the application-specific allowance section, EPA is proposing that end users that are allocated application-specific allowances certify that the regulated substances purchased through conferral of application-specific allowances were

purchased solely for use in the application listed on the allowance and will not be resold or used in any other manufacturing process. Similar to the essential use provisions for ODS, EPA is proposing that producers maintain copies of those certifications for all conferred application-specific allowances. EPA is also proposing that producers maintain dated records of the quantity of each regulated substance used at each facility as a process agent.

EPA is proposing that if a producer fails to keep records on their production or to submit reports regarding their production, EPA may determine that the producer produced at full capacity during the period for which records were not kept or reports were not submitted for purposes of determining possible violations. Producers would additionally be subject to enforcement for failure to keep records or submit reports.

#### Importers

EPA is proposing that companies that import regulated substances provide quarterly reports that include, among other things, the total quantity imported of each regulated substance for that quarter distinguishing between quantities of consumption allowances expended and quantities imported under the exemptions for processes resulting in transformation or destruction or used HFCs intended for destruction. Separating these categories is necessary to determine whether the HFCs imported count towards the consumption cap. EPA is also proposing that reports include the amount imported using conferred application-specific allowances to confirm their appropriate use and calculate the level of allowances needed in future years to ensure that EPA is allocating an appropriate amount. EPA is proposing 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. EPA is taking comment on whether these reports need to be submitted quarterly or could be submitted less frequently.

EPA is proposing that companies that import regulated substances maintain records that form the basis of the reports outlined in the prior paragraph. For each shipment EPA is proposing that importers keep records of the following: the date on which the regulated substances were imported, the port of entry, the country of export, the importer number, the bill of lading, the invoice for the import, and the U.S.

Customs entry number. EPA is proposing that the information on the bill of lading include the specific HFC(s) in the shipment, the volume of each HFC, and the correct HTS code to properly identify the HFC or HFC blend (*i.e.*, "mixtures," in the terminology of the International Trade Commission). EPA notes that these codes are in the process of being updated so that most commonly traded HFCs will have their own code (or be grouped with minimally traded HFCs) and most major HFC blends will fall under separate codes. EPA is also proposing recordkeeping requirements for imports of used regulated substances for destruction under the process in § 84.25 including a copy of the petition to import for destruction, EPA non-objection notice, and documentation necessary to show that the regulated substance was destroyed.

#### Importers of Used HFCs for Destruction

EPA is proposing that entities that import used HFCs for destruction without expending consumption allowances in accordance with the procedures outlined in § 84.25 maintain for five years: a copy of the petition to import for destruction; the non-objection notice; a copy of the export license or export license application including an English translation thereof; U.S. Customs entry documents for the import that must include the commodity codes; records of that date, amount, and names of the regulated substance sent for destruction per shipment; an invoice from the destruction facility verifying shipment was received; and records from the destruction facility indicating the substances were destroyed.

#### Aggregators of Used HFCs Imported for Destruction

EPA is proposing that companies that aggregate used HFCs that were imported for destruction under the process in § 84.25 maintain documentation necessary to show that the regulated substance was destroyed, such as chain of custody information.

#### Transshipments

EPA is proposing reporting and recordkeeping requirements for any company that transships a regulated substance through the United States. EPA is proposing to require that the company notify EPA 30 days prior to a transshipment arriving at a U.S. port. The arrival notification must include the following information: (i) Name, commodity code, and quantity in kilograms of each regulated substance to be transhipped; (ii) name and address of

the importer, the importer ID number, and the contact person's name, email address, and phone number; and (iii) the U.S. port of entry, the expected date of entry, 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 Administrator of this information prior to the entry of the individual shipment into the United States.

Once the material has left the United States, EPA is proposing that the company provide a second notification indicating as such. The departure notification must include (i) name, commodity code, and quantity in kilograms of each regulated substance to be transhipped; and (ii) date and vessel transporting the material.

EPA is also proposing that the company maintain records that indicate that the regulated substance shipment (i) originated in a foreign country; (ii) is destined for another foreign country; and (iii) did not enter interstate commerce within the United States. EPA requests comment on whether EPA should also require monthly reporting (or other reporting frequencies) on the status of the HFCs held at a bonded warehouse.

#### Exporters

EPA is proposing that exporters provide a quarterly report that, among other things, includes the name, quantity, and commodity code of each regulated substance exported, the date on which, and the port from which, the regulated substances were exported from the United States, and the country to which the regulated substances were exported. EPA is proposing that any exporter of used regulated substances must indicate on the bill of lading or invoice that the regulated substance is used.

#### Second-Party Transformation or Destruction

EPA is proposing that any company that transforms or destroys regulated substances produced or imported by another company without expending allowances report annually on the names and quantities of the regulated substances transformed or destroyed for that year, and who they acquired those HFCs from. Companies would maintain records documenting, among other things, amounts purchased, transformed or destroyed, transformation or destruction verifications, and the names, commercial use, and quantities of the resulting chemical(s) when the regulated substances are transformed.

**Transformation**—EPA is proposing that any company that acquires regulated substances for purposes of transformation must provide the producer or importer with a transformation verification that the regulated substances are to be used in processes that result in their transformation. To ensure the accuracy of the verification, EPA is proposing that verifications only be valid for 60 days. However, EPA is taking comment on whether that should be extended to 12 months to provide more flexibility to companies transforming HFCs. EPA proposes that the transformation verification would include the following: (i) The identity, address, and contact information of the company intending to transform the regulated substances; (ii) the quantity of regulated substances intended for transformation; (iii) the identity of shipments by purchase order number(s), purchaser account number(s), location(s), or other means of identification; and, (iv) the period of time over which the company intends to transform the regulated substances.

**Destruction**—EPA is proposing that any company that purchases or receives and subsequently destroys regulated substances that were originally produced or imported without expending allowances shall provide the producer or importer from whom it purchased or received the regulated substances with a verification that the regulated substances will be used in processes that result in their destruction. EPA is proposing that the destruction verification include the following: (i) Identity and address of the company intending to destroy regulated substances; (ii) the destruction efficiency at which such substances will be destroyed; and, (iii) period of time over which the company intends to destroy regulated substances.

**Transformation**—In addition to the requirements outlined for entities undertaking second party transformation, EPA is proposing that any company that transforms a regulated substance 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 production line of any regulated substance 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; (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.

**Destruction**—In addition to the requirements outlined for entities undertaking second party transformation, EPA is proposing that any company that destroys regulated substances, whether as part of a process or as a disposal method of used substances, provide EPA with a one-time report containing the following information: (i) The destruction unit's destruction efficiency; (ii) the methods used to record the volume destroyed; (iii) the methods used to determine destruction efficiency; and, (iv) the name of other relevant federal or state regulations that may apply to the destruction process. Any changes to the information in paragraphs (e)(4)(i), (ii), and (iii) of this section must be reflected in a revision to be submitted to EPA within 60 days of the change(s).

#### Companies That Transfer Allowances

As discussed in section VI.D. of this preamble, EPA is proposing to allow the transfer of allowances between companies. EPA proposes that both the transferor and transferee maintain a copy of the transfer request and a copy of EPA's non-objection notice.

#### Holders of Application-Specific Allowances

EPA is proposing recordkeeping and reporting provisions for holders of application-specific allowances that builds on EPA's experience with the requirements for ODS essential-use allowance holders.

**Certification**—EPA is proposing that any company issued application-specific allowances, or that receives application-specific allowances through a transfer, must certify to producers and importers when purchasing HFCs produced or imported using those allowances that the regulated substances were purchased 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 also be maintained by the company who uses the HFCs produced or imported with those allowances.

**Biannual Reporting**—EPA is proposing that recipients of application-specific allowances report by July 31 and January 31 of each year. EPA is

proposing biannual reporting so as to gather the data necessary to meet two objectives: To provide end-of-year accounting that must be coordinated with other annual reporting processes, and providing information early enough in the year for the Agency to determine by October 1 the quantity of application-specific allowances to allocate for the next year.

Specifically, EPA is proposing that recipients of application-specific allowances report the following information: (i) The quantity of each regulated substance that was used for their application during the previous six months; (ii) the quantity of regulated substances acquired through conferring allowances that were imported during the previous six months; (iii) the quantity of regulated substances acquired through conferring allowances that were produced domestically during the previous six months; (iv) the companies to which application-specific allowances were conferred; (v) the quantity of regulated substances purchased without expending application-specific allowances during the previous six months (*i.e.*, from the open market); (vi) the quantity of inventory of each regulated substance held by the reporting company or held under contract by another company for use on the last day of the previous six-month period (*i.e.*, December 31 and June 30); (vii) the quantity of each regulated substance contained in products exported by the company during the previous six months; and (viii) the quantity of each regulated substance that was destroyed or recycled during the previous six months.

EPA is proposing that the report due by July 31 of each year also include a request for application-specific allowances for the next calendar year which would include: Total quantity (in kilograms) of all regulated substances acquired and used in the previous three years; information on suppliers; whether HFCs were acquired through domestic production or import; whether HFCs were acquired through conferring allowances or from the general market; quantities held in inventory; and a description of any plans to transition to regulated substances with a lower exchange value or alternatives to regulated substances.

EPA is also proposing that entities allocated application-specific allowances 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 allocation-specific allowances to other entities; and records documenting the use of regulated substances.

#### Process Agents

EPA is proposing that any company that uses a regulated substance as a process agent provide EPA with a one-time report containing the following information: A description of the process agent use which includes details of the percentages of process agent retained within the process, recovered after the process, and emitted or entrained in the final product. The proposed one-time report would also include a description of all technologies and actions taken to minimize emissions of regulated substances; the name of the product and byproducts manufactured in the process; and the anticipated ratio of process agent emissions to end product manufactured.

EPA is also proposing that any company that uses a regulated substance as a process agent provide EPA with an annual report containing the following information: An email address and phone number for a primary contact person and for an alternate; the amount of regulated substance used as a process agent; the amount of product and the amount of byproducts manufactured (including amounts eventually destroyed or used as feedstock); the stack point source emissions; and a description of any HFC emission reduction actions planned or currently under investigation.

#### Reclaimers of HFCs

EPA is proposing that reclaimers report to EPA on the same schedule as for producers and importers—45 days after the end of each quarter (e.g., February 14 for the period ending on December 31 of the prior year). The data elements would generally be the same as what they report under 40 CFR 82.164(d), with some modifications. EPA is proposing the reports contain information on the quantities of used, reclaimed, and virgin HFCs held in inventory onsite at the end of each quarter. EPA is also proposing that reclaimers submit a one-time report with similar information on inventory, as well as the name of the laboratory that conducts the batch testing and a signed statement from that laboratory confirming there is an ongoing business relationship with the reclaimer, providing the number of batches tested for each regulated substance or blend

containing a regulated substance in the prior year, and providing the number of batches that did not meet the specifications in appendix A of 40 CFR part 82, subpart F in the prior year. Under this proposal, reclaimers would have to maintain those records for five years, instead of the three years required under 40 CFR part 82, subpart F. EPA also seeks comment on whether there are other entities that reprocess HFCs and resell them back into the market and if the existing universe of HFC reclaimers would be sufficient to satisfy the (d)(1)(A)(ii) requirements for reclaimers.

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. EPA seeks comment on whether any reclaimers are selling HFCs for use in any of the six applications listed in subsection (e)(4)(B)(iv) of the AIM Act. EPA could consider finalizing additional reporting requirements for such sales, similar to the requirements for producers on the quantities of HFCs sold to users of HFCs for one of the six applications listed in the AIM Act. EPA also seeks comment if there are additional elements the Agency should be collecting such as quantities sent for destruction, data on reclamation from 2011–2013, quantity of inventory awaiting reclamation, or destruction to meet the requirements under the AIM Act.

#### Inventory

EPA is proposing that all producers, importers, exporters, and reclaimers of HFCs annually report the quantity of each HFC they hold in inventory as of December 31 of each year. For reclaimers, the report must include inventory of reclaimed and used HFCs awaiting reclamation or destruction. This information would be due 45 days after the end of the calendar year (February 14). EPA is proposing that the first annual inventory report be due by February 14, 2022, to provide data on inventory held at the end of 2021.

EPA is proposing to collect this information to help inform the Agency in its evaluation of petitions and/or requests submitted under the AIM Act.

For example, subsection (e)(4)(B)(v) requires EPA to “review the availability of substitutes, including any *quantities of the regulated substance available from reclaiming or prior production*,” (emphasis added). Similar language is included in subsections (f) and (i) of the AIM Act. Annual reporting would facilitate the timely review of petitions and/or requests since this information would already be in the Agency’s possession.

#### HFC–23 Emissions

For entities that own or operate facilities that generate HFC–23 beyond the exemption for insignificant quantities in the definition of production, EPA is proposing a one-time report containing the following information: (i) Information on the capacity to produce the intended chemical on the line where HFC–23 is also produced; (ii) description of actions taken at the facility to control the creation of HFC–23 and its emissions; (iii) identification of approved destruction technology and its location intended for use for HFC–23 destruction; and (iv) a copy of the DRE report associated with the destruction technology. EPA is further proposing that any changes to the information provided in the one-time report be reflected in a revision submitted to EPA within 60 days of the change(s).

EPA is also proposing to require annual reporting, to be submitted 45 days after the control period, for production line data on HFC–23 amounts: (i) Emitted; (ii) generated, whether captured or not; (iii) generated and captured for all uses; (iv) generated and captured for feedstock use in the United States; (v) generated and captured for destruction; (vi) used for feedstock without prior capture; and (vii) destroyed without prior capture. EPA is also soliciting comment on the frequency that this information should be submitted.

If captured HFC–23 is destroyed in a subsequent control period (e.g., it is created and captured December 15 and destroyed January 15 in the following year), EPA is further proposing to require the entity that produced the HFC–23 submit records indicating the HFC–23 has been destroyed within 45 days after destruction occurs.

To ensure that reported values for HFC–23 generation, capture, transformation, and destruction are reliable, EPA is proposing to require entities to comply with certain monitoring and calculation provisions. Specifically, EPA is proposing to require entities to meet the same requirements as outlined in 40 CFR part 98, subpart

L or subpart OO, depending on the quantity being reported. These provisions include validated methods for measuring concentrations of HFC–23 in process streams and the mass flow rates of those streams; accuracy, precision, and calibration requirements for instrumentation; and specific calculation methods for uncontrolled emissions and for quantities transformed and destroyed. EPA proposes to include these reporting requirements to ensure that reported data are accurate, precise, and comparable over time and across facilities and companies.

#### Offramp

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.

#### Other

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.

EPA discusses in section V. of this preamble methods by which EPA has collected, and continues to collect, data from the relevant entities. As noted previously, once the baselines are established, EPA does not intend to amend the values and thus any reporting of baseline data would be unnecessary.

#### *C. How is EPA proposing to coordinate AIM Act reporting with other EPA reporting requirements?*

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" to EPA. This section of the notice will discuss which reporting requirements established under other authorities EPA is proposing to use instead of establishing

new reporting obligations. EPA is soliciting comment on whether any or all of these reporting requirements should be established specifically under AIM Act authority in the regulations created through this rulemaking.

Some of the data elements EPA is proposing to collect are similar to or the same as those required to be reported under the existing requirements associated with the GHGRP (40 CFR part 98, subparts L and OO). While the regulatory reporting requirements are separate, and EPA is not proposing any changes to 40 CFR part 98 in this rulemaking, EPA intends to coordinate 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. In the future, EPA would also consider harmonizing terms used under both programs or providing a document clarifying how the data collected under the AIM Act aligns with data collected under the GHGRP.

#### *D. How does EPA propose to release HFC data collected under the AIM Act?*

In order to effectively implement an enforceable allowance allocation and trading program, proactively encourage compliance, and enable third-party engagement to complement EPA enforcement efforts, EPA is proposing several ways it intends to release data collected under this proposed rule. Some data would be released to the Ozone Secretariat at the United Nations Environment Programme and some data would be released to the general public. The Agency has noted below the intended audience for proposed data release. As a starting point, EPA notes that if a data point is collected under the GHGRP and is already released or determined under the GHGRP as not entitled to confidential treatment, and that same data point is required to be reported under these AIM Act regulations, it would not be given confidential treatment and would be considered releasable under these AIM Act regulations.<sup>81</sup> Additionally, emission data, including data used as inputs to emissions equations, would generally be releasable under subsection

<sup>81</sup> Nothing in this rulemaking is intended to change the regulations EPA has established determining how EPA will maintain data submitted in response to the GHGRP requirements. However, if EPA determines it can release the same data that is currently treated as CBI under the GHGRP, EPA would expect it could release such data under the GHGRP as well after making a change to the determination under the GHGRP consistent with 40 CFR 2.301(d)(4).

(k)(1)(C), because of the AIM Act's statement in that subsection that CAA section 114 applies to the AIM Act and any regulations promulgated under it as if the AIM Act were part of Title VI of the CAA. In particular, under subsection (k)(1)(C), CAA section 114(c), which provides that emission data shall be available to the public, applies to the AIM Act and any regulations promulgated under it.

To further support compliance efforts, in particular regarding illegal imports, EPA is proposing to release more data than it has historically released, some of which is currently determined to be CBI under the GHGRP.<sup>82</sup> With respect to other data EPA is proposing to release, these data fall into several categories, including: Aggregated data that would not divulge information submitters customarily keep private or closely held; data to support the tracking and legal sale of HFCs sold in commerce; and data on allowance levels to support compliance and facilitate transfers of allowances.

#### *1. Which general data elements does EPA propose to publicly release?*

Building on EPA's experience implementing the ODS phaseout under CAA Title VI, EPA is proposing to maximize transparency of the allocation program under the AIM Act. Market transparency would facilitate implementation of the allocation program and increase the public and current market participants' ability to provide complementary compliance assurances and pressure. It would 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 in violation of the regulations or of the AIM Act's prohibition in subsection (e)(2).

#### *(a) Company-Level Production and Consumption Data*

As noted earlier, 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). To do that, EPA will need to employ many different compliance tools. Research shows that making data

<sup>82</sup> See "Greenhouse Gas Reporting Program: Data Reported by Facilities Subject to the Supplier Subparts LL, through QQ, Geologic Sequestration Subject to Subpart RR\*, and CO<sub>2</sub> Injection Subject to Subpart UU," available at [https://www.epa.gov/sites/production/files/2020-09/documents/ghgrp\\_cbi\\_tables\\_for\\_suppliers\\_8-28-20\\_clean\\_v3\\_508c.pdf](https://www.epa.gov/sites/production/files/2020-09/documents/ghgrp_cbi_tables_for_suppliers_8-28-20_clean_v3_508c.pdf).

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.”<sup>83</sup> EPA has also 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 (NPDES):

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. To promote transparency and accountability, the Agency is taking comment on whether to release all HFC data, unaggregated and in a format similar to how it would be reported to EPA.<sup>84</sup> This approach would allow for independent review of these data, in addition to the auditing and reporting requirements included in this proposal. EPA understands that many of the HFC supply data elements that would be released under this approach have previously been determined to be CBI (see, [https://www.epa.gov/sites/production/files/2020-09/documents/ghgrp\\_cbi\\_tables\\_for\\_suppliers\\_8-28-20\\_clean\\_v3\\_508c.pdf](https://www.epa.gov/sites/production/files/2020-09/documents/ghgrp_cbi_tables_for_suppliers_8-28-20_clean_v3_508c.pdf)),<sup>85</sup> but still sees the value of releasing such data.

<sup>83</sup> David Hindin and Jon Silberman, “Designing More Effective Rules and Permits,” *George Washington Journal of Energy & Environmental Law*, Spring 2016 at 103, 117–120.

<sup>84</sup> If EPA finalizes an approach to release a data element collected through reporting required under the AIM Act, any of those same data elements collected under GHGRP would be made public and therefore would not be entitled to CBI protection regardless of any previous determinations made under GHGRP. EPA anticipates that it would subsequently make a corresponding change to the GHGRP CBI determinations in accordance with 40 CFR 2.301(d)(4).

<sup>85</sup> 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,

Releasing all HFC activity (*e.g.*, transfers, production data, transformation use) at the company and transaction level (*e.g.*, chemical-specific production amounts) would be a significant divergence from past treatment of data under the GHGRP. Given the U.S. HFC market will have extensive regulation under the rulemakings implementing the AIM Act, it would be reasonable for EPA to take a different approach than has been taken for the GHGRP and release more disaggregated data than was released under those programs. 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 than a reporting program where one company’s noncompliance would mean less accurate accounting, but it does not have a statutorily defined target. It is reasonable for EPA to take all necessary steps to ensure that the Agency can ensure compliance with the consumption and production caps of subsection (e)(2)(B) as well as creating a level playing field.

If we were to finalize this approach, companies would know that production and consumption information are not protected and therefore companies would not have a reasonable expectation that the information would be handled privately. Under recent Supreme Court case law, Exemption 4 of the Freedom of Information Act would 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). Companies have a choice if they want to continue participating in the U.S. HFC market. EPA could also choose to release some elements such as transfer data since allowance holders and their allowance levels will be publicly available at the start of the year.

As an alternative to the above proposal to release every data element reported to the Agency under the regulatory reporting structure being established through this rulemaking, EPA proposes to release any and all data elements that are publicly available through a range of datasets. Data that are already publicly available cannot be considered privately held or merit confidential treatment. EPA has not been able to identify a publicly available dataset on HFC production that is complete, although EPA’s Chemical Data Registry does provide some HFC

production and import data (<https://chemview.epa.gov>). EPA proposes to release any information that is already publicly available through EPA’s Chemical Data Registry. EPA would not release production data collected through the reporting regulations established through this rulemaking, beyond what is available in the Chemical Data Registry, unless commenters identify a source where complete production data is available publicly.

EPA is proposing to release all import data (*e.g.*, transaction level shipment data) because EPA does not expect that release of these data would divulge information that is not already available through privately developed global trade databases.<sup>86</sup> 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.<sup>87</sup> 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. One of the key tests under the FOIA exemption in 40 CFR part 2 regarding CBI is whether the data is available publicly elsewhere.

Given import data is already publicly available, albeit behind a paywall, EPA is seeking comment on whether releasing import data collected under the AIM Act would divulge any additional information that could be claimed as CBI. Release of such data would also align with EPA’s particular concern over imports of HFCs, where there is widespread global evidence of illegal activity, as outlined at the

<sup>86</sup> 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.

<sup>87</sup> 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>).

beginning of section VIII of the preamble.

#### (b) Aggregated National Data

As a separate alternative to the above-outlined approach, if EPA does not finalize to release all data elements to the public, EPA proposes to release all data that is already publicly available and otherwise to release certain aggregated HFC production and consumption data to the public. This approach would be similar to how EPA releases aggregated data collected pursuant to CAA Title VI authorities to implement the ODS phaseout. For example, as part of the ODS phaseout, EPA has released annual halon 1301 import, export, and petition data;<sup>88</sup> aggregate inventory of pre-phaseout methyl bromide; aggregate annual HCFC consumption; and chemical-specific aggregated consumption for HCFC-22, HCFC-123, and HCFC-124, sometimes as an average over several years.<sup>89</sup>

Releasing similar aggregated HFC data would allow EPA to document whether HFC consumption and production are at or below the levels prescribed in subsection (e)(2)(C), providing transparency to the public that EPA is meeting its statutory obligation. If aggregated data shows that actual values exceed those allowed under the phasedown schedule, it would highlight noncompliance with the requirements, and could encourage additional outside efforts to identify the cause of the exceedance, and to take further actions to ensure the caps are met. It would also provide insight into the ongoing transition out of specific HFCs, which might help inform future allocations of allowances and business planning for entities seeking allowances.

For HFCs, EPA has already released certain aggregated data on the GHGRP website<sup>90</sup> and through the recent NODA.<sup>91</sup> These data include production minus destruction minus

transformation; exports; imports; and net supply (CO<sub>2</sub>e quantities produced + imported – exported – transformed – destroyed) for the 18 AIM Act-listed HFCs between 2011 and 2019, as well as chemical-specific import data for HFC-134a, HFC-125, and HFC-32 for the same time period. The NODA also included a list of companies that produced (including those that destroyed), imported, and exported AIM Act-listed HFCs in 2011–2013. Other data elements that are released under the GHGRP are noted at [https://www.epa.gov/sites/production/files/2020-09/documents/ghgrp\\_cbi\\_tables\\_for\\_suppliers\\_8-28-20\\_clean\\_v3\\_508c.pdf](https://www.epa.gov/sites/production/files/2020-09/documents/ghgrp_cbi_tables_for_suppliers_8-28-20_clean_v3_508c.pdf). EPA expects that release of the information in this subsection would not run any risk of divulging information submitters customarily keep private or closely held.

EPA is proposing to release to the general public, without prior communication with the affected companies, chemical-specific information for HFCs where there are three or more reporting entities. This is the Agency's standard practice to mask information submitters customarily keep private or closely held. In such circumstances, a single reporter would know their own value but would not know how to apportion the remainder of the aggregated total among the other entities reporting. The proposed approach would be similar in that competitors would not be able to determine the relative share of each HFC with just the aggregated total. EPA proposes to release the EV-weighted quantity as a way of masking company-specific data, as well as a list of the relevant HFCs.

Under this separate alternate framework, EPA is proposing to release the following data annually in aggregated form in addition to any company or chemical specific information that is already publicly available:

- Total aggregated annual HFC production, EV-weighted;
- Total production by mass for each HFC;
- Total aggregated annual HFC consumption, EV-weighted;
- Total consumption by mass for each HFC;
- Total aggregated annual HFC imported, EV-weighted;
- Total imports by mass for each HFC;
- Total aggregated annual HFC exported, EV-weighted;
- Total exports by mass for each HFC;
- Total aggregated annual destruction (in kilograms) for each HFC;

- Annual aggregate amount of each HFC produced and imported (summed) for use as a feedstock by chemical; and
- Annual aggregate amount of each HFC produced and imported (summed) for use as a process agent, and aggregate annual emissions from such use by HFC.

EPA would only release chemical-specific data without further consultation with the affected companies if it comprised data from three or more entities, if it was already publicly available, or if it was not claimed as CBI.

The release of feedstock data could be useful to validate atmospheric measurements of HFCs, identify precursors and byproducts, and help inform decision making. Aggregated global data on production of ODS for feedstock use has been used for this purpose. EPA anticipates that publicly releasing feedstock data for HFCs could lead to similar benefits, while also providing additional transparency to the public on the ongoing use of HFCs that are being phased down under the AIM Act, but not phased out.

EPA is not aware of current process agent use of HFCs and, as noted elsewhere, is seeking comment on 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. If there were to be use of HFCs as process agents in sufficient quantities and frequencies to allow aggregation, EPA is proposing to release aggregated HFC process agent data.

EPA is also proposing under this separate alternative approach to release aggregated annual consumption data associated with the use of application-specific allowances. Specifically, EPA would release total annual chemical-specific HFC consumption for each application, similar to how the Agency provided chemical-specific data in the market characterizations. Providing these data to the general public would allow 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 discussion in future rulemakings. This information would be aggregated across all application-specific allowance holders within a specific application, so EPA expects there would be no risk of divulging information submitters customarily keep private or closely held.

Under this separate alternative approach, EPA is proposing to release

<sup>88</sup> EPA has historically shared the amount of halon 1301 imported and exported in a year, as well as the total quantity of material approved for import under the petition process described in 40 CFR 82.13(g)(2). This information is shared via email with the interested stakeholder associations or posted to the EPA website (see <https://www.epa.gov/ozone-layer-protection/halons-program> (accessed February 14, 2021)).

<sup>89</sup> Aggregate HCFC data can be found in the United Nations Environment Programme's July 13, 2009, "Workshop on management and destruction of ozone-depleting substance banks and implications for climate change," document, which can be found in the docket for this rulemaking.

<sup>90</sup> "Fluorinated Greenhouse Gas Emissions and Supplies Reported to the GHGRP." *Epa.gov*, Environmental Protection Agency, Feb. 24, 2021, [www.epa.gov/ghgreports/fluorinated-greenhouse-gas-emissions-and-supplies-reported-ghgrp#aim](https://www.epa.gov/ghgreports/fluorinated-greenhouse-gas-emissions-and-supplies-reported-ghgrp#aim).

<sup>91</sup> See 86 FR 9059; February 11, 2021, <https://www.federalregister.gov/d/2021-02774/p-1>.



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. Analogous to the approach under CAA section 608, where almost all HFC reclamation data is released on a chemical-by-chemical basis, EPA is proposing to release HFC inventory by chemical. EPA would 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. One motivator for this proposal is the experience with the phaseout of HCFC-22. 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 EPA allocation rulemakings. While additional information on inventory on its own may not prevent price fluctuations, the Agency expects 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.

#### (c) Company-Specific Allowance Data

Separate and apart from the alternatives listed in the prior subsections, EPA is also proposing to publish on its website the names of every company receiving calendar-year production allowances, consumption allowances, or application-specific allowances. EPA would also publish the amount of allowances allocated at the beginning of the year to each company and revise that data 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 the same benefits would result from providing similar HFC data.

In the case of HFCs, EPA is proposing to release an EV-weighted allowance value which would not divulge what HFC(s) a company is producing or consuming. Given this history and the fact that the data will be masked by

being EV-weighted, EPA does not believe that producers or importers have a reasonable expectation of confidentiality concerning their allowance allocation levels.

#### (d) Transfer Data

If EPA does not release all data, as described in section IX.D.1 of this preamble, EPA is also proposing to publish on the Agency's website certain aggregated data on transfers, so long as there are at least three companies involved in transferring allowances that year. Specifically, EPA is proposing to release data on the number of transfers, the total EV-weighted quantity of allowances transferred, and the average price of an allowance being transferred.

Release of these data would provide the public with information on the frequency and scale of transfers associated with the HFC phasedown.

While EPA sees value in releasing individual transfer data (excluding the price of the allowances transferred), the Agency expects that this would divulge information submitters customarily keep private or closely held. EPA seeks comment on this proposal, including whether submitters consider such data to be customarily kept private or closely held and whether EPA should release more data than just aggregate data.

#### (e) Information Relevant to the Kigali Amendment and the Montreal Protocol

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. To ensure the United States would be prepared to comply with the data reporting elements of the Kigali Amendment, EPA is proposing that, if the United States were to join the Kigali Amendment, it would release data to the United Nations Environment Programme's Ozone Secretariat regarding HFC production, consumption, and limited emission data. With the exception of emission data related to the destruction of HFC-23, the data elements would be similar, if not identical, to those currently released for ODS. Should the United

States join the Kigali Amendment, EPA will need to report<sup>92</sup> the following data:

- Annual U.S. HFC production in MT 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 amount that was 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 amount that was 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.

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, and inputs into emission equations may be considered "emission data." Section 114(c) of the CAA provides that "emission data" shall be available to the public. As noted above, 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 is proposing to determine that these elements related to HFC-23 are emission data and thus

<sup>92</sup> The reporting forms and instructions that EPA would use to submit such data are available in the docket and on the Ozone Secretariat's website at <https://ozone.unep.org/countries/data-reporting-tools> (accessed February 14, 2021).

would not be treated as confidential under this rule.

The Ozone Secretariat would release aggregated GWP-weighted annual production and consumption on the Ozone Secretariat's website.<sup>93</sup> 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 need to submit chemical-specific production and consumption data consistent with the data listed for 2011, 2012, and 2013 to establish the United States' baseline for HFCs.

The Parties to the Montreal Protocol adopted Decision I/11<sup>94</sup> during the First Meeting of the Parties, which outlines 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, 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 that the Agency is not releasing to the general public 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 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.

#### X. What are the costs and benefits of this proposed action?

EPA conducted a Regulatory Impact Analysis 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 \$2.6 billion, reflecting compliance costs of \$200 million and social benefits of \$2.8 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 \$17.9 billion. Table 5 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%.

TABLE 5—BENEFITS, COSTS, AND NET BENEFITS OF THE PROPOSED RULE FOR 2022–2050

[Billions of 2020\$]<sup>a b</sup>

| Year       | Climate benefits<br>(discounted at 3%) | Costs<br>(annual) | Net benefits |
|------------|--|-------------------|--------------|
| 2022 ..... | \$2.8                                  | \$0.2             | \$2.6        |
| 2024 ..... | 6.3                                    | –0.2              | 6.5          |
| 2029 ..... | 10.2                                   | –0.6              | 10.8         |
| 2034 ..... | 13.5                                   | –0.9              | 14.4         |
| 2036 ..... | 17.1                                   | –0.8              | 17.9         |
| 2045 ..... | 25.5                                   | –0.9              | 26.4         |
| 2050 ..... | 30.2                                   | –1.1              | 31.3         |

<sup>a</sup> Benefits include only those related to climate. Climate benefits 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 this table, we show the benefits associated with the average SC–HFC at a 3 percent discount rate, but the Agency does not have a single central SC–HFC point estimate. We emphasize the importance and value of considering the benefits calculated using all four SC–HFC estimates. See Table 4–20 in the RIA for the full range of SC–HFC estimates. As discussed in Chapter 4 of the RIA, 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 costs presented in this table are annual estimates.

<sup>b</sup> Rows may not appear to add correctly due to rounding.

Table 6 presents the sum of climate benefits across all HFCs reduced for the proposed rule for 2022, 2024, 2029, 2034, 2036, 2045, and 2050.

TABLE 6—CLIMATE BENEFITS FOR THE PROPOSED RULE FOR 2022–2050

[Billions of 2020\$]<sup>a</sup>

| Year       | Climate benefits by discount rate and statistic |                 |                   |                         |
|------------|---|-----------------|-------------------|-------------------------|
|            | 5%<br>(average)                                 | 3%<br>(average) | 2.5%<br>(average) | 3%<br>(95th percentile) |
| 2022 ..... | \$1.2   | \$2.8           | \$3.8             | \$7.4                   |
| 2024 ..... | 2.7   | 6.3             | 8.5               | 16.7                    |
| 2029 ..... | 4.4   | 10.2            | 13.5              | 27.1                    |
| 2034 ..... | 6.0   | 13.5            | 17.6              | 35.9                    |
| 2036 ..... | 7.7   | 17.1            | 22.3              | 45.7                    |
| 2045 ..... | 12.2  | 25.5            | 32.6              | 68.3                    |

<sup>93</sup> 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>.

<sup>94</sup> "The Montreal Protocol on Substances That Deplete the Ozone Layer." Unep.org, United Nations Environment Programme, <https://ozone.unep.org/treaties/montreal-protocol/>

[meetings/first-meeting-parties/decisions/decision-i11-report-and-confidentiality-data](https://meetings/first-meeting-parties/decisions/decision-i11-report-and-confidentiality-data).

TABLE 6—CLIMATE BENEFITS FOR THE PROPOSED RULE FOR 2022–2050—Continued  
[Billions of 2020\$]<sup>a</sup>

| Year       | Climate benefits by discount rate and statistic |                 |                   |                         |
|------------|---|-----------------|-------------------|-------------------------|
|            | 5%<br>(average)                                 | 3%<br>(average) | 2.5%<br>(average) | 3%<br>(95th percentile) |
| 2050 ..... | 14.9  | 30.2            | 38.4              | 80.9                    |

<sup>a</sup>Climate benefits 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). The IWG emphasized 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.

EPA estimates that the present value of cumulative net benefits evaluated from 2022 through 2050 is \$283.9 billion at a three percent discount rate, comprising \$272.8 billion in cumulative benefits due to reducing HFC emissions and \$11.1 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 billion, or \$5 billion in savings, and the present value of cumulative social benefits is \$103.6 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 \$108.2 billion. At a 7% discount rate over the 15-year period of the

phasedown of HFCs, the present value of cumulative compliance costs is negative \$3 billion, or \$3 billion in savings. Over the same 15-year period of the phasedown, the present value of cumulative net benefits is \$106.6 billion at a 7% discount rate for costs (and 3% for climate benefits). The comparison of benefits and costs in PV and EAV terms for the rule can be found in Table 7. Estimates in the table are presented as rounded values.

TABLE 7—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 PROPOSED RULE  
[Billions of 2020\$, discounted to 2022]<sup>a b c</sup>

| Year                              | Climate benefits<br>(3%) <sup>c</sup> | Costs <sup>d</sup> |        | Net benefits |         |
|-----------------------------------|---------------------------------------|--------------------|--------|--------------|---------|
|                                   |                                       | 3%                 | 7%     | 3%           | 7%      |
| Present Value .....               | \$272.8                               | –\$11.1            | –\$5.8 | \$283.9      | \$278.6 |
| Equivalent Annualized Value ..... | 14.2                                  | –0.6               | –0.5   | 14.8         | 14.7    |

<sup>a</sup> Rows may not appear to add correctly due to rounding.

<sup>b</sup> The annualized present value of costs and benefits are calculated over a 29-year period from 2022 to 2050.

<sup>c</sup> Climate benefits are based on changes (reductions) in HFC emissions and are calculated using four different estimates of the social cost of HFCs (SC-HFC) (model average at 2.5 percent, 3 percent, and 5 percent discount rates; and 95th percentile at 3 percent discount rate). For purposes of this table, we show the benefits (climate benefits and net benefits) associated with the model average at a 3 percent discount rate, but the Agency does not have a single central SC-HFC point estimate. We emphasize the importance and value of considering the benefits calculated using all four SC-HFC estimates. As discussed in Chapter 4 of the RIA, a consideration of climate benefits calculated using discount rates below 3 percent, including 2 percent and lower, are also warranted when discounting intergenerational impacts.

<sup>d</sup> The costs presented in this table are consistent with the costs presented in RIA Chapter 3, Table 3–5.

The estimation of \$272.8 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 (BAU) was calculated for each year of the phasedown in exchange value-weighted tons (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 proposed rulemaking using a measure of the social cost of each HFC (collectively referred to as SC-HFC) that is affected by the rule. The SC-HFC 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-HFC 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. The SC-HFC, therefore,

reflects the societal value of reducing emissions of the gas in question by one metric ton. The SC-HFC is the theoretically appropriate value to use in conducting benefit-cost analyses of policies that affect HFC emissions. The Interagency Working Group on the Social Cost of Greenhouse Gases (IWG) will be taking comment on how to incorporate the recommendations of the National Academies (2017) and other recent science including the advances discussed in the 2021 TSD in the development of the fully updated SC-GHG estimates to be released by January 2022 under E.O. 13990. To complement the IWG process, and as an active member of the IWG, EPA is soliciting comment in this proposed rule on the SC-HFC estimates used in this RIA and the methodology underlying them,

including on how that methodology should be adapted in future to accommodate advances in the scientific and economic literature. Additional benefits are derived by requiring a five-percent offset for allowance transfers, which decreases the cap of the total allowable HFCs in the system. EPA is also taking comment on the RIA, which is included in the docket. The public is invited to provide comment and/or data that would inform various analytic matters and uncertainties in the RIA (see Executive Summary and Chapter 7 of the RIA).

#### **XI. What should EPA consider in future rulemakings?**

In addition to the proposals included in this rulemaking, EPA is also providing advance notice and seeking input on how the Agency should determine company-specific allocations in 2024 and later years. Given high baseline health risks related to air toxics in communities near facilities that produce HFCs and potential environmental justice concerns, EPA is also seeking input on ways to ensure that these elevated risks not be further exacerbated by changes in the use patterns for production of HFCs or their substitutes. Since these topics relate to future rulemaking, rather than proposals in this rulemaking, EPA will take comments on this section under advisement and incorporate them, as appropriate, into such future rulemakings, with an opportunity for public comment prior to finalization of any provisions.

##### *A. How should EPA consider future allowance allocations?*

The AIM Act requires a phasedown of HFC production and consumption to 15 percent of baseline by 2036 with no further lowering of the cap. This is in contrast to the approach for ODS, where production and consumption of chemicals were phased out, with limited exceptions. As such, EPA is considering whether a different approach is warranted for determining allowance allocations under the AIM Act and is seeking advance input on several options for the allowance framework and procedure for 2024 and later years.

For ODS, EPA generally issued allowances to a set of companies based on their historic levels of production and consumption. Given the intent was to phase out the production and consumption of ODS, EPA did not adjust the list of allowance holders once they were set, except to reflect transfers of baseline allowances between companies. EPA is considering whether

allocating HFC allowances largely to historic producers or importers is appropriate in the long-term for a phasedown.

EPA is particularly interested in whether the concepts presented in this section would benefit the environment (e.g., by encouraging transition to low-GWP and non-HFC substances); provide an incentive or disincentive to companies that develop and introduce low-GWP and non-HFC substances; support the effective functioning of the HFC production and import market; and/or create or remove barriers to new entrants to the market, including for socially and economically disadvantaged individuals. EPA seeks advance input on the following concepts, as well as suggestions for additional approaches the Agency could consider for 2024<sup>95</sup> and later years.

(1) Allocating allowances based on past production and consumption from a set period of years and only adjusting allowance holders to reflect transfers between companies;

(2) Allocating allowances based on a reevaluation of the most recent years of production and consumption data as reported to EPA (e.g., three years);

(3) Allocating allowances based on past production and consumption, but requiring a fee for every allowance provided for production or import of HFCs;

(4) Establishing an auction system for the total set, or some subset, of generally available allowances;

(5) A combination of the above approaches, such as phasing in the use of an auction or fee over time.

Under the first concept, EPA would continue to issue allowances at no cost. While there would be no cost associated with the allowances, the allowances have value. Companies that receive allowances could choose to remain in the market and produce or import HFCs, sell or otherwise transfer their allowances to another company, or retire their allowances. New entrants, other than those potentially established through this rulemaking, would typically have to buy into the market through the purchase of allowances. This approach may provide the least flexibility for new entrants, and is most consistent with past practice phasing out ODS. It would also provide ongoing value to companies already in the market through the issuance of allowances regardless of whether they continue to produce or import HFCs, effectively at the expense of other

allowance holders who are actively producing or importing.

The second concept would be similar in many respects to the first, but would adjust each company's share of allowances periodically—either at phasedown steps or every few years. It would reflect transfers periodically when EPA adjusted the years of production and consumption considered in allocating allowances, and would require new entrants, after this initial allocation rule, to purchase or otherwise obtain allowances from another allowance holder to enter the market (although such new entrants may be included in future allocations after the years considered shifted). This approach may better ensure the companies receiving allowances are the companies who are actively producing and importing. EPA can see advantages to this approach, particularly for companies that continue to produce HFCs in the United States, since allowances associated with companies that stop domestic production would periodically be reapportioned to companies that continue to produce domestically. However, this approach would encourage companies to use all of their allowances or lose them at the next periodic adjustment, potentially resulting in production and consumption at a higher level than the market would demand. This could also have environmental consequences if more HFCs are produced and imported than are needed to satisfy market demand.

The third concept would adopt an approach similar to the first two, but would require companies pay a fee for allowances provided for production or import of HFCs. This could address concerns about producing or importing more HFCs than a company expects to need, potentially resulting in benefits for the environment, but could increase the cost of the allowance allocation and trading program. Additionally, depending on how the fee was structured, this concept could favor companies with more access to capital to purchase the allowances. Given the expected increase in the market price of HFCs that is likely to occur over time as allowances decrease, EPA would not expect this to affect companies' profitability, but it could increase the cost of HFCs. An increase in the cost of HFCs could foster faster transition to alternatives, which would result in additional environmental benefits. By increasing the cost of virgin material, it could also increase the profitability and use of reclaimed material. As noted previously, reclamation will be an important component to a smooth

<sup>95</sup> 2024 is the next milestone under the AIM Act phasedown schedule, when aggregate allowances must be reduced to 60 percent of the baseline.

transition from HFCs, as it has been in past ODS phaseouts. It could also foster a more active allowance transfer market to the extent companies determine they have excess allowances that would earn more profit if transferred to companies that are seeking additional allowances based on their customers' demands.

Under the fourth concept, EPA would determine the total allocation level and establish an auction system for individual allowances. This approach would provide flexibility in the marketplace such that producers and importers could adjust their allowances from year-to-year. This approach may allow the broadest participation in the HFC production and import market. It could have similar benefits for the environment by adding an extra cost to using an allowance and discouraging entities from seeking allowances where there isn't corresponding market demand. Increases in the price of virgin HFCs could encourage transition to alternatives and support the use of reclaimed material. Under an auction, EPA could consider developing a mechanism that would permit entities to purchase allowances for the purpose of retiring them which could result in additional environmental benefits. The Agency seeks advance input on how best to structure such an auction program, so as not to discourage participation by small businesses and businesses that are socially and economically disadvantaged. Smaller business may not have as much access to capital and could potentially be shut out of the HFC production and import market if the auction price was too high. This approach may also have administrative challenges, but EPA could rely on its experience implementing other environmental auction programs to set up and administer such a program.

The fifth concept would be a combination of any of the other concepts, including allowing for future new entrants pools similar to the one described in the proposal. In particular, EPA is interested in whether it would be appropriate to phase in the third or fourth concepts over time. For example, allowances in the early years of the phasedown could be primarily allocated to companies that are currently producing and importing (under the first two concepts), but each year EPA could increase the share of allowances that are subject to a fee or put up for auction. Under this approach, EPA could envision all allowances being subject to a fee or put up for auction by 2036 when the final phasedown step under the AIM Act is reached. This would gradually transition the market

from receiving allowances based on historic production and import to one where any company could enter the market.

EPA is seeking advance input on these and other approaches for issuing allowances starting with 2024.

*B. How should EPA address the potential health effects of air toxics associated with changes in the production of HFCs and substitutes in a future rulemaking?*

Section III of the preamble describes EPA's initial approach in assessing potential environmental justice concerns and poses several questions designed to inform the Agency's analysis. The Agency's preliminary screening-level analysis is included in the RIA, available in the docket associated with this rulemaking. EPA is evaluating whether there may be inadvertent or unexpected distributional effects of the phasedown of HFCs that may cause potential environmental justice concerns. Specifically, chemical feedstocks and byproducts emitted as part of the production process at a facility expending allowances, or producing substitutes, may cause or contribute to disproportionately high exposure to certain air toxics in communities adjacent to, or surrounding, that facility. As noted above, there is uncertainty about how this rule would change production of HFCs and substitutes at individual facilities, and how any such changes might affect air toxics emissions and exposure in nearby communities.

To support the development of comments, EPA is seeking data or analysis to identify whether it is reasonable to expect net increases in emissions; and if so, how we might isolate the impacts of this program (*i.e.*, effects resulting from the phasedown itself, the trading of production allowances, or some other factor) to enable the Agency to conduct a more nuanced analysis of changes in releases associated with chemical feedstocks and byproducts for HFC substitutes, given the inherent uncertainty regarding where, and in what quantities, substitutes will be produced. EPA is also seeking comment on whether there are other regulatory tools better suited than adjustments to the HFC program design to address potential increases in emissions in non-HFC feedstocks and byproducts at facilities subject to the Congressionally mandated phasedown of HFCs under the AIM Act, if any. EPA also seeks comment on whether these are the appropriate questions or if there are other questions the Agency should be asking. EPA is also soliciting

comment on key assumptions underlying the environmental justice analysis.

EPA is also seeking input on the following approaches for future rulemaking with respect to how the Agency treats allowance transfers to address any potential for increased air toxics exposure in at-risk communities, and the Agency is also seeking input on other approaches that we have not considered.

**1. Adjustments to Transfer Offsets**

EPA could consider adjusting the transfer offset, currently proposed at five-percent (and taking comment on one to 10 percent), based on factors such as the location of the receiving facility and projected impacts to the surrounding community.

**2. Issuing Allowances at a Facility Level**

EPA's current proposal is to issue allowances at a company level, but the Agency could consider issuing allowances at a facility level in future rulemakings to limit the potential for disproportionately high production of HFCs.

**3. Release of Relevant Facility Data**

As part of an allowance transfer request, EPA could require the company receiving allowances to submit relevant facility data, which would be made available to the public, that is sufficient to demonstrate that transfers of allowances would not increase risks in communities with high existing air toxic emissions or elevated health risks.

**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 the section titled, "What is the Summary of this Action?" of this proposed rulemaking, and EPA 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 proposed rule will be submitted for approval to the Office of

Management and Budget (OMB) under the PRA upon publication of this proposed rule. The Information Collection Request (ICR) document that EPA prepared has been assigned EPA ICR number 2685.01. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here.

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 proposing to collect such data regularly to support implementation of the AIM Act's HFC phasedown provisions. EPA is proposing 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 proposing to collect information in order to calculate allowances, to track the movement of HFCs through commerce, and to require auditing. Collecting these data elements would allow for EPA to ensure that the annual quantity of all 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 will be individuals or companies that produce, import, export, transform, distribute, destroy, or reclaim certain HFCs that are defined as a regulated substance under the AIM Act. Respondents and affected entities will also be individuals and companies who produce, import, or export products in six statutorily specified applications: A

propellant in metered dose inhalers; 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, such as armored vehicle and shipboard fire suppression systems and systems used in deployable and expeditionary applications; and, on board aerospace fire suppression.

**Respondent's obligation to respond:** Mandatory (AIM Act).

**Estimated number of respondents:** 11,664.

**Frequency of response:** Quarterly, biannual, annual, and as needed depending on the nature of the report.

**Total estimated burden:** 36,540 hours (per year). Burden is defined at 5 CFR 1320.3(b).

**Total estimated cost:** \$4,506,092 per year, includes \$24,100 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.

Submit your comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to EPA using the docket identified at the beginning of this rule. You may also send your ICR-related comments to OMB's Office of Information and Regulatory Affairs via email to [OIRA\\_submission@omb.eop.gov](mailto:OIRA_submission@omb.eop.gov), Attention: Desk Officer for EPA. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after receipt, OMB must receive comments no later than June 18, 2021. EPA will respond to any ICR-related comments in the final rule.

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 proposed rulemaking. EPA has 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).

### 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. Details of this analysis are presented in "Economic Impact Screening Analysis for Proposed Allowance System for an HFC Production and Consumption Phasedown." Docket ID EPA-HQ-OAR-2021-0044.

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice-and-comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities (SISNOSE). Small entities include small businesses, small organizations, and small governmental jurisdictions. For purposes of assessing the impacts of this rule on small entities, small entity is defined as: (1) A small business as defined by the U.S. Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district, or special district with a population of less than 50,000; or (3) a small organization that is any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

If a rule may have a SISNOSE, the Agency would be required to take certain steps to ensure that the interests of small entities were represented in the rulemaking process. To determine whether this proposed rule would likely have a significant economic impact on a substantial number of small entities (SISNOSE), EPA identified producers, importers, exporters, and reclaimers of HFCs from 2018 and 2019 that reported to EPA's Greenhouse Gas Reporting Program and the U.S. Customs and Border Protection Automated Commercial Environment (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 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 Proposed Allowance System for an HFC Production and Consumption Phasedown*, found in the docket of this proposed rule.

EPA estimates that approximately 9 of the 8,746 potentially affected small businesses could incur costs in excess of one percent of annual sales and that approximately 4 small businesses could incur costs in excess of three percent of annual sales. Because these levels are below the thresholds used in EPA's other rulemakings affecting these industries (e.g., CAA Title VI rulemakings), it can be presumed that this action will have no SISNOSE.

#### *D. Unfunded Mandates Reform Act (UMRA)*

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

#### *E. Executive Order 13132: Federalism*

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

#### *F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments*

This action does not have tribal implications as specified in Executive Order 13175. It will not have substantial direct effects on 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 and will share information on this rulemaking through this and other fora.

#### *G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks*

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

GHGs, including HFCs, contribute to climate change. The GHG emissions reductions resulting from implementation of this rule will further improve children's health. The assessment literature cited in EPA's 2009 and 2016 Endangerment Findings concluded that certain populations and life stages, including children, the elderly, and the poor, are most vulnerable to climate-related health effects. The assessment literature since 2016 strengthens these conclusions by providing more detailed findings regarding these groups' vulnerabilities and the projected impacts they may experience.

These assessments describe how children's unique physiological and developmental factors contribute to making them particularly vulnerable to climate change. Impacts to children are expected from heat waves, air pollution, infectious and waterborne illnesses, and mental health effects resulting from extreme weather events. In addition, children are among those especially susceptible to most allergic diseases, as well as health effects associated with heat waves, storms, and floods. Additional health concerns may arise in low-income households, especially those with children, if climate change reduces food availability and increases prices, leading to food insecurity within households. More detailed information on the impacts of climate change to human health and welfare is provided in section I.C. 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*

This rule will reduce emissions of potent GHGs, which as noted earlier in section I of this preamble will reduce the effects of climate change, including the public health and welfare effects on minority populations, low-income populations and/or indigenous peoples. However, EPA is not yet able to determine whether this action has disproportionately high and adverse effects on minority populations, low-income populations and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994). A summary of the Agency's approach for considering potential environmental justice concerns as a result of this rulemaking can be found in section III of the preamble, and our environmental justice analysis can be found in the RIA, available in the docket for this rulemaking.

#### **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 is proposing to amend 40 CFR part 9 and add 40 CFR part 84 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. Add part 84 to read as follows:

### PART 84—PHASEDOWN OF HYDROFLUOROCARBONS

#### Subpart A—Production and Consumption Controls

- Sec.
- 84.1 Purpose and scope.
  - 84.3 Definitions.
  - 84.5 Prohibitions for regulated substances.
  - 84.7 Phasedown schedule.
  - 84.9 Allocation of calendar-year production allowances.
  - 84.11 Allocation of calendar-year consumption allowances.
  - 84.13 Allocation of application-specific allowances.
  - 84.15 Set aside of application-specific allowances, production allowances, and consumption allowances.
  - 84.17 Availability of additional consumption allowances.
  - 84.19 Transfers of allowances.
  - 84.21 Sale or transfer 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
  - 84.27 Controlling Emissions of HFC–23.
  - 84.29 Destruction of regulated substances.
  - 84.31 Recordkeeping and reporting.
  - 84.33 Auditing of recordkeeping and reporting.

#### Subpart B—{RESERVED}

#### Appendix A to Part 84—Regulated Substances

**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 Purpose and scope.

(a) The purpose of the regulations in this subpart is to implement the American Innovation and Manufacturing Act of 2020 (AIM Act), enacted as part of Public Law 116–260. The AIM Act imposes limits on the production and consumption of certain regulated substances, according to a specified schedule.

(b) This subpart applies to any person that produces, transforms, destroys, imports, exports, distributes, or reclaims a regulated substance and to end users in the six applications listed in subsection (e)(4)(B)(iv) of the AIM Act.

##### § 84.3 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. Reports and petitions, as well as any related supporting documents, must be submitted electronically in a format specified by the Administrator.

*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 and can be retired, revoked, or withheld at the discretion of the relevant Agency official.

*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 and can be retired, revoked, or withheld at the discretion of the relevant Agency official.

*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.

*Central Data Exchange* means EPA’s centralized electronic document receiving system, or its successors.

*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 another entity 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) and 84.19 (transfer of allowances).

*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.

*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 on-board 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.

*Foreign country* means an entity which is recognized as a sovereign nation or country other than the United States of America.<sup>1</sup>

*Heel* means the amount of a regulated substance that remains in a container after the container is discharged or off-loaded (that is no more than ten 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. Off-loading used regulated substances from a ship during servicing are not considered imports.

*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, as appropriate:

- (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 which 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 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 (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) 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.

*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).

*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.

*Source facility* means the location at which a used regulated substance was recovered from a piece of equipment.

*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.

*Transshipment* 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 interstate commerce. A transshipment, as it moves through the United States or its territories, cannot be re-packaged, 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).

<sup>1</sup> Taiwan is not considered a foreign country.

#### **§ 84.5 Prohibitions for regulated substances.**

(a) *Production.* (1) Effective January 1, 2022, no person may produce regulated substances, intentionally or unintentionally, in excess of the quantity of unexpended production 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.

(2) Effective January 1, 2022, no person may use production allowances to produce a quantity of regulated substances unless that person uses an equal quantity of consumption allowances at the same time.

(3) A person is not required to expend production allowances 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 if the destruction technology is located at the facility where production occurred or 90 days if the destruction technology is not located at the facility where production occurred.

(b) *Import.* Effective 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;

(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 transshipment in accordance with § 84.31(c)(3) if all transhipped regulated substance leaves the country within six months of its entry.

(2) 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.

(3) A person issued a non-objection notice for the import of an individual shipment of regulated substances under paragraphs (b)(1)(ii) and (iii) of this section may not transfer or confer the right to import.

(4) No person may introduce into interstate commerce any regulated substance claimed as a transshipment and/or held in a bonded warehouse while in transit.

(5) Every kilogram of bulk regulated substances imported contrary to this paragraph (b) constitutes a separate violation of this subpart.

(c) *Application-specific uses.* (1) Effective 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 allocation expended. Every kilogram of production in excess of the application-specific allowances expended by the producer constitutes a separate violation of this subpart. Every kilogram of import in excess of the application-specific allowances expended by the importer constitutes a separate violation of this subpart.

(2) No person may use a regulated substance produced or imported using 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) Effective 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 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.

(d) *International transfers.* Effective 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 EPA.

(2) Similarly, 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.

(e) *Violations.* 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.

(f) *False information.* No person may provide false information to the EPA when petitioning, reporting, or for any

communication required under this subpart.

(g) *Agency actions.* The Agency has full discretion to retire, revoke, or withhold the allocation of allowances for actions in contravention of this part.

(h) *Anti-Dumping/Countervailing Duties.* The relevant Agency official reserves the right to retire, revoke, or withhold the allocation of allowances to any otherwise qualifying importer that is in arrears with Anti-Dumping/Countervailing Duties required under a final determination from the Department of Commerce.

(i) *Disposable cylinders.* (1) Effective July 1, 2023, no person may import or place a regulated substance in a non-refillable cylinder.

(2) Effective January 1, 2025, no person may sell or offer for sale

regulated substances contained in a non-refillable cylinder.

(3) Small cans containing less than two pounds of regulated substances that utilize a self-sealing valve that meets the requirements in 40 CFR 82.154(c)(2) are not subject to this restriction.

(j) *Labeling.* (1) Effective January 1, 2022, no person may sell or distribute, or offer to sell or distribute, containers containing a regulated substance that lacks a label or other permanent markings, in numbers and letters at least  $\frac{1}{8}$  inch high, stating the common name of the regulated substances or blend contained, the composition and ratios of the regulated substances if a blend, and a cylinder serial number.

(2) No person other than the importer may repackage material that was

initially unlabeled or mislabeled unless the importer:

(i) Expends consumption allowances equal to the amount of allowances that would be required if each cylinder were full of HFC-23; or

(ii) Verifies the contents with independent laboratory testing results and fixes a label on the container conveying the lab-verified test results before the container enters interstate commerce.

#### § 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 (percent) | Percentage of consumption baseline (percent) |
|---------------------------|---|--|
| 2022–2023 .....           | 90  | 90   |
| 2024–2028 .....           | 60  | 60   |
| 2029–2033 .....           | 30  | 30   |
| 2034–2035 .....           | 20  | 20   |
| 2036 and thereafter ..... | 15  | 15   |

(b) *Annual production and consumption limits.* (1) The production baseline for regulated substances is 375 million metric tons of exchange value equivalent.

(2) The consumption baseline for regulated substances is 299 million

metric tons of exchange value equivalent.

(3) Total production and consumption in million 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:

| Date                      | Total production (MMTEVe) | Total consumption (MMTEVe) |
|---------------------------|---------------------------|----------------------------|
| 2022–2023 .....           | 337.5                     | 269.1                      |
| 2024–2028 .....           | 225                       | 179.4                      |
| 2029–2033 .....           | 112.5                     | 89.7                       |
| 2034–2035 .....           | 75                        | 59.8                       |
| 2036 and thereafter ..... | 56.25                     | 44.85                      |

#### § 84.9 Allocation of calendar-year production allowances.

(a) EPA 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 highest annual exchange value-weighted production amount that each eligible entity reported to the agency for calendar year 2017, 2018, or 2019, whichever year is highest.

(2) Sum the “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 will 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, EPA 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, EPA 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 will be used.

**§ 84.11 Allocation of calendar-year consumption allowances.**

(a) EPA 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 ownership or control, EPA will calculate and issue allowances to a single corporate owner. The number of consumption allowances allocated to each eligible entity for 2022–2023 is calculated as follows:

(1) Take the highest annual exchange value-weighted bulk consumption amount chosen at the corporate-level for eligible entities reporting to the agency for each calendar year 2017, 2018, or 2019, whichever year is highest.

(2) Sum the “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 will 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, EPA 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, EPA 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 in paragraph (a) of this section must request an application-specific allowance by July 31 of the calendar year prior to the year in which the allowances will be used starting with the calendar year 2023 allocation. The application must include the following:

(1) Total quantity (in kilograms) of each specific regulated substance acquired and used in the three calendar years prior to the year in which the request is being made;

(2) For regulated substances acquired over the past twelve months by conferring allowances to a domestic producer, the quantity (in kilograms) acquired, the specific regulated substance acquired, and the name and contact information of the supplier.

(3) For regulated substances acquired over the past twelve months by conferring allowances to an importer, the quantity (in kilograms) acquired, the specific regulated substance acquired, and the name and contact information of the supplier.

(4) Quantity of each specific regulated substances acquired over the past twelve months by expending application-specific allowances for direct import;

(5) Quantity of each specific regulated substance acquired over the past twelve months without expending application-specific allowances;

(6) Quantity of regulated substances held in inventory by the applicant or another company on behalf of the applicant;

(7) A description of any plans to transition to regulated substances with a lower exchange value or alternatives to regulated substances, including not in kind substitutes.

(c) EPA will determine the quantity of application-specific allowances to issue

to each company by taking the higher of the use of regulated substances by the company in the specific application in the prior year multiplied by:

(1) The average growth rate of use for the company over the past three years; or

(2) The average growth rate of use by all companies requesting allowances for that specific application over the past three years.

(d) EPA will allocate application-specific allowances through a letter to each eligible entity by October 1 of the calendar year prior to the year in which the allowances will be used. The letter will indicate the name of the company, the year of the allowance, the quantity of allowances, and the specific application for which the allowances may be used.

(e) Entities that EPA was unaware of 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.

(f) EPA will publish a list of companies allocated application-specific allowances and their application.

(g) Application-specific allowances may be expended for either the import or production of a regulated substance.

(h) Conferring application-specific allowances to a producer or importer is not subject to the offset required of transfers of allowances described in § 84.19.

**§ 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) Five million metric tons of exchange value equivalent consumption allowances annually for calendar year 2022 and 2023.

(2) One million metric tons of exchange value equivalent production allowances for calendar year 2022 and 2023.

(b)(1) Consumption and production allowances in paragraph (a) of this section are available to entities that qualify for application-specific allocations under § 84.13 that EPA has not identified by 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 that EPA has not identified by October 1, 2021; or

(2) Persons who are newly entering the HFC import market, do not share corporate ownership or familial relations with entities in the HFC import market, and meet the Small Business Administration conditions for a small business in 13 CFR part 121.

(d) Persons who meet the criteria listed in paragraph (c)(1) or (2) of this section must provide the relevant Agency official with the following information by November 30, 2021, to be eligible for consideration:

(1) Name and address of the company and the complete ownership of the company (with percentages of ownership);

(2) Whether the company is a woman or minority owned business;

(3) Contact information for the owner of the company;

(4) The date of incorporation and State in which the company is incorporated;

(5) State license identifier;

(6) A plan for importing HFCs;

(7) Company employment figures including number of employees and a breakdown by race and gender;

(8) A prospective foreign exporter that the applicant anticipates working with; and

(9) For persons who meet the criteria listed in paragraph (c)(2) of this section only, documentation demonstrating that they meet conditions for a small business concern, as defined in 13 CFR part 121.

(e) The calendar-year 2022 and 2023 allowances in paragraph (a) of this section are to be allocated 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 paragraphs (c)(1) and (2) of this section are allocated up to 0.2 million metric tons exchange value equivalent in allowances for 2022 and 2023.

(3) If the 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 (c)(1) of this section, the amount provided to each person who meet the

criteria listed in paragraphs (c)(1) and (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 (c)(1) through (3) 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 issued under 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, or have any common ownership stake with, another allowance holder.

(g) EPA will publish the list of entities allocated allowances under this section by March 31, 2022.

#### **§ 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, when that quantity of regulated substance was produced in the United States or imported into the United States with expended consumption allowances. Both the export of the regulated substance and the request for additional consumption allowances must occur during the calendar year in which the consumption allowances were expended to produce or import those same regulated substances.

(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;

(ix) The commodity codes of the regulated substances exported; and

(x) A written statement from the producer that the regulated substances were produced with expended allowances or a written statement from the importer that the regulated substances were imported with expended allowances.

(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.

(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.

(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.* Effective 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) For transfers of consumption allowances or production allowances, the quantity of the five percent offset applied to the quantity transferred that will be deducted from the transferor's allowance balance. For transfers of application-specific allowances, the quantity of the one percent offset applied to the quantity transferred that will be deducted from the transferor's allowance balance.

(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 five percent of that quantity or plus one percent for application-specific allowances. 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 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, EPA 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 EPA 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 EPA 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, 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.

(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, or that the transferor has failed to respond to one or more Agency requests to supply information needed to make a determination. 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 notification that a transfer was disallowed. 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 transferor 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 useable.

(ii) *Timing of the transfer.* International transfers under this paragraph will be deemed to occur, and the transferred allowances will be useable, 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:

(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 the lowest of the following three production quantities:

(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) Potential environmental implications; and

(ii) The total quantity of unexpended production allowances held by U.S. entities.

(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 had 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 to equal 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 limits.* 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 transfer of regulated substances produced or imported with application-specific allowances.**

(a) *Sale or transfer of HFCs produced or imported using application-specific allowances.* (1) Effective January 1, 2022, any person receiving an application-specific allowance (transferor) may sell or transfer regulated substances produced or imported using that allowance to another person within the same application (transferee) provided that

the relevant Agency official approves the sale or transfer.

(2) The transferee must submit a claim to the relevant Agency official for approval before the sale or transfer can take place. The claim must set forth the following:

(i) The identities and addresses of the transferor and the transferee;

(ii) The name, telephone numbers, and email addresses of contact persons for the transferor and the transferee;

(iii) The amount of each regulated substance being sold or transferred;

(iv) The cost of the regulated substance;

(v) The specific products that the transferee plans to produce with the HFCs; and

(vi) Certification that the HFCs 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 transferor must submit a letter to the relevant Agency official stating that it concurs with the terms of the sale or transfer as requested by the transferee.

(4) Once the claim is complete, and if EPA does not object to the sale or transfer, then EPA will issue letters to the transferor and the transferee 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 transferee plans use the regulated substance in anything other than the stated application. If EPA objects to the transaction, EPA will issue letters to the transferor and transferee stating the basis for disallowing the transaction.

(5) The burden of proof is placed on the transferee to retain sufficient records to prove that the sold or transferred regulated substances are used only for the stated application.

(b) [Reserved].

#### **§ 84.23 Certification identification generation and tracking.**

(a) *Scope and applicability.* All containers of bulk regulated substance must be associated with a certification identification as of January 1, 2024. Certification identifications may only be generated by a person that produces, imports, reclaims, repackages, or blends regulated substance for distribution or sale in bulk and reports to EPA consistent with paragraph (d) of this section.

(b) *Prohibitions.* Effective January 1, 2024, every kilogram of bulk regulated substance sold or distributed, or offered for sale or distribution, in violation of

this section is a separate violation of this subpart. Every kilogram of bulk regulated substance purchased or received, or attempted to be purchased or received in violation of this section is a separate violation of this subpart.

(1) No person may sell or distribute, or offer for sale or distribution, and no person may purchase or receive, or attempt to purchase or receive, a regulated substance unless the container has a valid certification identification.

(2) No person may sell or distribute, or offer for sale or distribution, regulated substance unless they are registered with EPA consistent with § 84.31.

(3) No person may purchase or receive, or attempt to purchase or receive, the regulated substance unless the person is registered with EPA consistent with paragraph (d) or a final customer;

(4) The following situations are exempt from the prohibitions in paragraphs (b)(1) through (3) of this section:

(i) The regulated substance is part of a transshipment and the person transshipping the regulated substance has reported to EPA consistent with § 84.31(c)(3);

(ii) The regulated substance was:

(A) Previously used, has been recovered from a piece of equipment, and is intended for reclamation;

(B) The person selling or distributing the regulated substance certifies in writing to the person purchasing or receiving the regulated substance was recovered from a piece of equipment and provides the date of recovery; and

(C) The person purchasing or receiving the regulated substance is either an EPA-certified refrigerant reclaimer or a registered supplier of regulated substances consistent with paragraph (d) of this section.

(iii) The regulated substance was imported consistent with the petition process described in § 84.25 and is being distributed by an aggregator or destruction company; or

(iv) The material was collected for destruction at a destruction facility.

(5) No producer or importer may request certification identifications that would exceed their currently available allowances.

(6) A person who reclaims regulated substances may request certification identifications at a level equal to their reported reclamation for the prior year plus an amount based on the average annual growth in total U.S. HFC reclamation in the prior three years or five percent, whichever is higher. If that level is not sufficient, the reclaimer 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. EPA 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 new QR codes based on the certification identifications associated with the containers currently in their possession.

(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, packaging, selling or distributing, or offering to sell or distribute regulated substances must register with EPA consistent with paragraph (d) of this section.

(2) Any person who introduces a container of regulated substance or reclaimed regulated substance into U.S. commerce, must permanently affix a QR code to the container that documents a valid certification identification using the standards defined by EPA prior to the container entering U.S. commerce. For the purposes of this subpart, examples of when a container of regulated substance or reclaimed regulated substance enters U.S. commerce include arrival at U.S. Customs and departure from a production or reclamation facility.

(3) At the time of sale or distribution, a person selling or distributing 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 final customer or supplier.

(4) At the time of sale or distribution, a person taking ownership of a 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 regulated substance must enter the following information in the certification identification system to generate a new QR code and associated certification identification for each container of regulated substance: 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, and amount and name of the regulated substance(s) in the container.

(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 new QR code and associated certification identification for each container of regulated substance: The name or brand the regulated substance is being sold and/or marketed under, the date 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, whether the purity of the batch was confirmed to meet the specifications in appendix A to 40 CFR part 82, subpart F, the date the batch was tested for purity, and who certified the reclaimed regulated substance meets the purity specifications. If a container is filled with reclaimed and virgin regulated substance(s), the reclaimer must provide the amount of virgin regulated substance is included in the container and the certification identification(s) associated with that regulated substance.

(3) *Producers and Packagers.* Anyone who is filling a container, whether for the first time after production or when transferring regulated substance from one container to one or more smaller or larger containers, must enter information in the certification identification system and generate a new QR code for the container(s) of repackaged regulated substances: The name or brand the regulated substance is being sold and/or marketed under, the date it was repackaged, the certification identification(s) associated with the regulated substance being repackaged, the unique serial number for the container, and amount and name of the regulated substance(s) in the container, and the quantity of containers it was packaged in, and the size of the containers.

(4) *Receiving recovered regulated substances.* Anyone receiving recovered regulated substances for purposes of reclamation must save a copy of the

written certification required under paragraph (b)(4)(ii) of this section.

(5) *Certification identification generators registration.* Any person who introduces a container of regulated substance or reclaimed regulated substance into U.S. commerce must register with EPA in the certification identification system. 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; how the company introduces bulk regulated substances into U.S. commerce; and the category of final customer(s) the supplier sells or distributes regulated substances to. These reports must be updated and resubmitted within 60 days if information changes.

(6) *Supplier Registration.* Any person who sells, distributes, or offers for sale or distribution, regulated substances must register with EPA in the certification identification system. 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 category of final customer(s) the supplier sells or distributes regulated substances to. These reports must be updated and resubmitted within 60 days if information changes.

(7) *Container inventory. one-time report.* In order to receive certification identifications for containers of previously purchased regulated substance, any person who sells or distributes, or offers to sell or distribute, containers of bulk regulated substance must register their containers in inventory by November 15, 2023. The report must contain the name and address of the company; contact information for the owner of the company; inventory of regulated substance owned by the company as of December 31, 2020, December 31, 2021, and December 31, 2022; for each container of regulated substance still in the company's possession, the amount and name of the regulated substance in the container, any unique identification number assigned to the container, whether the regulated substance was acquired from a domestic supplier, though import, or through reclamation, and the date the regulated substance was acquired, imported, or reclaimed; and a certification from the owner of the

company or other responsible officer that the regulated substance in his/her/their possession was acquired consistent with the laws of the United States.

**§ 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 working days before the shipment is to leave the foreign port of export, and must contain the following information:

(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. 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;

(vi) 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;

(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 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 (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 or misleading information, or the official has information from other U.S. or foreign government agencies indicating that the petition contains false 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 information, then EPA has the right to:

(A) Revoke the non-objection notice;

(B) Pursue all means to ensure that the regulated substance is not imported into the United States; and

(C) Take appropriate enforcement actions including but not limited to seizing regulated substances that have already been imported into the United States and revoking or withholding allowances.

(3) *Timing.* An individual shipment authorized through a non-objection notice must be used in the process resulting in its transformation or destruction within sixty 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, 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) 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 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 official determines that any portion of the petition contains false or misleading information, or the official has information from other U.S. or foreign government agencies indicating

that the petition contains false 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 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 information, then EPA has the right to:

(A) Revoke the non-objection notice;

(B) Pursue all means to ensure that the regulated substance is not imported into the United States; and

(C) Take appropriate enforcement actions including but not limited to seizing regulated substances that have already been imported into the United States and revoking or withholding allowances.

(3) *Timing.* An individual shipment authorized through a non-objection notice must be destroyed within sixty 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 within 45 days after destruction of the regulated substance(s).

(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 indicating that the substance has been destroyed.

#### **§ 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 meeting 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% 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 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 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, 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.

#### **§ 84.31 Recordkeeping and reporting.**

(a) *Recordkeeping and reporting.* Any person who produces, imports, exports, transforms, uses as a process agent, destroys, or reclaims regulated substances must comply with the following recordkeeping and reporting requirements:

(1) Reports required by this § 84.31 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 the Administrator.

(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, or reclamation of regulated substance.

(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 of any regulated substance 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 revised data or procedures 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 expended allowances 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 not produced 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 application-specific allowance holders 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 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:

(A) Information on the capacity to produce the intended chemical on the line on which HFC-23 is produced;

(B) Description of what is being done at the facility to control the creation 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;

(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: Emissions; generated; generated and captured; generated and captured for feedstock use in the United States; generated and captured for destruction; used for feedstock without prior capture; and destroyed without prior capture.

(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 within 45 days after destruction occurs.

(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 report 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.* For 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 paragraphs (c)(2)(i) through (xvi) of this section for the previous quarter;

(ii) The total quantity (in kilograms) imported of each regulated substance for that quarter;

(iii) The commodity code 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; and

(viii) 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 which 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 commodity code for the regulated substances imported;

(ix) The importer number for the shipment;

(x) A copy of the bill of lading for the import;

(xi) The invoice for the import;

(xii) The U.S. Customs entry number;

(xiii) Dated records documenting the sale or transfer of regulated substances for use in processes resulting in their transformation or destruction;

(xiv) Copies of transformation verifications or destruction verifications indicating that the regulated substances will be transformed or destroyed;

(xv) Dated records of the quantity of regulated substances imported for an application listed at § 84.5(c)(2);

(xvi) 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; and

(xvii) Dated records of batch tests of regulated substances packaged for sale or distribution; and

(3) *Transshipments.* (i) A person must notify the relevant Agency official of each individual 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, and contain the following information:

(A) Name, commodity 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 entry, 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 the individual shipment into the United States.

(ii) The person in paragraph (c)(3)(i) of this section must notify the relevant Agency official of each individual shipment of a regulated substance that is to be transhipped when it departs the United States. The notification is required at least 30 working days before the shipment leaves the port in the United States, and contain the following information:

(A) Name, commodity 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, name of vessel.

(iii) Any person who tranships 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 interstate 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 commodity 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 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.



(d) *Exporters.* Persons (“exporters”) who export regulated substances must comply with the following reporting requirements:

(1) *Reporting requirements—exporters.* For any exports of regulated substances not reported under paragraph (b)(2) of this section, each exporter who exported a regulated substance must submit to the relevant Agency official the following information within 45 days after the end of each quarter in which the unreported exports left the United States:

(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 commodity code 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 must comply with the following recordkeeping and reporting requirements:

(1) *Reporting—second-party transformation and destruction.* Any person who transforms or destroys regulated substances and who has submitted a transformation verification ((paragraph (e)(3) of this section) or a destruction verification (paragraph (e)(4) of this section) to the producer or importer of the regulated substances, 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; and

(vii) Dated records of shipments to purchasers of the resulting chemical(s) when the regulated substances are transformed.

(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 up to 60 days. 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 and subsequently destroys regulated substances that were originally produced or imported without expending allowances shall provide the producer or importer from whom it purchased or received the regulated substances with a verification that the regulated substances will be used in processes that result in their destruction. 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.* Any person who transforms a regulated substance must provide 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 production line of any regulated substance 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 record the volume destroyed;
- (iii) The methods used to determine destruction efficiency;
- (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.* Any person who uses a regulated substance as a process agent must provide a one-time report containing the following information:

(i) A description of the process agent use which 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 HFC emission reduction actions planned or currently under investigation.

(i) *Holders of application-specific allowances*—(1) *Reporting.* Any person allocated application-specific allowances must submit to the relevant Agency official a report containing the following information by July 31 and January 31 of each year:

(i) The quantity (in kilograms) of each regulated substance that was used for their application during previous six months;

(ii) The quantity of regulated substances acquired through conferring allowances that were imported during the previous six months;

(iii) The quantity of regulated substances acquired through conferring allowances that were produced domestically during the previous six months;

(iv) The companies to which application-specific allowances were conferred;

(v) The quantity of regulated substances purchased without expending application-specific allowances during the previous six months (*i.e.*, from the open market);

(vi) The quantity of inventory of each regulated substance held by the reporting company or held under contract by another company for the reporting company's use on the last day of the previous six-month period;

(vii) The quantity of each regulated substance contained in exported products during the previous six months; and

(viii) The quantity of each regulated substance that was destroyed or recycled during the previous six months.

(2) *Application.* In addition to the information in paragraph (i)(1) of this section, the report due by July 31 must include a request for application-specific allowances for the next calendar year which would include the following:

(i) Total quantity (in kilograms) of all regulated substances acquired and used in the previous three years;

(ii) Information on suppliers;

(iii) whether HFCs were acquired through domestic production or import;

(iv) Whether HFCs were acquired through conferring allowances or from the general market; quantities held in inventory; and

(v) A description of plans to transition to regulated substances with a lower exchange value or alternatives to regulated substances.

(3) *Recordkeeping.* Entities allocated application-specific allowances must maintain the following records for five years:

(i) Records necessary to develop the biannual reports;

(ii) A copy of certifications provided to producers and/or importers when conferring allowances;

(iii) A copy of the annual submission requesting application-specific allowances;

(iv) Invoice and order records related to the purchase of regulated substances;

(v) Records related to the transfer of allocation-specific allowances to other entities; and

(vi) Records documenting the use of regulated substances.

(j) *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;

(ii) The name of the laboratory that conducts the 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;

(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.* For each quarter, a reclaimer of a regulated substance must submit to the relevant Agency official a report containing the following information:

(i) 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.

(ii) The quantity of each regulated substance held in inventory onsite at the end of each quarter broken out by recovered, reclaimed, and virgin.

(3) *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.

#### **§ 84.33 Auditing of recordkeeping and reporting.**

(a) Any person receiving production allowances, consumption allowances, or

application-specific allowances, as well as any person who exports or reclaims a regulated substance must arrange for third-party auditing of reports submitted to the EPA.

(b) Auditors must review the inputs the regulated entities used to develop quarterly and annual reports including, as appropriate:

(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) The amount of regulated substances imported, exported, produced, destroyed, transformed, or reclaimed;

(4) For allocation-specific allowances, 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;

(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 commodity codes;

(8) The number and type of railcars, ISO tanks, individual cylinders or drums, small cans, or other containers used to store and transport regulated substances;

(9) List of certification identifications used; and

(10) Other information deemed relevant.

(c) 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 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 CFR 1090.95), 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.

(d) 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 or a responsible corporate officer of the independent third-party auditor.

(e) 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.

(f) 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.

#### Subpart B—[RESERVED]

#### Appendix A to Part 84—Regulated Substances

##### HFCs LISTED AS REGULATED SUBSTANCES IN THE AIM ACT <sup>1</sup>

| HFC                | Chemical formula  | Exchange value |
|--------------------|---|----------------|
| HFC-134 .....      | CHF <sub>2</sub> CHF <sub>2</sub> .....                               | 1,100          |
| HFC-134a .....     | CH <sub>2</sub> FCF <sub>3</sub> .....                                | 1,430          |
| HFC-143 .....      | CH <sub>2</sub> FCHF <sub>2</sub> .....                               | 353            |
| HFC-245fa .....    | CHF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub> .....                | 1,030          |
| HFC-365mfc .....   | CF <sub>3</sub> CH <sub>2</sub> CF <sub>2</sub> CH <sub>3</sub> ..... | 794            |
| HFC-227ea .....    | CF <sub>3</sub> CHFCF <sub>3</sub> .....                              | 3,220          |
| HFC-236cb .....    | CH <sub>2</sub> FCF <sub>2</sub> CF <sub>3</sub> .....                | 1,340          |
| HFC-236ea .....    | CHF <sub>2</sub> CHFCF <sub>3</sub> .....                             | 1,370          |
| HFC-236fa .....    | CF <sub>3</sub> CH <sub>2</sub> CF <sub>3</sub> .....                 | 9,810          |
| HFC-245ca .....    | CH <sub>2</sub> FCF <sub>2</sub> CHF <sub>2</sub> .....               | 693            |
| HFC-43-10mee ..... | CF <sub>3</sub> CHFCF <sub>2</sub> CF <sub>3</sub> .....              | 1,640          |
| HFC-32 .....       | CHF <sub>2</sub> .....  | 675            |
| HFC-125 .....      | CHF <sub>2</sub> CF <sub>3</sub> .....                                | 3,500          |
| HFC-143a .....     | CH <sub>3</sub> CF <sub>3</sub> .....                                 | 4,470          |
| HFC-41 .....       | CH <sub>3</sub> F .....   | 92             |
| HFC-152 .....      | CH <sub>2</sub> FCH <sub>2</sub> F .....                              | 53             |
| HFC-152a .....     | CH <sub>3</sub> CHF <sub>2</sub> .....                                | 124            |
| HFC-23 .....       | CHF <sub>3</sub> .....  | 14,800         |

<sup>1</sup> This table includes all isomers of the substances above, regardless of whether the isomer is explicitly listed on its own.

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