ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 84

[EPA–HQ–OAR–2024–0196; FRL–10782–02–OAR]

RIN 2060–AV98

Phasedown of Hydrofluorocarbons: Review and Renewal of Eligibility for Application-Specific Allowances

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The U.S. Environmental Protection Agency (EPA) is finalizing, pursuant to the statutory framework established in the American Innovation and Manufacturing Act of 2020 (AIM Act), the eligibility of six applications to continue to receive priority access to allowances to produce or import hydrofluorocarbons. In this final rule, EPA establishes the framework for how EPA interprets the statutory criteria for assessing whether to renew the eligibility of applications to receive application-specific allowances and sets out determinations to renew or not renew each of the six applications that currently receive application-specific allowances. EPA is also finalizing revisions to the Technology Transitions regulations relevant to the specific applications under review, a procedural process for submitting a petition to designate a new application as eligible for priority access to allowances, the methodology used to allocate allowances to application-specific allowance holders for calendar years 2026 and beyond, and limited revisions to existing regulations. In addition, EPA is authorizing an entity to produce regulated substances for export. Lastly, EPA is finalizing certain regulatory confidentiality determinations for newly reported information.

DATES: This rule is effective on September 25, 2025.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA–HQ–OAR–2024–0196. All documents in the docket are listed on the *https://www.regulations.gov* website. Although listed in the index, some information is not publicly available, *e.g.,* Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the internet and will be publicly available only in hard-copy form. Publicly available docket materials are available electronically through *https://www.regulations.gov* or in hard copy at the EPA Docket Center, Room 3334, WJC West Building, 1301 Constitution Avenue NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the EPA Docket Center is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Michelle Graff, U.S. Environmental Protection Agency, Stratospheric Protection Division, telephone number: (202) 564–5387; or email address: *graff.michelle@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 and abbreviations that are used in this rulemaking that may be helpful include:

2–BTP—2-bromo-3,3,3-trifluoropropene
AAGR—Average Annual Growth Rate
ACE—Automated Commercial Environment
AD/CVD—Anti-dumping and Countervailing Duties
AES—Automated Export System
AIM Act—American Innovation and Manufacturing Act of 2020
AHRI—Air-Conditioning, Heating, and Refrigeration Institute
APU—Auxiliary Power Unit
ASHRAE—American Society for Heating, Refrigerating, and Air-Conditioning Engineers
ASA—Application-specific Allowance
CAA—Clean Air Act
CBI—Confidential Business Information
CBP—U.S. Customs and Border Protection
CFR—Code of Federal Regulations
CGMP—Current Good Manufacturing Practice
CO_2—Carbon Dioxide
COVID—Coronavirus Disease
CRA—Congressional Review Act
CVD—Chemical Vapor Deposition
DOC—U.S. Department of Commerce
DOD—U.S. Department of Defense
EEI—Electronic Export Information
EV—Exchange Value
EVe—Exchange Value Equivalent
EPA—U.S. Environmental Protection Agency
FDA—U.S. Food and Drug Administration
FIFRA—Federal Insecticide, Fungicide, and Rodenticide Act
FR—Federal Register
GDP—Gross Domestic Product
GHG—Greenhouse Gas
GWP—Global Warming Potential
HCFC—Hydrochlorofluorocarbon
HFA—Hydrofluoroalkane
HFC—Hydrofluorocarbon
HFO—Hydrofluoroolefin
HHS—U.S. Department of Health and Human Services
HVM—High Volume Manufacturing
ICR—Information Collection Request
IPCC—Intergovernmental Panel on Climate Change
ITN—Internal Transaction Number
Kg—Kilogram
MCMEU—Mission-Critical Military End Uses
MCTOC—Medical and Chemicals Technical Options Committee
MDI—Metered Dose Inhaler
MT—Metric Ton
MTEVe—Metric Tons of Exchange Value Equivalent
NAICS—North American Industry Classification System
OMB—U.S. Office of Management and Budget
PFAS—Per- and Polyfluoroalkyl Substances
PFC—Perfluorocarbon
PII—Personally Identifiable Information
PRA—Paperwork Reduction Act
PU—Polyurethane
RACA—Request for Additional Consumption Allowance
RFA—Regulatory Flexibility Act
RIA—Regulatory Impact Analysis
RSV—Respiratory Syncytial Virus
SCPPU—Structural Composite Preformed Polyurethane
SNAP—Significant New Alternatives Policy
TCE—Trichloroethylene
TEAP—Technology and Economic Assessment Panel
TSCA—Toxic Substances Control Act
TSD—Technical Support Document
UMRA—Unfunded Mandates Reform Act

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I. Executive Summary

A. Purpose of Regulatory Action

The U.S. Environmental Protection Agency (EPA) is undertaking this action to implement certain provisions of the American Innovation and Manufacturing Act of 2020, codified at 42 U.S.C. 7675 (AIM Act or the Act). The Act directs EPA to implement the phasedown of hydrofluorocarbons (HFCs) by issuing a limited quantity of production and consumption allowances, which entities must expend to produce or import HFCs. Subsection (e)(4)(B) of the Act authorizes EPA to allocate allowances exclusively for the use of HFCs in specific applications for which there is (1) no safe or technically achievable substitute during the applicable period and (2) an insufficient supply of the HFCs used in the application that can be secured from chemical manufacturers to accommodate the application. The Act listed six applications to receive these allowances for a five-year period beginning on December 27, 2020: propellants in metered dose inhalers (MDIs), defense sprays, structural composite preformed polyurethane (SCPPU) foam for marine use and trailer use (hereafter referred to as SCPPU foam for marine and trailer uses), the 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 (MCMEU), and onboard aerospace fire suppression.[1] EPA has created a category for these allowances, which EPA refers to as application-specific allowances (ASAs). ASAs provide priority access for eligible applications and are allocated ahead of general pool allowances based on a methodology intended to determine eligible entities' needs for regulated substances (see section VII. of this preamble and the Allocation Framework Rule for more information).[2] After the total ASA quantity is determined, the remaining allowances are distributed to general pool allowance recipients using the methodology codified in regulation.

Subsection (e)(4)(B)(v) of the AIM Act directs EPA to review applications receiving priority access to allowances not less frequently than once every five years and establishes statutory criteria under which EPA is to review the applications. If an application is deemed to meet the statutory criteria, EPA is to renew the eligibility of the application to receive priority access to allowances for a period of not more than five years. As explained in the proposed rule, 89 FR 75898 (September 16, 2024), EPA is undertaking this review in this rulemaking, and therefore this final rule establishes how the Agency is interpreting the statutory criteria for reviewing applications receiving ASAs. EPA is also making decisions to renew or not renew each of the six applications that currently receive ASAs.

Separately, subsection (i) of the Act authorizes EPA, by rulemaking, to restrict the use of HFCs in sectors or subsectors where the regulated substances are used. Based on this provision, EPA promulgated a final rule entitled ''*Phasedown of Hydrofluorocarbons: Restrictions on the Use of Certain Hydrofluorocarbons Under the American Innovation and Manufacturing Act of 2020*'' (hereafter referred to as the ''2023 Technology Transitions Rule''; 88 FR 73098, October 24, 2023), which established restrictions for three sectors and numerous

[1] EPA codified that application-specific allowances are available to entities using regulated substances in the statutorily listed applications for calendar years 2022, 2023, 2024, and 2025 in ''*Phasedown of Hydrofluorocarbons: Establishing the Allowance Allocation and Trading Program Under the American Innovation and Manufacturing Act*'' (hereafter referred to as the ''Allocation Framework Rule'') (86 FR 55116, October 5, 2021). 40 CFR 84.13(a). Accordingly, EPA made the final allocation under the preexisting regulations when it allocated calendar year 2025 allowances on October 1, 2024. *See* ''*Phasedown of Hydrofluorocarbons: Notice of 2025 Allowance Allocations for Production and Consumption of Regulated Substances Under the American Innovation and Manufacturing Act of 2020, and Notice of Final Actions Establishing Administrative Consequences*'' (89 FR 84583, October 23, 2024).

[2] EPA first codified the allocation methodology for general pool and ASA holders in the Allocation Framework Rule. The methodology for general pool allowance holders was subsequently updated in ''*Phasedown of Hydrofluorocarbons: Allowance Allocation Methodology for 2024 and Later Years*'' (hereafter referred to as the ''2024 Allocation Rule''; 88 FR 46836, July 20, 2023); the ASA methodology was not updated in the 2024 Allocation Rule.

subsectors. The rule exempted applications currently eligible to receive ASAs for the year or years in which that application receives an ASA. As such, if an application is no longer eligible to receive ASAs, it would become subject to the restrictions established in the 2023 Technology Transitions Rule. Therefore, as part of this rulemaking, EPA considered whether there are any appropriate changes to make specific to applications under review in this rule, and if so, whether to finalize those modifications to the Technology Transitions regulations, codified at 40 CFR part 84, subpart B.[3]

The Act also allows members of the public to petition EPA to designate an application as eligible for priority access to allowances. EPA is finalizing a procedure for submitting a petition under this provision and defining minimum required elements of such a petition. In addition, EPA is making narrow revisions in this final rule to the methodology used to allocate allowances to ASA holders for calendar years 2026 and beyond as well as other limited revisions to the existing 40 CFR part 84, subpart A regulations.

EPA is also authorizing an entity to produce regulated substances for export for application-specific uses pursuant to subsection (e)(5) of the Act, which authorizes EPA to permit the production in excess of allowances held by an entity so long as the excess production is solely for export purposes and meets additional requirements in the Act. Lastly, EPA is finalizing certain regulatory confidentiality determinations for newly reported information.

B. Summary of Final Actions

Application-specific allowance eligibility review: EPA is finalizing its interpretation of the criteria under subsection (e)(4)(B) of the AIM Act and applying that interpretation to evaluate the six categories of ASA holders listed in subsection (e)(4)(B)(v) of the Act. EPA is renewing the following applications for the full five-year period from 2026–2030: propellants in MDIs, SCPPU foams for marine and trailer uses, the etching of semiconductor material or wafers and the cleaning of CVD chambers within the semiconductor manufacturing sector, MCMEU, and onboard aerospace fire suppression. EPA is also finalizing the option set out in the proposed rule of not renewing the eligibility of defense sprays for ASAs beginning with calendar year 2026 allowances,[4] and is excluding defense sprays from Technology Transitions restrictions that would otherwise apply under the current regulation.

Application-specific allowance eligibility petitions: EPA is finalizing the process and information requirements for submitting petitions under subsection (e)(4)(B) of the AIM Act which seek the designation of an application as eligible for priority allowance access consistent with EPA's proposal.

Application-specific allowance methodology: EPA is making targeted revisions to the existing ASA methodology as proposed: to require companies to provide a total request for allowances for the calendar year, to expand permissible scenarios that could qualify as unique circumstances, to use a different allocation methodology for certain very small users of HFCs and entities with irregular HFC usage history, to account for inventory in allocation decisions, and to establish a set-aside of allowances for situations that meet the criteria for unique circumstances related to medical conditions treated by MDIs. EPA is also finalizing new requirements for conferrals of MCMEU allowances in line with the proposed rule.

Other regulatory revisions: EPA is finalizing amendments to existing regulations as proposed to: clarify the ability of the federal government to pursue, if appropriate, auctioning illegally imported HFCs that are seized by enforcement officials, require exporting companies to report ''Internal Transaction Numbers'' (ITNs) quarterly, and simplify the reporting on ''date of purchase'' for a Request for Additional Consumption Allowances (RACA).

Authorization of production for export: As proposed, EPA is authorizing an entity to produce regulated substances for export for application-specific uses abroad.

Handling of confidentiality for newly reported information: EPA is finalizing certain regulatory confidentiality determinations for newly reported information.

II. General Information

A. Does this action apply to me?

You may be potentially affected by this action if you use HFCs in one of the six applications eligible for an allocation under section (e)(4)(B)(iv) of the AIM Act. You may also potentially be affected if you produce, import, export, purify, destroy, reclaim, package, or otherwise distribute HFCs for end users in one of these six applications or are a current HFC allowance holder. 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
325120	Industrial Gas Manufacturing.
325199	All Other Basic Organic Chemical Manufacturing.
325211	Plastics Material and Resin Manufacturing.
325412	Pharmaceutical Preparation Manufacturing.
325414	Biological Product (except Diagnostic) Manufacturing.
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing.
326220	Rubber and Plastics Hoses and Belting Manufacturing.
326150	Urethane and Other Foam Product.
326299	All Other Rubber Product Manufacturing.
333415	Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing.
333511	Industrial Mold Manufacturing.
334413	Semiconductor and Related Device Manufacturing.
334419	Other Electronic Component Manufacturing.

[3] Through a separate rulemaking, EPA announced reconsideration of the Technology Transitions requirements for certain refrigeration applications, including in supermarket systems and at semiconductor fabrication plants. See *https://www.epa.gov/newsreleases/trump-epa-takes-action-lower-costs-american-families-grocery-store-reconsidering.*

[4] Entities without ASAs can continue to purchase and use HFCs in accordance with the overall requirements established in 40 CFR part 84.

TABLE 1—NAICS CLASSIFICATION OF POTENTIALLY AFFECTED ENTITIES—Continued

NAICS Code	NAICS industry description
334510	Electromedical and Electrotherapeutic Apparatus Manufacturing.
336212	Truck Trailer Manufacturing.
336214	Travel Trailer and Camper Manufacturing.
336411	Aircraft Manufacturing.
336611	Ship Building and Repairing.
336612	Boat Building.
336992	Military Armored Vehicle, Tank, and Tank Component Manufacturing.
SIC 373102	Military Ships, Building, and Repairing..
339112	Surgical and Medical Instrument Manufacturing.
423720	Plumbing and Heating Equipment and Supplies (Hydronics) 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.
423840	Industrial Supplies Merchant Wholesalers.
423860	Transportation Equipment and Supplies (except Motor Vehicle) Merchant Wholesalers.
424690	Other Chemical and Allied Products Merchant Wholesalers.
488510	Freight Transportation Arrangement.
541380	Testing Laboratories.
541714	Research and Technology in Biotechnology (except Nanobiotechnology).
562111	Solid Waste Collection.
562211	Hazardous Waste Treatment and Disposal.
562920	Materials Recovery Facilities.
922160	Fire Protection.

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 EPA's authority for taking this action?

On December 27, 2020, the AIM Act was enacted as section 103 in Division S, Innovation for the Environment, of the Consolidated Appropriations Act, 2021 (codified at 42 U.S.C. 7675). 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 (42 U.S.C. 7675(k)(1)(A)). Subsection (k)(1)(C) of the Act also provides 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)), which applies to ''promulgation or revision of regulations under subchapter VI of this chapter (relating to stratosphere and ozone protection).''

The AIM Act authorizes EPA to address HFCs in three main ways: phasing down HFC production and consumption through an allowance allocation program, promulgating certain regulations for purposes of maximizing reclaiming and minimizing releases of HFCs from equipment and ensuring the safety of technicians and consumers, and facilitating the transition to next-generation technologies by restricting use of these HFCs in the sector or subsectors in which they are used. This rulemaking relates to the first area and also addresses restrictions in the third area solely for impacted subsectors.

The Act required EPA, for the five-year period beginning on December 27, 2020, to allocate the full quantity of allowances necessary, based on projected, current, and historical trends, for the production or consumption of regulated substances for the exclusive use in six applications: propellants in MDIs, defense sprays, SCPPU foam for marine and trailer uses, the etching of semiconductor material or wafers and the cleaning of CVD chambers within the semiconductor manufacturing sector, MCMEU, and onboard aerospace fire suppression (42 U.S.C. 7675(e)(4)(B)(iv)(I)). EPA has defined these allowances as ASAs.

Subsection (e)(4)(B)(v) of the AIM Act requires EPA to review applications receiving allocations pursuant to subsection (e)(4)(B)(iv) at least every five years. If pursuant to this review EPA determines that the requirements of two statutory criteria are met, EPA shall authorize production or consumption, as applicable, of regulated substances for exclusive use in the application for renewable periods of not more than five years. Specifically, EPA must determine whether: (1) no safe or technically achievable substitute will be available during the applicable period for the application; and (2) the supply of the regulated substance that manufacturers or users of the regulated substance for that application are capable of securing from chemical manufacturers is insufficient to accommodate the application.

Separately, an entity may file a petition for an application to receive ASAs. The AIM Act outlines timeframes and deadlines for EPA to act on such a petition and describes how the Agency should assess such a petition (42 U.S.C. 7675(e)(4)(B)(ii)). Specifically, not later than 180 days after receiving a petition, EPA must propose and seek public comment on whether to provide ASAs for the application. Not later than 270 days after EPA receives a petition, the Agency must take final action on the petition. Any application determined to be eligible for ASAs would also be subject to the periodic eligibility review established in subsection (e)(4)(B)(v).

Subsection (i) of the AIM Act, ''Technology Transitions,'' provides that ''the Administrator may by rule restrict, fully, partially, or on a graduated schedule, the use of a regulated substance in the sector or subsector in which the regulated substance is used'' (42 U.S.C. 7675(i)(1)). However, rules promulgated under subsection (i) ''shall not apply to . . . an essential use under clause (i) or (iv) of subsection (e)(4)(B), including any use for which the production or consumption of the

regulated substance is extended under clause (v)(II) of that subsection'' (42 U.S.C. 7675(i)(7)(B)(i)). Therefore, per subsection (i)(7)(B)(i), the Technology Transitions regulations are not currently applicable to any application receiving an ASA (40 CFR 84.56(a)(2)). In this final rule, EPA is clarifying how the 40 CFR part 84, subpart B restrictions will apply to an application no longer receiving an ASA, based on EPA's consideration of the factors listed in subsection (i)(4) of the AIM Act.

III. Background

HFCs are anthropogenic [5] fluorinated chemicals that have no known natural sources. HFCs are used in a variety of applications such as refrigeration and air conditioning, foam blowing agents, solvents, aerosols, and fire suppression. HFCs have 100-year global warming potentials (GWPs) [6] (a measure of the relative climatic impact of a greenhouse gas (GHG)) that can be hundreds to thousands of times that of carbon dioxide (CO_2). 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 (neat and in blends). These 18 HFCs are all saturated, meaning they have only single bonds between their atoms, and therefore have longer atmospheric lifetimes than fluorinated compounds that are unsaturated. More detailed information on HFCs, their uses, and their impacts is available in the Allocation Framework Rule.

IV. How is EPA assessing whether to extend eligibility for application-specific allowances?

As noted in section II.B. of this preamble, the AIM Act directs EPA to undertake a review of applications receiving allowances pursuant to subsection (e)(4)(B)(iv) at least every five years. The statute provides that access to ASAs shall be authorized for a renewed period if two statutory criteria are met. Specifically: (1) ''no safe or technically achievable substitute will be available during the applicable period for that application; and'' (2) ''the supply of the regulated substance that manufacturers or users of the regulated substance for that application are capable of securing from chemical manufacturers . . . including any quantities of a regulated substance available from production or import, is insufficient to accommodate the application'' (42 U.S.C. 7675(e)(4)(B)(i), (e)(4)(B)(v)). In this section, we outline how EPA interprets these criteria, what information the Agency considers in assessing these criteria, and establish a framework for evaluating if an application is eligible for renewal and for what time period. EPA notes that under the statute, these criteria also apply to new applications that may be listed; however, aside from the discussion of the petition process in section VI., this final rule only considers the renewal of existing applications. EPA's interpretations of the criteria discussed in this section would apply to future actions to add new applications. The AIM Act includes additional evaluation considerations for new applications in subsection (e)(4)(B)(i), but the Agency is not addressing their interpretation in this final rule.

A. How is EPA interpreting the ''no safe or technically achievable substitute will be available'' criterion?

In order for an application to continue to be eligible to receive ASAs, EPA must determine ''no safe or technically achievable substitute will be available'' for the application during the time period under review (42 U.S.C. 7675(e)(4)(B)(i)(I)). EPA proposed to interpret this criterion to mean that if there is an available substitute that is both safe *and* technically achievable, an application would not meet this criterion for renewal. In other words, if EPA determines there is a safe substitute, but it is not technically achievable, or the only technically achievable substitutes are not safe, the application would meet the first criterion for renewal. EPA included further explanation regarding this proposed interpretation in the notice of proposed rulemaking (89 FR 75898, September 16, 2024).

In the proposal, EPA explained its intent to consider a wide range of possibilities in assessing whether there was a safe and technically achievable substitute for an application under subsection (e)(4)(B)(i)(I). Specifically, EPA proposed to consider regulated substances (*i.e.,* other HFCs), alternative substances (*e.g.,* hydrofluoroolefins (HFOs), hydrocarbons), and blends of HFCs and/or HFC alternatives that can perform the same function as the current HFC in use; of these substances, EPA proposed to assess only those with a lower GWP than the regulated substance currently in use. EPA proposed to include substitute chemicals that are both a chemical-for-chemical replacement and those that would require a change in manufacturing process or the product.

In addition to looking at chemicals that could serve as substitutes, EPA also proposed to include in its analysis any potentially available not-in-kind technologies (*e.g.,* finger-pump bottles that would not use any chemical propellant in lieu of aerosol cans) for purposes of subsection (e)(4)(B)(i)(I).

The Agency proposed to assess this criterion, specifically whether a safe and technically achievable substitute(s) is available, on an application-wide basis. For applications that use multiple HFCs, a safe and technically achievable substitute would need to be able to replace all HFCs used (or multiple substitutes that replace all individual HFCs would need to be available). For applications that have sub-applications (*e.g.,* defense sprays include those intended for humans and those intended for animals), there would need to be a safe and technically achievable substitute for known sub-applications that have been relying on ASAs to date.

EPA proposed that its evaluation of each application is not intended to be a company-specific review; the commercialization [7] of a substitute in one sub-application suggests the substitute is safe or technically achievable for the entire application barring evidence, such as testing data, to the contrary. However, EPA noted at proposal that if there are additional barriers to commercialization, those would be considered when assessing if the identified substitute is available for an entire application and the renewal period, as applicable. In addition, EPA's interpretation of the statutory language is that applications are intended to be viewed as a whole and not renewed by sub-application.

One commenter requested further clarification regarding EPA's interpretation of ''technically achievable

[5] 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 hydrochlorofluorocarbon (HCFC)-22 and other fluorinated gases.

[6] EPA notes that the exchange values (EVs) listed in the AIM Act for each regulated HFC are numerically identical to the 100-year GWPs of each substance, as given in the Errata to Table 2.14 of the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report (AR4). *See IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.* Available at *https://www.ipcc.ch/report/ar4/wg1.*

[7] EPA is using the term ''commercialization'' to mean that the substitute is commercially available and actively being used in an application's equipment or sold on the market (domestically or internationally) for use in the application. ''Commercialization'' is not intended to be equated with ''available,'' as explained in more detail in the main text.

substitute.'' [8] The commenter noted its support of the sources of information that EPA outlined in the proposed rule in determining the availability of substitutes, specifically noting Significant New Alternatives Policy (SNAP) Program listings (pursuant to section 612 of the CAA) and 2023 Technology Transitions Rule evaluations. However, the commenter stated a need for more clarity on how EPA plans to interpret the phrase ''technically achievable substitute.''

EPA disagrees with the commenter that the proposed action lacked sufficient clarity and notes that the commenter does not specify what was unclear in the proposal. As the commenter acknowledges, EPA listed numerous sources of information the Agency intended to draw from in developing its assessment of the availability of a technically achievable substitute for individual applications. How EPA incorporates information from these sources is necessarily source-specific and will vary depending on the information received from the source. For example, EPA listed manufacturer announcements as an information source. If a company within an application has announced that it is commercializing a product using a substitute chemical, that would be meaningful for EPA's assessment. Conversely, if a company announces it is starting the first stage of testing for use of a substitute chemical, that will also be information EPA will take into account, but the analysis will be different. Similarly, many peer-reviewed technical reports discuss whether substitutes are currently and/or expected to be technically achievable, and how EPA will account for that information will depend on the content of the report.

Moreover, the Technical Support Document (TSD), ''Review of Applications in the American Innovation and Manufacturing (AIM) Act Subsection (e)(4)(B)(4),'' accompanying the proposed rule demonstrated exactly how this variation would play out. EPA took information from cited sources and then developed an assessment of the availability of substitutes for each individual application. EPA received no adverse comment on its more general approach to analyzing substitute availability in the TSD for the applications as a whole. To the extent any commenter raised concerns about this application-specific assessment, EPA has accounted for that in the individual application decisions contained in section V. of this preamble to the final rule.

Finally, as the commenter acknowledges, EPA explained in the proposal its intent to consider the listings under the SNAP Program and evaluations carried out for the 2023 Technology Transitions Rule as part of its assessment. This includes listings themselves and the information underlying those decisions. In evaluation of substitutes and related decisions (*e.g.,* to list as acceptable or unacceptable), the SNAP Program carries out a comparative risk evaluation and considers whether a substitute to an ozone-depleting substance presents human health and environmental risks that are lower than or comparable to such risks from other substitutes that are currently or potentially available for the same uses. The analysis undertaken when evaluating a proposed substitute includes ozone depletion potential, GWP, local air quality, toxicity, flammability, and occupational and consumer health/safety. Information and data relied upon in the SNAP Program are directly relevant to EPA's assessment of substitutes in this rulemaking, and therefore EPA has pulled from and relied upon SNAP Program assessments as appropriate. The 2023 Technology Transitions Rule applied a list of criteria that are similar, but not identical, to the ASA review process (*e.g.,* the availability of substitutes, considering both safety and technological achievability), and EPA has also considered the information prepared for that rule, which is available in the relevant docket.

Another commenter stated that the criteria ''no available substitute that is both safe and technically achievable'' is ambiguous and restrictive and does not provide an incentive for applications to explore substitutes. EPA acknowledges this comment, but notes that the language cited by the commenter comes directly from the AIM Act. The Agency has no authority to alter the statutory language enacted by Congress. EPA's role, as an executive branch agency, is to implement the language in such a way to give effect to the text provided by the legislature.

EPA did not receive any further adverse comments on this part of its proposal, including what can be considered a substitute (*i.e.,* the various chemicals that will be considered along with not-in-kind substitutes), the proposal to assess the availability of substitutes on an application-wide basis, and the proposal to not determine availability of substitutes on a company-specific basis. EPA is therefore finalizing its interpretation of the ''no safe or technically achievable substitute will be available'' criterion as proposed, which EPA views as the best reading of the statutory text.

In the proposed rule, EPA outlined a range of sources of information it intended to, and did, review in developing the assessment of the availability of safe, technically achievable substitutes for applications under review. EPA's TSD that accompanied the proposed rule also included detailed information of the substitute assessment for each individual application, including citations to all sources of information considered. Sources include, but are not limited to: manufacturer announcements; information provided by stakeholders under reporting requirements of part 84 of the CFR and other communications; relevant federal and state regulations; evaluations carried out under the 2023 Technology Transitions Rule and the SNAP Program; standards from industry, standard-setting bodies (*e.g.,* American Society for Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)), and the U.S. Government (*e.g.,* the U.S. Food and Drug Administration's (FDA) regulations and guidance for MDIs); and peer-reviewed technical reports. EPA did not receive general comment on additional sources to consider, but we note that the Agency may consider additional information as relevant when assessing this criterion in future actions. The TSD accompanying this final rule has detailed information on the sources used in analyzing substitutes for each individual application in this final rulemaking. To the extent any commenter suggested additional sources of information for particular applications, EPA has considered these additional sources and incorporated that information as warranted into the analyses of the individual applications, as outlined in detail in the TSD.

B. How is EPA interpreting the insufficient supply of regulated substances criterion?

Under the second criterion for renewal of an application's eligibility to receive ASAs, EPA must determine that ''the supply of the regulated substance that manufacturers or users of the regulated substance for that application are capable of securing from chemical manufacturers. . . , including any quantities of a regulated substance available from production or import, is insufficient to accommodate the application'' (42 U.S.C.

[8] All comments referenced in this preamble can be found in the ''Response to Comments'' document in the docket for this rulemaking. EPA has responded to the most significant comments in the final rule preamble. All other comments are only addressed in the Response to Comments document.

7675(e)(4)(B)(i)(II)). In the proposal, EPA described its intention to look at a number of different factors to assess whether an application met this second criterion, including the available domestic supply of the HFC(s) at issue, demand for said HFC(s), and supply chain constraints particular to a given application (*e.g.,* federal requirements related to purity specifications).

EPA proposed to evaluate only the supply of the HFC(s) currently used in an application's equipment or to manufacture the application's products for use; this excludes any HFC(s) currently used exclusively for research and development. For applications that use multiple HFCs, EPA proposed to individually evaluate each HFC for which ASAs are being expended to assess if supply of that HFC is insufficient. EPA proposed to assess insufficient supply on an application-wide basis. In other words, if the supply of at least one of the HFCs evaluated is insufficient to accommodate the application, EPA proposed to consider the criterion met for the application.

EPA discussed in the proposed rule that in assessing supply, the Agency would also consider relevant restrictions, if any, on the type of HFC or supplier of HFCs that would further limit supply to a particular application. For example, FDA regulations govern use of pharmaceutical-grade HFCs by MDI manufacturers. Facilities manufacturing the regulated substances must comply with FDA regulations, and there are a limited number of purifiers.

In addition, per the Agency's best interpretation of the statutory language to consider regulated substances ''from chemical manufacturers . . . , including any quantities of a regulated substance available from production or import'' in 42 U.S.C. 7675(e)(4)(B)(i)(II), EPA proposed to consider only regulated substances that are supplied by chemical manufacturers in its assessment of supply. EPA proposed this assessment covers both virgin and recovered and reprocessed HFCs, and includes both imported material from foreign HFC producers and regulated substances from domestic producers. Relatedly, EPA proposed that ''chemical manufacturers'' excludes entities that do not produce or import HFCs and therefore that EPA would not consider HFC supply held by and available to entities that do not produce or import HFCs in its assessment of this criterion. This excludes quantities of HFCs held by entities that do not produce or import HFCs with allowances, potentially including reclaimers, distributors, HFC blenders,[9] and HFC repackagers. Further explanation about EPA's interpretation of this statutory language can be found in the proposed rule.

EPA did not receive comments related to the Agency's proposed interpretation of the statutory language in subsection (e)(4)(B)(i)(II). EPA is therefore finalizing its interpretation of the supply criterion as proposed, which EPA views as the best reading of the statutory text.

EPA also discussed in the proposed rule the sources of data it would consider in its evaluation of whether supply of a regulated substance is insufficient to accommodate an application. These include information regarding the total expected HFC consumption in the United States, global production of individual HFCs used in the applications, manufacturer announcements regarding production of specific HFCs, past and projected market trends for an application that can inform projected demand for the HFC(s) it uses, and allowance usage by an application to date, including conferrals, imports, and open market purchases by ASA holders, as well as expenditures of conferred allowances by suppliers to ASA holders. To the extent available, EPA will consider data from all of these sources collectively in order to gain a more complete picture of projected supply for the relevant individual HFC(s), rather than relying on one data point. While EPA did not receive general comment on additional sources to consider, we note this list is not exhaustive and that the Agency may consider additional information as relevant when assessing this criterion. The TSD accompanying this final rule has detailed information on the sources used in analyzing supply related to each individual application. To the extent any commenter suggested supply data to be considered in an individual application's renewal decision, EPA has considered the data sources and incorporated that information as warranted into the analysis of the individual application, as outlined in detail in the TSD.

C. What is EPA's framework for renewing applications?

In outlining the requirement that EPA review the applications eligible for ASAs at least every five years, the AIM Act states that if EPA determines ''that the requirements described in subclauses (I) *and* (II) of clause (i) are met'' then EPA will renew the application's eligibility to continue to receive ASAs (42 U.S.C. 7675(e)(4)(B)(v)(II)) (emphasis added). Accordingly, EPA explained in the proposed rule that the Agency considered the best interpretation of the statutory language to be that both criterion (I) of clause (i) (that a substitute is not available) and criterion (II) (that supply is insufficient) must be met for an application to be renewed as eligible for ASAs. EPA further proposed that an application will no longer be eligible for ASAs at the time at which EPA has determined it does not fulfill one of these criteria.

In practice, this means that if either or both criteria are not met at the beginning of the renewal period, EPA will not renew an application's eligibility to receive ASAs. For example, if, for this review cycle, the Agency determines that supply is not insufficient to accommodate an application as of January 1, 2026 (the beginning of this renewal period), EPA will not renew that application's eligibility for ASAs, regardless of whether a substitute is available.

If both statutory criteria are met as of the beginning of the renewal period, EPA proposed it would assess whether an application's fulfillment of a criterion may change over the following five-year period. The outcome of this assessment would be determinative of how long EPA would determine an application eligible to receive ASAs. For example, if, for this renewal cycle, EPA determines that there is no substitute available as of January 1, 2026, but a substitute will be available by January 1, 2028, then EPA would renew the application's eligibility to receive ASAs for only two years (*i.e.,* calendar years 2026 and 2027). Similarly, if supply is determined to be insufficient to accommodate the application as of January 1, 2026, but the market will change such that supply will not be insufficient to accommodate the application as of January 1, 2028, then EPA would renew the application's eligibility to receive ASAs for only two years (*i.e.,* calendar years 2026 and 2027).

The Agency also proposed that if EPA determines that an application has a safe or technically achievable substitute available that is a regulated substance, EPA would also evaluate the supply of the substitute HFC and assess if supply of the substitute HFC is insufficient to accommodate the application. Further information regarding the Agency's

[9] For a discussion on the difference between producing HFCs consistent with the AIM Act and blending HFCs to make various refrigerant blends, see ''Response to Comments,'' pg 193, Docket ID No. EPA–HQ–OAR–2021–0044, associated with the Allocation Framework Rule and the discussion in the 2024 Allocation Rule.

reasoning can be found in the notice of proposed rulemaking for this action. Under this proposed framework, if EPA determines there is an HFC substitute, but there is insufficient supply of that HFC substitute, EPA would continue to list the application as eligible for ASAs. This approach allows an entity transitioning to a lower-GWP HFC to remain eligible to receive allowances until supply of that lower-GWP HFC is no longer insufficient (or a non-HFC substitute is available).

EPA also proposed that if an application is renewed for ASAs for less than five years, the application would not be reviewed for eligibility for ASAs again as part of the statutorily mandated schedule (*i.e.,* once EPA determines that an application is no longer eligible for ASAs, EPA would not re-review that application), given the direction in the statute. In such a situation, an entity may petition the Agency to be evaluated for ASA eligibility, and the Agency would then undertake the relevant petition review process; see section VI. for further discussion of the petition process requirements.

One commenter suggested that EPA should review applications more frequently than every five years. The commenter points to the statutory text in the AIM Act in subsection (e)(4)(B)(v) that directs EPA to review applications receiving ASAs ''not less frequently than once every 5 years'' and to authorize renewals of not more than five years. The commenter states that this text allows EPA to review applications more frequently than every five years. The commenter alleges that EPA's proposal to not do so is inconsistent with EPA's expectation the HFC market will be dynamic given EPA's statement at proposal that the Agency ''cannot know the full breadth of technologies that will be developed as replacements for the current HFCs in use,'' (89 FR 75898, 75904).

EPA notes that the commenter itself acknowledges that the language in the AIM Act is merely permissive of EPA reviewing applications more frequently than every five years and that the commenter does not provide any argument that the best interpretation of the statutory language is that EPA is required to review applications more frequently than every five years. Congress set a clear directive that the Agency review applications receiving ASAs ''not less frequently than once every 5 years,'' and EPA's approach clearly aligns with this language. The statute provides EPA discretion to determine the appropriate review period, as long as the Agency reviews at least once every five years.

To the extent the commenter intended to raise a policy or programmatic rather than a legal argument, EPA disagrees with the commenter's contention that adopting a five-year review period in this final rule is inconsistent with statements EPA made at proposal. The quotation of the proposal language provided by the commenter is from the portion of EPA's proposal that discusses how EPA will analyze the substitute availability criterion, and specifically what types of chemicals and technologies should be considered as potential substitutes. In that passage of the proposed rule, EPA explained why it would be appropriate to consider various types of chemicals as well as not-in-kind technologies in assessing whether an application had an available substitute. This is distinct from the question of whether EPA has sufficient information to prognosticate whether and how an individual application may meet the two statutory criteria for ASA renewal over the next five-year review period adopted in this final rule. As explained in detail in the proposed rule and the TSD accompanying the proposal, EPA examined the availability of substitutes for each individual application and, if not currently available, when a substitute would be expected to become available for the entire application. While EPA expects the market to be dynamic, based on analysis done for this rulemaking and as detailed in the TSD, EPA has explained why a substitute currently unknown is not reasonably expected to be available within the five-year renewal period, thus making an earlier assessment earlier than the five-year period unnecessary. EPA has demonstrated how this assessment plays out for individual applications in the TSD accompanying the proposal and final rule. In determining a final approach, EPA has taken this in balance with the desire to provide certainty to applications for which Congress provided priority access to HFC allowances.

One commenter suggested that ''because the proposed extension period for some applications overlaps the next phasedown year (2029), it may be appropriate to reevaluate the transition to lower GWP alternatives in these applications and adjust allocations accordingly.'' Although the intended meaning of this comment is not entirely clear, EPA interprets this comment to suggest that if an application has a safe and technically achievable substitute available that is a lower-GWP HFC, either at the present time or at some point within the five-year renewal period, EPA should base the application's allocation levels on that lower GWP–HFC. EPA had proposed this as a possibility for applications that may have had a lower-GWP HFC substitute become available (*see, e.g.,* 89 FR 75898, 75917). However, as described in section V., EPA is not determining this factual situation to be occurring for any application within this renewal period. Therefore, the commenter's suggestion is not relevant for this particular action at this time. If this situation arises within the next renewal period, EPA may consider whether to adjust allocation levels to meet a lower-GWP HFC substitute.

EPA did not receive comments on the following aspects of its proposal: that applications must meet both criteria to be renewed as eligible for ASAs, that EPA will review the supply of substitute HFCs if they are determined to be available for an application, that EPA will base the renewal timeline on less than five years if an application will fulfill a criterion within the five-year period, and that if an application is renewed as eligible for ASAs for less than five years, the application will not be reviewed for eligibility for ASAs ahead of the next five-year renewal period.

After considering all comments, EPA is finalizing all aspects of this portion of the rule as proposed.

V. Review of the Six Applications Listed in the AIM Act

EPA reviewed the six applications listed in AIM Act subsection (e)(4)(B)(iv)(I)—propellant in MDIs, defense sprays, SCPPU foam for marine use and trailer use, the etching of semiconductor material or wafers and the cleaning of CVD chambers within the semiconductor manufacturing sector, MCMEU, and onboard aerospace fire suppression—as required under subsection (e)(4)(B)(v)(I). Pursuant to that review, EPA evaluated whether the criteria for renewal described in section IV. of this preamble are met for any part, or the entirety, of the 2026–2030 time period. This section contains EPA's assessment of the criteria for each application and EPA's decision regarding whether to renew each application's eligibility to receive ASAs. EPA provides additional information in the TSD available in the docket for this rulemaking. EPA views the decision made for each individual application to be severable from the decisions made for the other applications, as each application determination is based on facts and assessment specific to that application. In the event that a reviewing court overturns EPA's

determination for an individual application, EPA intends that the determinations for the remaining applications should be considered as severable and stand.

A. Propellants in Metered Dose Inhalers

EPA has been allocating ASAs for regulated substances used for propellants in MDIs in accordance with subsection (e)(4)(B)(iv)(I)(aa) of the AIM Act. In the Allocation Framework Rule, EPA defined a ''metered dose inhaler'' 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),'' (40 CFR 84.3). Patients using MDIs to treat pulmonary conditions work closely with their healthcare provider to identify the right treatment for their condition. Pharmaceutical grade HFC–227ea and HFC–134a, more commonly referred to as hydrofluoroalkane (HFA)-227ea and HFA–134a in the pharmaceutical industry, are purified from technical grade HFC–227ea and HFC–134a, respectively, and are both used in MDIs as propellants.

1. Availability of Safe and Technically Achievable Substitutes

In the proposed rulemaking, EPA proposed to determine that through calendar year 2030, no safe or technically achievable substitute will be available for propellants in MDIs and that supply of the regulated substances that manufacturers and users are capable of securing from chemical manufacturers is insufficient to accommodate this application. Therefore, EPA proposed to renew the eligibility of entities using regulated substances for propellants in MDIs to receive ASAs for the five-year period of calendar years 2026 through 2030.

Many commenters were supportive of EPA's proposed determination that no safe or technically achievable substitute will be available for the MDI application. EPA acknowledges the commenters' support.

One commenter was a chemical producer who shared that they are actively developing HFO–1234ze(E) as a low-GWP propellant for use in MDIs and the alternative is currently undergoing clinical trials to prepare for regulatory approvals and marketing authorizations by FDA and other authorities. The commenter also stated that the chemical is an available substitute and described their planned largescale production capabilities of medical-grade HFO–1234ze(E). The commenter also said that based on the SNAP evaluation of HFO–1234ze(E), this chemical should be considered a safe alternative to high-GWP HFCs in MDIs.

EPA responds that while the chemical producer stated that ''HFO–1234ze is an available substitute,'' their comment focused on largescale production of the chemical, which speaks to its available supply as opposed to how EPA is evaluating substitutes for the MDI application. EPA notes that while it has listed HFO–1234ze(E) as an acceptable substitute under the SNAP program for many applications, EPA has not evaluated this substance for applications that concern inhalation, including use as a propellant in MDIs, under the SNAP program. Other than the reference to SNAP's listings for non-MDI applications, the commenter does not discuss how EPA has said it would assess whether a substitute is available. As outlined in the proposed rule in section IV.A., in the Agency's assessment of safe or technically achievable substitutes, EPA takes into account Federal regulations, including from other U.S. Government agencies. For the MDI application, EPA specifically references FDA's requirements for MDIs, and thus considers an alternative to be available for a particular MDI drug product once an MDI containing the alternative propellant has been approved by FDA. Consistent with the proposal, for an assessment of a ''safe'' alternative for use as a propellant in MDIs, EPA relies on FDA, as FDA takes these considerations into account in their review, as described in more detail in the TSD. Since FDA has not yet approved MDIs containing any propellant substitutes to HFC–134a and HFC–227ea, EPA does not consider HFO–1234ze(E) to be available within the applicable renewal period. Further, based on experience with the ozone-depleting substance MDI transition, we expect that companies will seek, and FDA will evaluate, applications for MDIs that use alternative propellants, on an individual MDI product-by-product basis, and thus it is unlikely there will be approvals for all MDIs within the application within the five year timeframe. In other words, EPA does not intend to consider that FDA's approval of a single MDI product containing an alternative propellant to mean that the alternative propellant is therefore available for the entire application.

For the reasons outlined here and in the proposed rule, and based on information available in the TSD, EPA is finalizing the determination that no safe or technically achievable substitute will be available for propellants in MDIs.

2. Supply

EPA proposed to determine that the supply of the regulated substance that manufacturers and users are capable of securing from chemical manufacturers is insufficient to accommodate propellants in MDIs through calendar year 2030. As part of the manufacturing process for MDIs, technical grade HFC–134a and HFC–227ea are purified into pharmaceutical-grade HFC–134a and HFC–227ea. These pharmaceutical-grade HFC propellants are produced at a limited number of production facilities domestically and abroad. In its analyses of other applications, EPA has noted that HFC–134a is the most widely available HFC. However, this fact does not equate to a sizeable supply for the MDI application because there are a limited number of HFC–134a production and purification facilities that meet FDA's Current Good Manufacturing Practice (CGMP) regulations and MDI manufacturers are not easily able to switch suppliers of pharmaceutical-grade HFCs. Unlike other applications, where EPA has discussed the diverse number of chemical suppliers for HFC–134a globally, in this instance the options are constrained. Producers of pharmaceutical-grade HFC–227ea must also comply with FDA requirements as described in the proposed rule, which limits their ability to switch to other suppliers of HFC–227ea. The two additional years of reported consumption and production data for the United States since the publication of the proposed rulemaking do not change EPA's proposed assessment due to the limitations summarized here and described in more detail in the proposed rule.

Commenters were supportive of the determination that supply of the regulated substance that manufacturers and users are capable of securing from chemical manufacturers is insufficient to accommodate the MDI application through calendar year 2030, and there has been no further information EPA has been made aware of that would change the Agency's proposed determination. Therefore, EPA is finalizing as proposed the determinations that the supply of both HFC–134a and HFC–227ea is insufficient to accommodate the propellants in MDIs application.

3. Final Determination on Application-Specific Allowance Eligibility

All but one commenter were supportive of EPA's determination to renew the eligibility of entities in this application to continue receiving ASAs for the full five-year period of calendar years 2026 through 2030. One commenter stated their opposition to the federal government's ''green inhaler mandate'' due to their concerns about lack of medical benefits and cost of generics and that the Agency should commit that it is the policy of the federal government that neither EPA nor FDA should ever ban, phase out, or refuse to approve HFC inhalers based on their GHG emissions. The commenter also stated that any rulemaking should permanently exempt inhalers from the phasedown of HFCs and the administration should seek a change in law so that the permanent exemption need not be reviewed by EPA every five years.

EPA responds that the AIM Act in subsection (b)(4)(B)(v) instructs EPA to extend the eligibility of any application that meets the statutory criteria ''for renewable periods of not more than 5 years.'' In this action, EPA is extending the eligibility of the MDI application for the maximum length of time permitted by the statute. Further, nothing in this rulemaking nor in the AIM Act mandates or requires that MDI manufacturers transition to alternative propellants. In fact, EPA is continuing to provide flexibility for manufacturers of MDIs to use the propellant that they choose. Under the AIM Act, EPA is required to implement an 85 percent phasedown of HFCs on an EV-weighted basis from historic levels by 2036. This is not a complete phaseout as was required under the CAA for ozone-depleting substances, meaning production and import of HFCs is permitted indefinitely at a reduced level. EPA anticipates the continued production and import of HFCs will include applications where alternatives are not available and/or where the transition is more challenging. In other words, there is nothing in this rulemaking, in the AIM Act, or in any current EPA regulation that would prevent MDI manufacturers from continuing to use the current HFCs they are using after 2036.

In addition, the AIM Act authorizes EPA under subsection (e)(4)(B)(iv) to provide priority access to allowances for certain applications, including propellants in MDIs. EPA must provide the ''full quantity of allowances necessary, based on projected, current, and historical trends, for the production or consumption of a regulated substance for the exclusive use of the regulated substance in an application.'' This rulemaking maintains eligibility for MDI manufacturers to receive ASAs for another five years *(i.e.,* through 2030) at which time, the Agency will conduct another review, consistent with the Congressional mandate.

Regarding the request for EPA to permanently exempt MDIs from the phasedown of HFCs, that is outside the scope of this rulemaking and likely is not consistent with the AIM Act. However, as stated above, the AIM Act calls for a phasedown and not a phaseout. Given the nature of the phasedown, EPA does not foresee restricting access to all HFCs for MDI manufacturers. EPA can and is finalizing to continue providing priority access to HFCs through eligibility for ASAs for use as a propellant in MDIs.

MDIs provide important, life-saving medications, and the flexibilities described in this rule allow for continued production and import of HFCs for use in MDIs. As discussed elsewhere in this rule, EPA is finalizing additional flexibility to allow for continued priority access to HFCs for the manufacture of MDIs at a level that meets their need (see sections VII.B. and VII.F.).

One commenter stated that even after FDA grants approvals of MDIs containing alternative propellants, eligibility for receiving ASAs may still be needed as one of the potential alternatives, HFC–152a, is a regulated substance under the AIM Act. The commenter requested that when FDA grants approvals to MDIs containing HFC–152a and HFO–1234ze(E), that the Agency does not encourage the use of one propellant over the other, and that such determinations should be left with FDA.

Regarding the first part of the comment regarding eligibility for receiving ASAs for HFC–152a, EPA responds that since FDA has not yet approved any MDIs containing HFC–152a as a propellant, EPA has not yet assessed providing ASAs based on the potential approval of MDIs containing HFC–152a in this application. Regarding the second part of the comment, EPA responds that since FDA has not approved any MDIs containing either alternative propellant, treatment of the two potential alternatives is beyond the scope of this rulemaking.

EPA is finalizing as proposed the determination that no safe or technically achievable substitute will be available for propellants in MDIs and that supply of the regulated substance that manufacturers and users are capable of securing from chemical manufacturers is insufficient to accommodate propellants in MDIs through calendar year 2030. Therefore, EPA is finalizing the proposal to renew the eligibility of entities using regulated substances for propellants in MDIs to receive ASAs for the five-year period of calendar years 2026 through 2030.

B. Defense Sprays

Per subsection (e)(4)(B)(iv)(I)(bb) of the AIM Act, EPA has been allocating ASAs for use of regulated substances in defense sprays. EPA defined a ''defense spray'' 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,'' (40 CFR 84.3). Within this application, there are four primary uses: bear sprays, dog sprays, personal defense sprays, and law enforcement sprays (which includes military sprays). The defense sprays chapter in the TSD contains more details on these product categories. HFC–134a is the propellant predominantly used for defense sprays and is the only HFC for which defense spray ASAs have ever been expended.

1. Availability of Safe and Technically Achievable Substitutes

EPA proposed that there would not be a safe and technically achievable substitute available for the entire application at the time of rule finalization, but a safe or technically achievable substitute would be available for the entirety of the defense spray application by January 1, 2028. EPA's proposed substitutes determination was based on knowledge at the time of proposal that some entities in the defense sprays application had already successfully commercialized alternative propellants, including non-HFCs, in some of their products. In addition, multiple propellants, including HFC–152a, HFO–1234ze(E), and hydrocarbons, have been listed as acceptable under SNAP and identified as technically and economically feasible alternatives for propellants in aerosols by the Montreal Protocol's Technology and Economic Assessment Panel (TEAP) Medical and Chemicals Technical Options Committee (MCTOC). EPA's Technology Transitions restrictions will also require that all aerosols, including technical aerosols, transition out of HFC–134a by January 1, 2028. EPA's assessment at the time of proposal was that the commercialization of substitutes in some defense spray sub-applications suggests these substitutes are viable application-wide.

Comments on the proposed renewal options were all focused on availability of substitutes. Some commenters requested that defense sprays continue to be eligible for ASAs for the full five-year period because there is no safe or technically achievable substitute for specific sub-applications of defense sprays and explained their concerns. One commenter suggested a two-year renewal also based on the availability of substitutes. Another commenter supported a two-year renewal but provided no explanation or additional information that can inform EPA's assessment. Finally, one commenter supported no renewal of ASAs given the availability of alternatives, though did not provide additional information beyond EPA's initial assessment.

As discussed in section IV.C., which outlines the application review framework, an application must meet both criteria to be eligible for renewal of ASAs. EPA discusses in the next subsection that EPA is finalizing a determination that the criterion in subsection (e)(4)(B)(i)(II) is not met for this application beginning January 1, 2026. This outcome is determinative, standing alone, for EPA to finalize that defense sprays will not be eligible for ASAs beginning January 1, 2026. As a result, EPA is not making a final determination regarding the availability of substitutes in the context of ASAs. Because EPA is not making a final determination in this rule with respect to the availability of substitutes for this application, the comments filed are not significantly adverse to the outcome in this rule. Therefore, EPA is not responding to comments specific to the substitute criterion of the review of the defense spray application.

However, the proposed rulemaking also requested comment on the treatment of defense sprays under the 40 CFR part 84, subpart B Technology Transitions restrictions. Responses to comments regarding availability of substitutes as relevant to the Technology Transitions restrictions are addressed in section V.B.4. of this final rule.

2. Supply

As explained, HFC–134a is the propellant predominantly used for defense sprays and is the only HFC for which defense spray ASAs have ever been expended. Therefore, EPA is analyzing the supply of HFC–134a in assessing whether this application meets the second criterion to be renewed as eligible for ASAs. EPA co-proposed two supply determinations: (1) the supply of HFC–134a is not insufficient to accommodate this application; or (2) the supply of HFC–134a will not be insufficient to accommodate this application as of January 1, 2028.

In this final rulemaking EPA did not consider the supply of HFC–152a in assessing whether the defense spray application meets the statutory criteria for renewed eligibility for ASAs. EPA noted in the proposal that assessment of HFC–152a supply could be relevant if HFC–152a is an available safe and technologically achievable substitute for the entire defense spray application. EPA did not receive any comments regarding if HFC–152a is an available safe and technically achievable substitute for the entire defense sprays application. Comments from defense spray manufacturers instead highlighted the concerns around the use of flammable propellants in law enforcement and military settings, where defense sprays are often used in conjunction with ''Conducted Energy Weapons'' (*e.g.,* Tasers). As described in more detail below in section V.B.3., EPA agrees with commenters regarding the human safety concerns of using stun guns alongside flammable propellants, such that HFC–152a, given its flammability, is not an available safe and technically achievable substitute application-wide. Thus, in this final rulemaking EPA did not consider the supply of HFC–152a as it pertains to the defense sprays application.

In the proposal, EPA explained that there is a large available supply of HFC–134a, and demand for HFC–134a from the defense sprays application is very small relative to overall supply. Given its broad use in other applications (*e.g.,* refrigeration and air conditioning), HFC–134a is the most widely produced HFC globally and is produced in substantial quantities in multiple countries, including the United States. At the time of proposal, domestic production of HFC–134a was nearly 50 percent of total U.S. HFC production, but EPA also noted at the time of proposal that one domestic producer indicated it was transitioning its facility to produce a different chemical;[10] as of the time of this final rulemaking, this retrofit was completed. Significant amounts of HFC–134a were also imported in 2022, such that HFC–134a made up approximately 32 percent of total U.S. HFC consumption in 2022. In addition, suppliers held quantities of HFC–134a in inventory that were approximately 100 percent of calculated consumption of HFC–134a in 2022. EPA had also noted in the proposed rulemaking that it was not aware of any reason this application could not use recovered and reprocessed HFCs, and the supply of reclaimed HFC–134a (the likeliest source of recovered and reprocessed HFCs) was significant and further increased the available supply of HFC–134a.[11] At the time of proposal, EPA had not yet finalized the proposed rulemaking ''*Phasedown of Hydrofluorocarbons: Management of Certain Hydrofluorocarbons and Substitutes Under Subsection (h) of the American Innovation and Manufacturing Act of 2020*'' (88 FR 72216, October 19, 2023) (hereafter referred to as the ''2024 Emissions Reduction and Reclamation Rule''), which had proposed requirements that reclaimed HFCs be used for certain equipment to support maximizing reclamation. Despite the large supply of HFC–134a, EPA recognized the uncertainty regarding future supply given the stepdown in permissible production and consumption of HFCs taking place in 2024 and that the Agency did not have complete production, consumption, or inventory data available for 2024 when the proposed rulemaking was issued. In addition, at the time of this proposed rulemaking, EPA had not yet finalized another rulemaking related to the use of trichloroethylene (TCE) in the production of HFC–134a; the TCE pathway is the primary production pathway used to produce HFC–134a in the United States.

Regarding demand of HFC–134a, EPA's models project total HFC consumption to be significantly lower than the limit established by the statutory phasedown cap for all years of the phasedown, assuming compliance with the restrictions.[12] This is due in part, as explained in the proposal, to an expected decrease in demand for HFC–134a over time as a result of the 2023 Technology Transitions Rule, which established sector and subsector-level GWP limits and restrictions on the use of certain regulated substances. GWP restrictions under the 2023 Technology

[10] *See https://www.arkema.com/usa/en/media/news/global/corporate/2022/20221006-two-major-steps-develop-supply-forane-1233zd/.*

[11] EPA publishes annual data submitted under CAA section 608 showing trends in the reclamation market for ozone-depleting substances and HFC refrigerants. Over 2.5 million pounds of HFC–134a were reclaimed in 2023 and HFC–134a was one of the primary drivers for the 20% year-over-year increase in the reclamation market between the 2022 and 2023. *See https://www.epa.gov/section608/summary-refrigerant-reclamation-trends.*

[12] *See* HFC Phasedown Regulatory Impact Analysis (RIA) updated for the 2023 Technology Transitions Rule at *https://www.epa.gov/system/files/documents/2024-11/epa-hq-oar-2021-0643-0227_attachment_1.pdf.*

Transitions Rule began taking effect on January 1, 2025, with the latest restriction taking effect on January 1, 2028. The majority of sectors or subsectors subject to Technology Transitions restrictions will not be permitted to use neat HFC–134a, as its GWP of 1,430 is greater than the highest relevant GWP limit for those sectors or subsectors (*i.e.,* 700), so demand for this chemical should relatedly fall over time. Many, perhaps most, of these sectors or subsectors were transitioning away from using HFC–134a before the enactment of the AIM Act (*e.g.,* light-duty motor vehicle air conditioning and consumer aerosols). However, EPA also noted that some sectors may transition to blends with HFC–134a as a component where the GWP is below the applicable limit, and that HFC–134a will likely continue to be used in other applications not subject to these restrictions (*e.g.,* air conditioning for heavy-duty vehicles), as well as for servicing existing equipment (*e.g.,* older light-duty motor vehicle air conditioning). In addition, EPA noted in the proposal that of the six defense spray entities that had received ASAs at some point for calendar years 2022, 2023, and 2024, three did not receive ASAs in at least one of those years and only three requested allowances for 2025. EPA was also aware of at least one entity selling bear sprays that use HFC–134a that has never applied for, and therefore never received, ASAs.

There were no comments on EPA's proposed assessment for the insufficient supply criterion related to defense sprays.

In preparing this final rulemaking, EPA analyzed data that has become newly available since the time of proposal related to supply of regulated substances for this application. In 2024, domestic production of HFC–134a was 34,119.4 metric tons (MT), making up 33 percent of U.S. HFC production on a mass basis; this production amount is nearly equivalent to the HFC produced in the highest quantity in that year. While domestic production of HFC–134a has decreased since 2022, global production of this chemical remains high,[13] and there are multiple entities that import HFC–134a. In 2024,[14] 7,791.1 MT of HFC–134a were imported into the United States. Overall, HFC–134a made up approximately 22 percent of total U.S. HFC consumption in 2024 on a mass basis. The defense sprays application has very limited demand for HFC–134a in comparison to U.S. consumption of HFC–134a; allocated ASAs for this application in 2025 are equivalent to 0.5 percent of calculated domestic consumption of HFC–134a in 2024, on a metric tons of exchange value equivalent (MTEVe) basis. In addition, at the end of 2024, suppliers held 24,598.1 MT of HFC–134a in domestic inventory, which is equivalent to 92 percent of calculated consumption of HFC–134a in 2024; however, EPA notes that the entities holding this material in inventory are broader than EPA's interpretation of chemical manufacturers (see section IV.B. for more information), so not all of this HFC–134a may be considered available supply under the statutory review criteria in AIM Act subsection (e)(4)(B)(i)(II).

EPA recognizes that the overall market for HFCs is likely to continue changing in light of the AIM Act and other restrictions. However, the market behavior to date suggests that over the first three years of the AIM Act-directed HFC phasedown, there have not been dramatic shifts in the supply of HFC–134a. On January 1, 2024, the second stepdown of the level of permissible production and consumption of HFCs took effect. This stepdown was unique in scale, with a cap of 60% of historic baseline levels and a decrease of 30% compared to 2022 and 2023 permissible production and consumption. Imports and production of HFC–134a remained high, albeit with a decrease in total consumption relative to levels in 2023. While consumption of HFC–134a has decreased relative to 2022 and 2023, this aligns with projected decreases in demand for HFC–134a as products transition to new HFC and non-HFC substitutes. In addition, global production capacity is expected to remain substantial over the coming years, given production will continue in countries on later HFC phasedown schedules, and EPA expects continued domestic and global demand for HFC–134a.

EPA notes it is unclear whether there may be impacts on domestic production of HFC–134a from the recently finalized rulemaking, ''*Trichloroethylene (TCE); Regulation Under the Toxic Substances Control Act (TSCA)*'' (89 FR 102568, December 17, 2024). This rulemaking bans, through a phasedown, the use of TCE due to unreasonable risk of injury to human health, including prohibiting TCE from being used as a feedstock to manufacture HFC–134a within eight and a half years from when that rule was finalized (*i.e.,* by mid-June 2033). The HFC–134a production pathway using TCE is the primary production pathway in the United States, and while there are other pathways to produce HFC–134a, it is EPA's understanding that it is complex to change already existing domestic manufacturing infrastructure built for the TCE production pathways such that transitions may not occur immediately but rather over the course of the eight-and-a-half year TCE phaseout. However, at the end of this ASA five-year renewal period in 2030, production of TCE for use as a feedstock in the manufacture of HFC–134a will still be allowed at 50% of baseline TCE levels. In addition, given entities using TCE to produce HFC–134a can use any 12 consecutive months in the three years preceding the December 2024 publication of the final TCE rule to calculate their TCE feedstock baselines for compliance with the TCE requirements under TSCA, the baseline TCE level could be based on TCE use early in the HFC phasedown when greater levels of HFC–134a production were allowed. Specifically, the AIM Act limit on HFC consumption and production in 2022 and 2023 was 90% of historic HFC baseline levels; in 2030, HFC consumption and production will be limited to 30% of the HFC baseline. The TCE rule under TSCA is not expected to be a limiting factor during the period covered by this rule and will likely allow for substantial U.S. HFC–134a production levels relative to demand, as discussed in more detail below in this section. Further, while the complete phaseout of TCE for the production of HFC–134a may impact production of HFC–134a in the United States, it is unlikely to limit available supply of HFC–134a, as there is still global supply of HFC–134a from foreign producers that could be imported into the United States. The complete prohibition on TCE being used in the domestic production of HFC–134a will occur after the five-year renewal period assessed in this rulemaking. Therefore, when combined with consideration of global supply, the TCE phasedown does not change EPA's determination in this rulemaking that supply of HFC–134a is not insufficient to accommodate the defense spray application.

In considering supply of the regulated substance currently used by this application, EPA also notes that the Agency is unaware of any reason why this application cannot use recovered and reprocessed HFCs. For example, EPA is not aware of any specific purity requirements for HFCs used in this application. EPA did not receive any comments suggesting that recovered and

[13] Global production of HFC–134a is estimated to have risen by approximately 20 percent since 2020. *See https://ozone.unep.org/system/files/documents/TEAP-May2024-Progress-Report.pdf.*

[14] All data for 2024 in this preamble is preliminary and includes all data from reports verified as of July 25, 2025.

reprocessed HFCs cannot be used in this application. One commenter suggested that EPA not rely on the use of reclaimed HFCs for defense sprays because reclaimed HFCs should be utilized in applications where the material is able to be recaptured multiple times, thereby extending the usefulness of the substance. In response, EPA notes that this rulemaking does not require the use of reclaimed HFCs in defense sprays but rather notes that reclaimed HFCs may provide a potential source of supply for this application. Requirements for the use of reclaimed HFCs in equipment, and further information on the related authority to do so under the AIM Act and EPA's relevant analyses, can be found in the recently finalized 2024 Emissions Reduction & Reclamation Rule (89 FR 82682, October 11, 2024).

In light of the lack of relevant comments and following on the explanation provided in the proposed rule, EPA is considering the supply of recovered and reprocessed HFCs that can be secured from chemical manufacturers as relevant when assessing whether the supply of HFC–134a is insufficient to accommodate this application. The likeliest source of these reprocessed HFCs for defense sprays would be reclaimed refrigerants, which must meet specific purity requirements.[15] Since there are no federal purity requirements or industry purity standards for HFCs used in aerosols, the purity of reclaimed HFCs is likely the same or higher than the virgin HFCs used in this application. The supply of reclaimed HFC–134a in the United States is substantial and increases the overall supply of HFC–134a available to this application. HFC–134a is the most reclaimed single-component HFC refrigerant since HFC reclamation reporting under CAA section 608 began in 2017 and continues to see growth within the reclamation market due to its prevalence as a refrigerant in various appliances. Annual reported volumes of reclaimed HFC–134a have continued to grow since the beginning of the HFC phasedown under the AIM Act; preliminary HFC reclamation data for reporting year 2024 indicate a quantity of 1,175.6 MT, an increase of approximately 40 percent since 2021. Discussion on reclaim market trends and future growth potential for reclaimed HFCs can be found in EPA's *Analysis of the U.S. Hydrofluorocarbon Reclamation Market: Stakeholders, Drivers, and Practices*[16] report in the docket for the 2024 Emissions Reduction and Reclamation Rule. EPA expects growth in HFC reclamation, and specifically HFC–134a, to continue due to several factors, such as (1) the increase in refrigeration and air-conditioning appliances using HFC refrigerants reaching their end-of-life—making more HFCs potentially available for recovery and reclamation, (2) provisions established in the 2024 Emissions Reduction and Reclamation Rule intended to maximize reclaim, (3) the overall HFC phasedown's limits on how much virgin HFC can be imported and produced, and (4) increased capacity from EPA-certified reclaimers to reprocess recovered refrigerant. EPA notes that while reclaimed HFC–134a serves as an additional source of available supply, the Agency's assessment that supply of HFC–134a is not insufficient would be the same with or without including the available supply of reclaimed HFC–134a given the significant amounts of HFC–134a available globally and in the United States and other data described in this section.

Restrictions established in the 2023 Technology Transitions Rule began taking effect at the beginning of this year. There has been no further information EPA has been made aware of that would change the Agency's assessment that demand for HFC–134a will continue to fall in part because of these restrictions.

Entities do not need to seek or receive ASAs in order to use HFC–134a in defense sprays, barring requirements under other related regulations. Further, entities do not have to expend an allowance to purchase HFC–134a from another entity that has imported or produced the regulated substance. The number of entities requesting allowances for this application has decreased over the years; only three entities requested calendar year 2025 allowances for this application as compared to four for 2024 and five for 2022. As explained earlier in this section, EPA is also aware of at least one entity selling bear spray that uses HFC–134a that has never applied for, and therefore never received, ASAs. This suggests that at least this one entity, as well as the others who have stopped applying for allowances, were able to acquire HFC–134a on the open market without having ASAs. In addition, updated EPA modeling conducted for the 2024 Emissions Reduction & Reclamation Rule continues to support that total projected HFC consumption will be significantly lower than the limit established by the statutory phasedown cap for all years of the phasedown, assuming compliance with the restrictions.[17] If HFC consumption is lower than the amount allowed under the AIM Act in a given year, there should be more allowances than are needed to meet market demand in that year.[18] If demand for HFCs is lower than the cap, general pool consumption and production allowances, which are currently used to produce or import HFCs for entities that do not hold allowances and entities that use HFCs in an application-specific use, would be available to allow for the production or import of HFCs for use by entities that historically have relied upon ASAs. Together, these facts support the conclusion that the supply of HFC–134a is not insufficient to accommodate entities in this application.

In sum, HFC–134a is currently more widely available than other HFCs, demand for HFC–134a is decreasing, and defense sprays' need for HFC–134a is small compared to the overall demand for HFC–134a across a range of sectors. Further information regarding EPA's assessment of the supply of HFC–134a related to the needs of the defense sprays application can be found in the defense sprays chapter of the TSD. As a result of this review, EPA is finalizing the proposed determination that the

[15] In alignment with the definition in 42 U.S.C. 7675 (b)(9), EPA defined reclaim as ''the reprocessing of regulated substances to all of the specifications in appendix A to 40 CFR part 82, subpart F (based on Air-Conditioning, Heating, and Refrigeration Institute (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 to 40 CFR part 82, subpart F'' (40 CFR 84.3). Thus, HFC–134a refrigerant that is reclaimed and used by a different user than the original owner of the recovered refrigerant must meet the purity requirements of AHRI 700, *Standard for Specifications for Refrigerants.* That standard, among other things, requires that reclaimed HFC–134a must be visibly clean (that is, no visible solids or particulate), no more than 1.5 percent by volume of air in the vapor phase, no more than 10 parts per million of water by weight, and no more than 0.5 percent by weight of other volatile impurities.

[16] *See* 2024 Emissions Reduction & Reclamation Rule's *Analysis of the U.S. Hydrofluorocarbon Reclamation Market: Stakeholders, Drivers, and Practices* report at *https://www.regulations.gov/document/EPA-HQ-OAR-2022-0606-0169.*

[17] *See* HFC Phasedown RIA Addendum at *https://www.regulations.gov/document/EPA-HQ-OAR-2022-0606-0175.*

[18] The actions taken pursuant to subsection (h) and (i) of the AIM Act did not propose to and did not accelerate the HFC phasedown. The RIAs associated with those actions did not analyze an acceleration of the HFC phasedown. Rather, HFCs will continue to be available consistent with the phasedown codified at 40 CFR part 84, subpart A, and this action does not propose to change that phasedown schedule. Even if the requirements finalized pursuant to subsections (h) and (i) in effect reduce the production or consumption of HFCs used in particular sectors or subsectors faster than the scheduled reductions under the AIM Act, that does not make those rules an acceleration under subsection (f).

criterion in subsection (e)(4)(B)(i)(II) is not met for this application beginning January 1, 2026, *i.e.,* the supply of HFC–134a is not insufficient to accommodate this application for the full five-year period from 2026–2030.

3. Final Determination on Application-Specific Allowance Eligibility

EPA co-proposed two renewal options for the defense sprays application—to not renew the eligibility for entities in this application to receive ASAs, such that the application is ineligible for ASAs beginning January 1, 2026, or to renew for two years, such that the application is ineligible to receive ASAs beginning January 1, 2028—and took comment on a full five-year renewal. EPA explained that these renewal options flowed out of how the Agency would land on a range of proposed determinations for the statutory criteria. Specifically, as described earlier in this section, EPA proposed that there would not be a safe and technically achievable substitute available for the entire application at the time of rule finalization, but a safe or technically achievable substitute would be available for the entirety of the defense spray application by January 1, 2028. EPA co-proposed two supply determinations: (1) the supply of HFC–134a is not insufficient to accommodate this application; or (2) the supply of HFC–134a will not be insufficient to accommodate this application as of January 1, 2028. EPA's co-proposals were based on uncertainty at the time of the proposed rulemaking, for which EPA expected to have additional information at the time of this final rulemaking that would inform a final determination. These co-proposals and the related information that supported each co-proposal are discussed in more detail earlier in this section and in the proposal.

EPA also took comment on a full five-year renewal based on and tailored only to the application's need to purchase HFC–152a. No defense spray ASAs have been expended for HFC–152a to date, but EPA asked for comment in the proposal on whether HFC–152a could be an available safe and technologically achievable substitute for the entire defense spray application within the renewal period. EPA explained that this proposed option, to renew allowances tailored to the application's need to purchase HFC–152a, could be relevant if HFC–152a was determined by EPA in the final rule to be an available safe and technologically achievable substitute for the entire defense spray application within the renewal period.

Comments on the proposed renewal options were all focused on availability of substitutes. EPA responds to these comments in section V.B.1. and section V.B.4. EPA is finalizing a determination that the criterion in subsection (e)(4)(B)(i)(II) is not met for this application beginning January 1, 2026. EPA is not making a final determination regarding the availability of substitutes in the context of ASAs, as described in more detail in section IV.B.3. Because the defense sprays application does not meet both criteria as of January 1, 2026 (*i.e.,* it fails to meet the insufficient supply criterion), EPA is finalizing that defense sprays are not eligible for ASAs beginning January 1, 2026.

4. Restriction Under 40 CFR Part 84, Subpart B

In this final rule, EPA is excluding defense sprays from the provisions of 40 CFR part 84, subpart B. Thus, under this final rule they can continue to be manufactured in the United States and imported into the United States using current propellants indefinitely.

The 2023 Technology Transitions Rule restricts the manufacture and import of aerosol products that use HFCs or HFC blends that have a GWP greater than 150. This restriction began January 1, 2025, for all aerosols except for those specifically listed in the rule as technical aerosols, which have manufacture and import restrictions starting January 1, 2028. Sectors and subsectors subject to the GWP limit are also subject to labeling, reporting and recordkeeping requirements. The listed technical aerosols are applications for which EPA received sufficient information through the comment period or through EPA's own analysis indicating that additional time is needed to transition to substitutes due to various technical requirements, such as non-flammability and/or a specific vapor pressure. The list of technical aerosols does not include defense sprays. The 2023 Technology Transitions Rule also exempted applications while they are receiving ASAs (40 CFR 84.56(a)(2)). If an application no longer qualifies for ASAs, the restrictions would then apply.

Most of the U.S. aerosol industry subject to the January 1, 2025, compliance date had already transitioned to using propellants that meet the 150 GWP limit as indicated in the information provided by industry and trade associations in the development of the 2023 Technology Transitions Rule,[19] and therefore has available substitutes for use based on EPA's consideration of the factors listed in subsection (i)(4)(B) (*e.g.,* technological achievability, commercial demands, safety, consumer costs, etc.). By contrast, the aerosol uses that have a January 1, 2028, compliance date (*see* 40 CFR 84.54(a)(16)(i)(A)–(O)) currently use HFC–134a (most often as a propellant) and have limitations that require additional time ''to reformulate, test, and transition'' to ensure availability of substitutes under subsection (i)(4)(B) for these technical uses. EPA determined in the 2023 Technology Transitions Rule that available substitutes for use as aerosol propellants include HFC–152a and HFO–1234ze(E).

In the proposed rule, EPA requested comment on treating defense sprays consistent with how technical aerosols are treated under 40 CFR part 84, subpart B and the codified restrictions that would therefore apply, such as the GWP limit starting January 1, 2028, a three-year sell-through window for inventory ending January 1, 2031, and labeling, recordkeeping, and reporting requirements. EPA also requested data and information related to the availability of substitutes for use in defense sprays and whether a different timeline would be more appropriate for the transition of defense sprays or for a subset of products in this application.

EPA received comments on the use of HFC–134a in defense sprays. First, commenters raised concerns about using a flammable propellant in law enforcement and military applications. These defense sprays could be used by law enforcement or military personnel in combination with a taser, which commenters stated poses a safety risk, as well as a cost to users to retrain personnel to mitigate these risks. The commenters requested an exemption for these uses until a non-flammable alternative propellant is available.

EPA received a comment requesting that the Agency provide additional time for compliance with the provisions of 40 CFR part 84, subpart B for bear sprays to transition to new alternatives. The commenter stated that new formulations of bear sprays must gain approval by EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as well as every state where those products are sold. EPA also received comments from a defense spray

[19] *See* Household and Commercial Products Association (HCPA) and National Aerosols Association (NAA) Technology Transitions Petition to EPA dated July 6, 2021. Available in the public docket to the 2023 Technology Transitions Rule at EPA–HQ–OAR–2021–0289–0037.

manufacturer and a propellant supplier stating that alternative propellants have been commercialized already and are effective in defense spray applications where flammability is not a concern, *e.g.,* bear repellents.

EPA acknowledges these comments regarding the safety, efficacy, and availability of substitute propellants used in defense sprays. The Agency agrees that the circumstances in which law enforcement and military defense sprays may be used warrants proceeding with caution. Almost all currently identified substitutes to HFC–134a as a propellant are either flammable or mildly flammable. While dog sprays use compressed nitrogen gas, which is a non-flammable propellant, technical limitations limit its suitability for use in other types of defense sprays. For example, products using compressed nitrogen gas will steadily reduce in pressure as the contents of the aerosol are used, whereas liquified gas propellants maintain a more constant pressure. Apart from nitrogen gas, we are not aware of available non-flammable substitutes, nor active, in-process development of such substitutes. Of particular concern is that law enforcement or military use of defense sprays in combination with tasers would be applied directly at or on humans, heightening safety risks. We therefore agree with commenters that, at this time, there is no available substitute for the HFCs employed in defense sprays that can safely be used across all uses.

Therefore, the Agency is finalizing that defense sprays as defined in 40 CFR 84.3, are excluded from the provisions under 40 CFR part 84, subpart B because there are not available substitutes, per AIM Act section (i)(4)(B), across all defense spray applications. As such, defense sprays are not subject to the restrictions on the manufacture or import at 40 CFR 84.54(a)(16), and subsequent sale and distribution at 40 CFR 84.54(b). The labeling, reporting, and recordkeeping requirements are also not applicable. In other words, defense spray manufacturers will not have to comply with any of the 2023 Technology Transitions Rule aerosol requirements that would otherwise apply to them once they are no longer eligible for ASAs and can purchase HFC–134a to manufacture defense sprays the same way nearly all other entities purchase HFCs, *i.e.,* on the open market.

C. Structural Composite Preformed Polyurethane Foam for Marine Use and Trailer Use

The third application to which EPA has been allocating ASAs is SCPPU foam for marine and trailer uses, in accordance with subsection (e)(4)(B)(iv)(I)(cc) of the AIM Act. In the Allocation Framework Rule, EPA defined this application 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,'' (40 CFR 84.3). SCPPU foam is different from other types of polyurethane (PU) foams due to its specialized structural properties, and it is preformed into required shapes (*e.g.,* specific boat or trailer design). At the time of proposal, HFC–134a was the HFC used commercially in the blowing process for SCPPU foam. Transitions have developed such that at the time of this final rulemaking, HFC–152a, in addition to HFC–134a, is a regulated substance used in this application.

1. Availability of Safe and Technically Achievable Substitutes

With respect to the statutory criterion regarding availability of substitutes, EPA explained in the proposed rule that commercialization of substitutes is well underway in this application, and the Agency anticipated that the availability of substitutes would evolve significantly between the proposed and final rule. EPA noted that it would consider information collected from regulated entities and other relevant sources through public comment and regulatory reporting to inform a final decision on this criterion. At the time of proposal, EPA was aware, from manufacturer communications and reporting, of two substitutes under development for this application—an HFC–152a/cyclopentane blend and an HFO. Information from the manufacturers of SCPPU foam for marine and trailer uses suggested that the research and development phase for both potential substitutes could be nearing a phase where they would be able to commercialize use of substitutes. According to the information shared with EPA prior to the proposed rule, one substitute seemed close to being available for SCPPU foam for marine use, and the other substitute seemed close to being commercialized for SCPPU foam for trailer use. EPA noted that if commercialization occurred as the companies anticipated and as shared with EPA, the entire application would be able to use a chemical or blend of chemicals different from HFC–134a before January 1, 2026. EPA proposed to determine that the HFO is not an available substitute application-wide for the five-year period of 2026–2030, given additional research and development trials would be needed along with a ramp up to commercialization, before the sub-application could possibly use the HFO as a substitute. With respect to the other substitute under development, EPA noted in its proposal that the Agency was unclear on why the HFC–152a/cyclopentane blend cannot be used across the whole application, and EPA invited comment on reasons why, including supporting data and information. EPA noted that often different companies use different blowing agents to produce the same foam, and that there are two different end uses in this application, but the foam used in both sub-applications is the same (*i.e.,* it is an SCPPU foam). EPA noted that it was not aware of any other safe and available alternatives other than an HFO and the HFC–152a/cyclopentane blend.

As noted earlier in this section, at the time of proposal, EPA explained that transitions were well underway in this application, and the Agency anticipated that the commercial processes used in this application could evolve significantly between the proposed and final rule. To that end, one commenter in the trailer sub-application stated that as of October 2024, the company had nearly completed a full transition to using the HFC–152a/cyclopentane blend and anticipated the transition to be finalized by early 2025 at the latest. On the basis of this statement, as well as regulatory reporting to EPA, the factual framework for the assessment of this application has shifted from the proposal in this final rulemaking. Specifically, EPA is now considering HFC–152a to be commercially used in the SCPPU foam application. Therefore, EPA will be assessing the SCPPU foam application in accordance with the review framework outlined in section IV., and specifically considering this application as one that uses two HFCs, instead of just one.

As described at the proposal, beside the HFC–152a/cyclopentane blend that EPA is now considering as an HFC used within this application for purposes of the analysis in this final rule, EPA only identified one other potential substitute to analyze with specificity in considering whether this application met the first statutory criterion for renewal. Specifically, EPA noted testing that had occurred within the application

for a potential transition to an HFO. EPA received comments from entities operating within the SCPPU foam application, both in the marine sub-application and trailer sub-application, that all agreed with EPA's proposal that HFOs are not a safe and technically achievable substitute available within the renewal period for this application. The entity operating within the trailer sub-application noted that they had completed nearly 190 trials over close to seven years, which were unsuccessful, regarding transition to an HFO. This is consistent with information EPA had on hand in developing the proposal. With respect to the sub-application for marine uses, multiple commenters raised skepticism about the availability of safe and technically achievable substitutes for the marine uses sub-application. One commenter in the SCPPU foams for marine uses sub-application noted that while it has been working with its key supplier on substitutes for several years, that work has been unsuccessful, and no viable substitute has been identified. The commenter stated that it has not invested heavily into pursuing HFOs as an alternative due to perceived risk of those chemicals being under state-level regulatory scrutiny. Another commenter, the supplier for the marine foams sub-application, provided detailed technical information on the challenges of HFOs as compared to HFC–134a. For example, they note ''HFO-containing PU [foam] is much more challenging to formulate and process to reach the same level of processability even with adjustments to processing equipment due to the fact that all the components and chemistries such as polyols, surfactants, catalysts etc. are optimized for HFC blown formulations and processes.'' They noted the transition to HFOs will require ''more time to optimize and scale for commercial use.'' Another commenter, a recreational marine trade associate, stated that while manufacturers are actively pursuing alternatives to HFC–134a, none of those alternatives are currently viable as they have not yet met the stringent technical and safety requirements for marine applications. No stakeholder operating within the application commented that a safe and technically achievable substitute is available in the application nor would be available within the renewal time period.

EPA acknowledges the support from the commenters of EPA's proposed determination that there is no HFO alternative that is or will be a safe and technically achievable substitute for this application within the renewal period. To the extent commenters provided data to support this conclusion beyond what was included in the TSD for the proposed action, EPA has incorporated that information into the TSD accompanying this final action. Regarding commenters' allegation that considering transition to HFOs is inadvisable due to regulatory action related to per- and polyfluoroalkyl substances (PFAS), EPA notes that the federal government has not adopted a specific definition of PFAS and has not included HFCs or HFOs in any PFAS-related restrictions. Although EPA does not have a consensus definition of PFAS, the Agency has applied certain criteria or definitions to advance program-specific efforts in specific rules (see section 3.4 of the accompanying TSD). As was detailed in the proposed action and accompanying TSD, HFOs may eventually be considered a safe alternative that is otherwise technically achievable and available. However, for this particular application, as detailed in response to an earlier comment, the Agency is determining that HFOs are not available substitutes at this time.

Entities working within the marine sub-application also provided comments regarding a transition from HFC–134a to HFC–152a. However, given that EPA has updated its assessment in this final rule to consider HFC–152a a regulated substance used within the application, as opposed to a potential substitute subject to evaluation, these comments are not significant nor adverse to the action being taken here. However, EPA acknowledges the information provided by the commenter and will incorporate it into future Agency deliberations, as relevant and appropriate.

EPA is finalizing a determination that no safe or technically achievable substitute will be available for the SCPPU foams for marine and trailer uses application for the full five-year period from 2026–2030. Further information about EPA's determination regarding available substitutes for this application can be found in the proposed rule and the SCPPU foam chapter of the TSD.

2. Supply

As explained, entities manufacturing within the SCPPU foam application have historically used an HFC–134a formulation. Between EPA proposing this rule and its finalization, the application has changed such that the trailer sub-application is now using an HFC–152a formulation. Therefore, EPA is analyzing the supply of both HFCs in assessing whether this application meets the second criterion to be renewed as eligible for ASAs.

In the proposed rulemaking, EPA stated its assessment that this application may be able to use recovered and reprocessed HFCs supplied by chemical manufacturers. As a result, EPA did not limit its analysis to only virgin chemicals in assessing what supply of regulated substance may be available to this application at the proposal stage. EPA noted in the proposed rulemaking that it was not aware of any purity requirements or other regulatory restrictions that would prohibit the use of recovered and reprocessed HFCs in this application. However, EPA also noted in the proposed rulemaking that efficacy of blowing agents can be influenced by their composition and purity.

Comments on the use of recovered and reprocessed HFCs primarily focused on the challenges of using this material, but one commenter noted it is exploring using reclaimed HFCs. Commenters asserted that impurities can impact the efficacy of blowing agents. Specifically, commenters highlighted how oils can act as defoamers and that impurities can lead to ''inconsistent foam formation and cell structure, which will result in products with inconsistent insulation performance, mechanical strength and integrity.'' One commenter stated how these inconsistencies might require changing formulation and process conditions with each batch of HFCs. Another commenter asserted their HFC supply must be free of impurities because otherwise the product would ''likely be compromised, rendering the product ineffective and unusable,'' but did not provide any testing data or purity standards.

Reclaimed HFCs, the likeliest source of recovered and reprocessed HFC–134a, are required to be at a very high, but not 100 percent, purity (see footnote 15 in section V.B.). While no commenter suggested that these contaminants cannot be fully removed, EPA recognizes that it may be impractical or infeasible, as EPA is not aware of any purifiers for the SCPPU foams (or other) application that currently purify reclaimed HFC–134a, and commenters did not note any. As described in further detail below, EPA has determined to not incorporate any supply of used HFCs in its assessment of supply for this application at this time, given that inclusion of such used HFCs is not determinative of the supply outcome. However, EPA may take a different approach in future rulemakings and welcomes ongoing stakeholder input regarding the ability to use recovered and reprocessed HFCs for this application.

EPA proposed to determine either: (1) the supply of HFC–134a is not insufficient to accommodate this application; or (2) the supply of HFC–134a is not insufficient to accommodate this application as of January 1, 2028. As outlined in further detail in EPA's proposed rule and the accompanying TSD, HFC–134a is the most widely produced of all HFCs. There is substantial domestic and global production of HFC–134a. This application's demand for HFC–134a is very small compared to domestic consumption; allocated ASAs for this application in 2025 are equivalent to 0.2 percent of calculated domestic consumption of HFC–134a in 2024, on an MTEVe basis. In addition, global supply should remain substantial in comparison to this application's demand for HFC–134a. EPA had also noted in the proposed rulemaking that it was not aware of any purity requirements or other regulatory restrictions that would prohibit the use of recovered and reprocessed HFCs. However, EPA also noted in the proposed rulemaking that efficacy of blowing agents can be influenced by their composition and purity.

With respect to the supply of HFC–134a, one commenter stated uncertainty about the future availability of HFC–134a to meet the application's needs given the reduction in production and consumption allowances under the AIM Act. In response, EPA notes that the commenter did not provide any specific comments on the data EPA presented nor counter data to support a determination that the supply of HFC–134a will be insufficient to accommodate this application. As noted in section V.B., global production of HFC–134a is expected to continue for the foreseeable future. EPA also notes this application uses a very small amount of HFC–134a (the commenter characterized it as ''infinitesimal'') as compared to total domestic consumption. EPA notes this is further evidence that the large supply of HFC–134a is not insufficient to accommodate this application. Further, EPA responds that the commenter's concern does not align with Congress's direction to EPA to review all applications receiving ASAs at least every five years and instruction to consider the supply of regulated substances as part of a determination on whether to renew the eligibility of an application to continue to receive ASAs. In crafting this system, Congress knew that this review would occur against the backdrop of the overall phasedown in production and consumption of HFCs. While EPA acknowledges the commenter's concern that the phasedown creates some uncertainty for an evolving HFC market, the best interpretation of the HFC supply criterion cannot be that it is always met simply because of the HFC phasedown occurring.

After considering comments received and reviewing additional data available regarding the supply of HFC–134a, EPA is finalizing a determination that supply of HFC–134a is not insufficient to accommodate the SCPPU foams application as of January 1, 2026. To take a conservative approach, EPA is not including recovered and reprocessed HFC–134a in its assessment of the available supply of HFC–134a to accommodate this application, given the potential concerns raised by commenters about the impacts of even small levels of impurities in the HFCs used as blowing agents. Due to the significant global production of virgin HFC–134a, the exclusion of recovered and reprocessed HFC–134a does not change EPA's conclusion regarding available supply of HFC–134a.

With respect to HFC–152a, EPA stated in the proposed rule that in light of uncertainty, EPA did not make a proposed determination about the supply of HFC–152a. EPA stated that the Agency could determine in the final rulemaking that supply of HFC–152a is not insufficient to accommodate the SCPPU foams for marine and trailer uses application for the full five-year period, is not insufficient as of January 1, 2028, or is insufficient for the entire renewal period. This was based on multiple facts regarding supply and demand of this chemical that are outlined in significant detail in the proposed rule and the TSD accompanying the proposal. Specifically, domestic production and imports of HFC–152a were substantial, with HFC–152a being produced in the second highest quantities domestically of any HFC and production equal to about 22 percent of U.S. HFC production by mass.[20] Domestic production capacity was also expected to increase by approximately 20 percent by mid-2024 due to one manufacturer's facility expansion, but EPA could not say with certainty at the time of proposal when that expansion would be complete.[21] Overall, HFC–152a made up approximately 20 percent of total U.S. HFC consumption in 2022 on a mass basis. Domestic inventory of HFC–152a equaled 3,228.4 MT of HFC–152a at the end of 2022, equivalent to about 10 percent of calculated consumption of HFC–152a that year. Demand, however, was less certain. For example, certain HFC restrictions that would take effect as of January 1, 2025, could increase demand for HFC–152a domestically for certain uses. HFC–152a has a GWP that is below all the GWP limits for sectors and subsectors subject to restrictions under 40 CFR part 84, subpart B. The 2023 Technology Transitions Rule identified HFC–152a as an available or potentially available substitute for foams, aerosols, motor vehicle air conditioning, and household refrigerators and freezers.[22] While some of the affected sectors and subsectors transitioned to other substitutes (*e.g.,* motor vehicle air conditioning, household refrigerators and freezers), there are subsectors where HFC–152a neat or in blends is a substitute, and it was unknown at the time of proposal if there would be any significant shift toward use of HFC–152a in 2025. EPA also noted that this application's demand for HFC–152a was minimal compared to global supply.

One commenter stated general uncertainty regarding the supply of HFC–152a related to the HFC phasedown. The commenter asserted with the 40% phasedown step in 2025 and the 70% stepdown in 2029, it is ''very reasonable to assume that the supply of HFC–152a will be reduced by a similar degree.'' This commenter also highlighted their sub-application's growing demand for HFC–152a as compared to previous years.

EPA responds in a similar fashion as to the concerns raised regarding the supply of HFC–134a relative to the HFC phasedown, specifically that Congress could not have intended for the supply criterion to be meaningless in the face of the overall AIM Act phasedown of regulated substances. Additionally, EPA has analyzed data that has become newly available since the time of proposal related to supply of HFC–152a for this application. In 2023, domestic production of HFC–152a increased to 33,905.9 MT, about 26 percent of U.S. HFC production by mass. Preliminary data for 2024 shows that production remained similar in 2024, increasing slightly to 34,154.9 MT. The facility expansion that EPA described in the proposed rule has been completed. There is continued substantial global

[20] *See https://www.epa.gov/climate-hfcs-reduction/hfc-data-hub/expanded-hfc-data.*

[21] *See https://www.chemours.com/en/news-media-center/all-news/press-releases/2023/chemours-announces-capacity-increase-of-hfc-152a-providing-reliable-domestic-supply-of-low-global-wa.*

[22] *See* 2023 Technology Transitions Rule TSD ''American Innovation and Manufacturing Act of 2020—Subsection (i)(4) Factors for Determination: List of Substitutes.'' This list is not exhaustive, so it is possible HFC–152a is an available alternative for other subsectors.

production of HFC–152a, which also supplies the U.S. market. Multiple entities imported HFC–152a in 2024, and imports have remained at significant levels. In 2024, entities imported a total of 5,886.5 MT, an approximately 8 percent decrease compared to 2023 imports and 1 percent increase compared to 2022 imports. Overall, HFC–152a made up approximately 22 percent of total U.S. HFC consumption in 2023 on a mass basis and 30 percent in 2024, approximately a 50 percent increase relative to 2022. These data trends taken together suggest that what the commenter termed as a reasonable assumption that HFC–152a supply will be reduced in amounts proportional to reductions in the HFC production and consumption caps appears to be incorrect.

In addition to considering the comment filed on this issue, EPA analyzed two additional years of reported data since the publication of the proposed rulemaking to determine how the new information impacts EPA's proposed determinations regarding the supply of HFC–152a. Despite the increase in domestic production and imports, there are factors that limit supply of HFC–152a. Inventory of this chemical is substantially lower than that of other HFCs, such as HFC–134a. At the end of 2024, suppliers held just 5,650.4 MT of HFC–152a in domestic inventory, which is equivalent to approximately 15 percent of calculated consumption of HFC–152a in 2024. A lack of available inventory could indicate increased use in this market as the phasedown progresses as compared to HFCs where there is more inventory available, such as for HFC–134a.

In addition, there is continued uncertainty regarding the demand for HFC–152a as other manufacturers transition. As noted earlier in the section, HFC–152a has a GWP that is below all the GWP limits for sectors and subsectors subject to restrictions under 40 CFR part 84, subpart B. At the time of this final rulemaking, it is still not known if there will be a significant shift toward use of HFC–152a neat or in blends. The continued global HFC phasedown could encourage a shift to lower GWP HFCs, like HFC–152a, and Technology Transitions restrictions may also result in some sectors transitioning to HFC–152a. EPA's Vintaging Model shows a projected decreased demand for HFC–152a in the coming years, but, as described above, consumption of HFC–152a has been increasing, suggesting an increased demand for HFC–152a, potentially in new blends. This differing information and projections further highlight the uncertainty regarding the near-term market demand for HFC–152a as a substitute. In addition, EPA is also aware that HFC–152a is used as a feedstock to produce other chemicals, which could contribute to variations in demand for HFC–152a for use as a feedstock. In sum, while there is currently a reasonably large supply of HFC–152a that is expected to increase over the coming years relative to other HFCs, there is significant uncertainty around supply and demand for HFC–152a. As a result of this uncertainty, EPA is finalizing a determination that the supply of HFC–152a is insufficient to accommodate the SCPPU foams for marine and trailer uses application for the full five-year period from 2026–2030, *i.e.,* the criterion in section (e)(4)(B)(i)(II) is met for HFC–152a.

3. Final Determination on Application-Specific Allowance Eligibility

In light of the range of outcomes EPA proposed regarding its determinations on whether the criteria in subsection (e)(4)(B)(i)(I) and (II) are met, EPA proposed three potential outcomes on whether and how SCPPU foam for marine and trailer uses may be eligible for future ASAs: (1) not eligible to receive ASAs; (2) eligible to receive calendar year 2026 and 2027 ASAs; and (3) eligible to receive ASAs for the five-year period of calendar years 2026–2030 with allowance amounts determined based on the EV of HFC–152a. EPA also took comment on SCPPU foam for marine and trailer uses eligibility to receive ASAs consistent with the current approach through calendar year 2030. EPA also noted that it could finalize different outcomes based on how the transition to substitutes progressed between the proposal and rule finalization.

Comments regarding the proposed renewal determinations were mixed. Two commenters supported a full five-year renewal without restriction on how allowances are calculated; one of these commenters, a manufacturer of SCPPU foam for marine uses, requested renewal for the full five-year period for HFC–134a because it would be unable to comply with the relevant Technology Transitions restrictions if it was not eligible for ASAs. Another commenter supported a five-year renewal with allowance amounts determined based on the EV of HFC–152a but also supported no restriction on allowance calculations. One commenter supported a two-year renewal ending January 1, 2027.[23] Finally, one commenter supported a hybrid approach—a two-year renewal with no restriction on allowance calculations and renewal for the remaining three years with allowance amounts determined based on the EV of HFC–152a—based on availability of alternatives.

Based on the analysis provided in the prior subsections, as further detailed in the TSD accompanying this final action, EPA is finalizing determinations that the SCPPU foams for marine and trailer uses application meets both criteria in subsection (e)(4)(B)(i) for the full five-year renewal period. As such, EPA is finalizing to renew the eligibility of entities using regulated substances for SCPPU foams for marine and trailer uses application for the five-year period of calendar years 2026 through 2030. Regarding the commenter's request for a full five-year renewal for HFC–134a so as to not be held to relevant Technology Transitions restrictions, EPA's decision to finalize a renewal addresses this comment; because this application is eligible for ASAs through 2030, it will continue to be exempt from relevant Technology Transitions restrictions through at least 2030.

D. Etching of Semiconductor Material or Wafers and the Cleaning of Chemical Vapor Deposition Chambers Within the Semiconductor Manufacturing Sector

EPA has been allocating ASAs for regulated substances used for the etching of semiconductor material or wafers and the cleaning of CVD chambers within the semiconductor manufacturing sector in accordance with subsection (e)(4)(B)(iv)(I)(dd) of the AIM Act. In the Allocation Framework Rule, EPA defined ''etching'' in the context of semiconductor manufacturing as ''a process type that uses plasma-generated fluorine atoms and other reactive fluorine-containing fragments that chemically react with exposed thin films (*e.g.,* dielectric, metals) or substrate (*e.g.,* silicon) to selectively remove portions of material. This includes semiconductor production processes using fluorinated GHG reagents to clean wafers,'' (40 CFR 84.3). EPA defined ''chemical vapor deposition chamber cleaning'' (hereafter referred to as ''chamber cleaning'') in the context of semiconductor manufacturing as ''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,'' (40 CFR 84.3). At the time of this final rule, EPA is aware of three

[23] EPA notes a two-year renewal period, as EPA co-proposed, would end January 1, 2028, so EPA is interpreting this comment as being consistent with EPA's co-proposal.

HFCs that are used for this application in manufacturing. HFC–23 is commonly used for selective dry etching of silicon dioxide (SiO_2) and silicon nitride (SiN), while HFC–32 and HFC–41 are used in high-aspect-ratio hole etching. HFC–23, HFC–32, and HFC–41 may also be minimally used in chamber cleaning processes.

EPA proposed to determine that this application met both statutory criteria for the full five-year renewal period. Specifically, EPA proposed to find that, through calendar year 2030, (1) no safe or technically achievable substitute will be available for the etching of semiconductor material or wafers and the cleaning of CVD chambers within the semiconductor manufacturing sector; and (2) that the supply of regulated substances that manufacturers and users are capable of securing from chemical manufacturers is insufficient to accommodate this application. Therefore, EPA proposed to renew the eligibility of entities using regulated substances for the defined semiconductor application to receive ASAs for the five-year period of calendar years 2026 through 2030.

1. Availability of Safe and Technically Achievable Substitutes

With respect to whether safe and technically achievable substitute(s) are or will be available for this application, EPA explained in the proposed rule that while there are a number of alternative chemicals currently used for etching and chamber cleaning in semiconductor manufacturing, EPA proposed to not consider any of these chemicals to be safe and technically achievable substitutes based on consideration of these chemicals having some or a combination of higher GWPs, higher emission rates (also referred to as lower utilization rates in this application), or higher toxicity than the HFCs for which ASAs are currently used. EPA also identified other compounds that are being studied for use in etching and chamber cleaning, and are either not yet technically achievable or are not considered safe. All the details of EPA's assessment regarding substitutes can be found in the proposed rule and accompanying TSD.

Some commenters were supportive of EPA's proposed determination that there will be no available safe and technically achievable substitutes for the semiconductor application by the end of the renewal period. One commenter encouraged EPA to consider gas use, gas utilization, and byproduct generation rates within its evaluation of alternatives' technical feasibility. The commenter noted that within the semiconductor application, gases have different utilization and byproduct emission factors, citing 40 CFR part 98, subpart I: Mandatory Greenhouse Gas Reporting: Electronics Manufacturing tables I–3 through I–7.

EPA acknowledges these comments in support of the Agency's proposed determination regarding availability of safe and technically achievable substitutes. When the commenter references ''gas use,'' they do not specify what they mean by this phrase. EPA understands that this term could mean gas consumption (*i.e.,* the quantity of each gas used for a particular process), how the gas is used (*i.e.,* for which processes or technologies), or some other meaning. The Agency reviewed a variety of sources in developing its assessment of substitutes, some of which included consideration of the factors listed by the commenter. For example, the TEAP's MCTOC 2022 Assessment report considers utilization rates and byproduct generation in its review. The Agency did not consider many of the potential alternatives listed in the MCTOC 2022 Assessment report as available substitutes. As one example, EPA did not consider saturated perfluorocarbons (PFCs) as a technically available and safe substitute for this application for a variety of reasons, including that they have relatively low gas utilization rates. Based on the data at hand and the information available to the Agency at the time, EPA has not identified any substitute or substitutes that could be considered an available alternative under EPA's definition of a ''safe and technically achievable substitute.'' EPA may consider additional factors in the review of their potential substitute chemicals in future reviews, including the ones cited by the commenter, as additional data becomes available.

One commenter stated that there has been ''promising work'' demonstrating low-GWP, affordable alternative recipes that do not include HFC–23, HFC–32, and HFC–41 and these alternative recipes would not introduce use of substances that may be considered PFAS. The commenter added that in-house testing at semiconductor manufacturers has lagged as limited incentives exist, and that providing a five-year renewal will further disincentivize the semiconductor industry from developing lower-GWP etch processes using alternative etch molecules. The commenter said an incentive for the semiconductor industry to proactively demonstrate the ''HVM performance'' (EPA understands the commenter to mean high volume manufacturing in their use of the acronym HVM) of alternative, lower-GWP etch recipes replacing HFC–23, HFC–32, and HFC–41 should be provided, which they suggest could be done by limiting the renewal to one year.

While the commenter has stated that there is promising work in the development of alternative etch chemistries, the commenter has not provided specific data to inform EPA's determination regarding whether there are substitutes available for this application now. As explained elsewhere in this section and detailed in the TSD accompanying this final rule, EPA has analyzed all available information in coming to a determination that substitutes are not available for this application. The commenter suggests that EPA could renew this application for only a single year to incentivize the HVM performance of alternative, lower-GWP etch recipes to replace HFC–23, HFC–32, and HFC–41, but does not provide any data to support such an outcome, *i.e.,* that substitutes will become available within a year and therefore both statutory criteria for renewal are no longer met. EPA invites the commenter to review section IV. of this rule for more information about how EPA is making decisions regarding application eligibility, including the determination of how long an application will be eligible to receive ASAs.

Another commenter stated that EPA's proposed determination that there is no substitute available for HFC–23 deserves close attention. The commenter stated that the Agency should not wait five years to re-visit the determinations for the availability of substitutes for HFC–23. The commenter asserted that lower-GWP, affordable alternatives to HFC–23 have been demonstrated in various semiconductor applications. The commenter, a chemical manufacturer, described efforts to collaborate with a partner on an unspecified near-zero GWP alternative for use in this application. According to the commenter, this chemical has been demonstrated for etching and is ready for use in the field. The commenter expressed that with its high GWP and incomplete destruction resulting in potent emissions, the stakes are particularly high for the continued use of HFC–23, and the Agency should not be incentivizing its continued use. The commenter quotes AIM Act subsection (e)(4)(B)(v), which directs EPA to review applications ''not less frequently than once every 5 years'' and suggests that EPA is free to review the applications more frequently than every five years.

In response to the commenter regarding the availability of potential substitutes for HFC–23, while the commenter has stated that a near-zero GWP alternative has been demonstrated for etching and chamber cleaning use and is ready for use in the field, their comment indicates this alternative has not been commercialized or otherwise adopted by the semiconductor industry. EPA met with the commenter to further discuss the status of the alternative and determined that the alternative would not replace all uses of HFC–23 for etching. Even if this alternative were to become available as an HFC–23 substitute within the next five years, EPA still has not identified substitutes that would meet the substitute criteria on an application-wide basis. As described earlier in this section and finalized in section IV.A., determinations on whether a substitute is available and whether the statutory criterion is met are made on an application-wide basis. Therefore, if EPA agreed with the commenter's statements and could determine that an alternative would be available for HFC–23 within the five-year renewal period, there still is no evidence that there would be an available substitute for the entire application. EPA responds to the comment regarding the frequency of review of these applications in section IV.C.

In addition to the information provided by the commenters, EPA also reviewed existing sources of information for potential updates on the Agency's assessment of whether substitutes are available for this sector. EPA found no significant updates, which is outlined in more detail in the TSD accompanying this final rule. Therefore, for the reasons outlined, EPA is finalizing the determination that no safe or technically achievable substitute will be available for the etching of semiconductor material or wafers and the cleaning of CVD chambers within the semiconductor manufacturing sector for at least the next five years.

2. Supply

HFC–23, HFC–32, and HFC–41 are all currently used in the etching of semiconductor material or wafers and the cleaning of CVD chambers within the semiconductor manufacturing sector. As described earlier in section IV.B. of the preamble, EPA is finalizing the approach described in the proposed rule to determine that an application meets the supply criterion if EPA determines that any of the HFCs currently used in an application's equipment or to manufacture the application's products for use have insufficient supply. EPA proposed to determine that the supply of HFC–23 and HFC–41 are insufficient to accommodate the application. Therefore, EPA proposed to determine that supply of the regulated substance that manufacturers and users are capable of securing from chemical manufacturers is insufficient to accommodate this application through calendar year 2030.

In the proposed rulemaking, EPA noted that it is not aware of why reclaimed HFCs cannot be purified to industry specifications and invited comment on the topic. EPA noted that of the three HFCs utilized by the semiconductor industry, only HFC–23 and HFC–32 were reclaimed in 2022 and thereby could be a source of supply for this application, though the amount of reclaimed material is small. In addition, EPA noted that it is possible to capture the unreacted process gases used in semiconductor manufacturing, but the reclamation of fluorinated gases from the semiconductor manufacturing process is not currently economically viable.

One commenter stated that reclaimed refrigerants cannot be used to supply the semiconductor industry, stating that both purity and chemical consistency of each batch of HFCs are critical, and accordingly each HFC source must be approved by purifiers and/or semiconductor customers and a consistent chemical fingerprint must be demonstrated. The commenter added that this assures purifiers that they will be able to effectively and economically produce material for the semiconductor industry, and it assures fabrication plants they will not be introducing unexpected contaminants to their processes. The commenter further asserted that reclamation cannot offer the same consistency between each batch. The commenter added that many different sources, with many different impurities, may contribute to reclaimed HFCs, and this complicates the purification process, making it more expensive, and puts semiconductor fabrication plants at risk. They concluded that it would thus be inappropriate for EPA to include reclaimed material in assessing availability of HFCs for the semiconductor sector pursuant to the ASA program. Another commenter described similar challenges associated with purifying HFC–23 from semiconductor fabrication facility recapture. The commenter stated that virgin HFC material contains known purities, and that purification and distillation processes are therefore calibrated to handle these predefined impurity levels. These purification methods are able to purify HFC–23 to a quality of 99.999% with stable metrology solutions for monitoring. Conversely, the commenter cited challenges with purifying HFC–23 from semiconductor fab recapture, including the variation in the concentration of HFC–23 and other molecules between tools, the variability in the chamber effluent output across tools, the low concentrations of HFC–23 in effluent gas due to dilution from other substances introduced downstream to sweep impurities, and cost-effectiveness issues associated with removal of toxic substances and movement of the gases.

EPA notes that these two commenters are describing concerns related to recovered HFCs from two different pathways—the purification of generally reclaimed gas and the recapture of HFC–23 from a semiconductor fab facility. However, commenters raised similar concerns with both types of material, and therefore EPA is responding to the comments in a single response. EPA notes that the commenters state that purification and subsequent use of reclaimed HFC material at this time may not be feasible for the purposes of semiconductor manufacturing due to quality control concerns in addition to the other technical and cost limitations outlined in these comments. EPA has added this information to the TSD. In addition, EPA notes that the quantities of reclaim available for these specific HFCs are currently very small and may be limited. In 2024, only HFC–23 and HFC–32 were reclaimed in small quantities, and there were no quantities of reclaimed HFC–41 reported. EPA also acknowledges that the reuse of such material in etching and chamber cleaning may not be feasible at this time due to concerns regarding variability in recaptured HFC–23 material and cost concerns associated with purification of this material to a level of purity high enough for the semiconductor industry. As described in further detail below, EPA has determined to not incorporate any supply of used HFCs in its assessment of supply for this application at this time, given that inclusion of such used HFCs is not determinative of the supply outcome. However, EPA may take a different approach in future rulemakings and welcomes ongoing stakeholder input regarding the ability to use recovered and reprocessed HFCs in this application.

With respect to HFC–23, in the proposed rule, EPA evaluated 2022 data. Domestic producers produced approximately 1,049.3 MT of HFC–23. 876.2 MT were subsequently destroyed,

and one producer sold 5.2 MT of HFC–23 for consumptive uses. In addition, there were about a half dozen entities that imported HFC–23 with total amount of imports equaling 125 MT. In the proposed rule, EPA explained that there is particular uncertainty for HFCs with a more limited number of production facilities and/or higher GWPs than other regulated HFCs. In addition, EPA noted in the proposed rule that the demand for HFC–23 from the semiconductor manufacturing application is large relative to the annual consumption of HFC–23. In 2022, semiconductor ASA holder purchases of HFC–23 accounted for about 76 percent of calculated consumption of HFC–23. At the end of 2022, suppliers held 301 MT of HFC–23 in domestic inventory; not all of this HFC–23 may be considered available supply for purposes of this analysis, as the entities holding this material in inventory may be broader than EPA's interpretation of chemical manufacturers (see section IV.B. for more information).

One commenter requested that the Agency revisit the determination for HFC–23 on insufficient supply. Citing numbers from the TSD, the commenter stated that ASA allowance holders acquired only approximately 59 MT of HFC–23 in both 2022 and 2023 compared to the approximate calendar year 2022 values from domestic producers of 1,000 MT produced and 880 MT destroyed. The commenter concluded that with the potential available supply far exceeding the semiconductor demand, it was difficult for it to see how the amount of HFC–23 available from manufacturers is insufficient.

EPA responds that domestic producers generate HFC–23 in the United States exclusively as an unintended byproduct of other chemical production. Quantities of byproduct HFC–23 are not necessarily equivalent to supply of HFC–23 that could be available for use in semiconductor manufacturing due to technical and economic constraints. EPA's understanding is that most facilities that produced HFC–23 in the United States generated HFC–23 in low concentrations in operations that are not designed to, and in some cases cannot, isolate and process the HFC–23 into a viable product. These quantities are destroyed or emitted. Therefore, without alterations to the equipment and processes run at these facilities, HFC–23 produced cannot always be made available for consumptive uses. Additional information regarding the unique aspects of by-production of HFC–23 can be found in the TSD accompanying this final rule. Therefore, EPA considered the quantities of HFC–23 produced for consumptive uses (5.2 MT in 2022) when considering domestic production figures for the supply analysis at proposal. EPA also considered factors like the limited number of importers.

In addition to considering information provided by the commenters, EPA analyzed two additional years of reported data that became available since the publication of the proposed rulemaking to determine how the new information impacts EPA's proposed determinations. The 2023 and 2024 data confirm many of the supply constraints described in the proposed rulemaking. The number of producers and importers remained similar in 2024 compared to 2022 and 2023. Production for consumptive uses increased to 9.3 MT in 2024 from 6.2 MT in 2023. Virgin imports of HFC–23 decreased, from 127.0 MT in 2023 to 91.6 MT in 2024. In 2024, reported semiconductor ASA holder purchases of HFC–23 were 1.3 times higher than calculated U.S. consumption overall of HFC–23, compared to 2023, where purchases represented about 73 percent of calculated consumption. There was about a 2 percent increase in the quantity of HFC–23 held in inventory at the end of the year in 2024 compared to 2023, while exports of virgin HFC–23 increased by about 11 percent.

EPA also analyzed the supply of HFC–32 in the proposed rule. In 2022, there was one domestic producer of HFC–32 and over a dozen entities that imported HFC–32. The use of HFC–32 in the semiconductor manufacturing application is small compared to the annual consumption of HFC–32. In 2022, semiconductor ASA holder purchases of HFC–32 accounted for less than 0.035 percent of calculated consumption of HFC–32. At the end of 2022, suppliers held 20,908 MT of HFC–32 in domestic inventory, which is equivalent to about 78 percent of calculated consumption of HFC–32 in 2022; similar to considerations for supply of HFC–23 and for other applications, not all of this inventory may be considered available. EPA also considered the impact other regulatory actions may have for the available supply of HFC–32. As described in more detail in the proposed rule, EPA stated that the overall market for HFCs is likely to continue changing in light of AIM Act and potentially shifts to HFC–32 neat or in blends, and thus there is particular uncertainty regarding demand for HFC–32.

One commenter stated that EPA's assessment of the available supply of HFC–32 for semiconductors must account for continued demand in the refrigerant sector. The commenter added that unlike the proposed rule, which found ''particular uncertainty'' regarding the HFC–32 market, the commenter projected robust demand in the refrigerant sector for the foreseeable future, as several original equipment manufacturers have selected HFC–32 as a standalone refrigerant to replace R–410A. Additionally, they said that HFO/HFC blends needed to replace higher-GWP materials will utilize HFC–32 in significant quantities, which would thus indicate a growing need for HFC–32 into the 2030s.

EPA notes the commenter projection of robust demand for HFC–32 and identification of certain drivers of this demand, and the Agency has incorporated the information into the TSD accompanying this final rule, as appropriate.

Additionally, EPA has analyzed data that has become newly available since the publication of the proposed rule related to the supply of HFC–32 for this application. The 2023 and 2024 data confirm many of the supply considerations described in the proposed rulemaking of HFC–32. The number of producers and importers decreased in 2024 compared to 2023, and the production of HFC–32 decreased by about 22 percent to 17,558.8 MT from 2023 to 2024. By 2024, HFC–32 accounted for 17 percent of all U.S. production. U.S. consumption of HFC–32 decreased nearly 30 percent from 37,870.3 MT in 2023 to 27,782.1 MT in 2024. Exports of virgin HFC–32 increased by nearly 67 percent from 2023 (1,660 MT) to 2024 (2,773 MT). Suppliers held 21,174 MT of HFC–32 in domestic inventory at the end of 2024, which is equivalent to 76 percent of 2024 calculated consumption of HFC–32. In 2024, semiconductor ASA holder purchases of HFC–32 accounted for about 0.03 percent of calculated consumption of HFC–32, an increase from about 0.02 percent from the previous year. There is continued substantial global production of HFC–32, which also supplies the U.S. market. Multiple entities continued to import HFC–32 in 2024, and imports have remained relatively high. In 2024, entities imported a total of 13,000.4 MT, an approximately 24 percent decrease from 2023 imports but 31 percent increase over 2022 imports.

As noted in the proposed rule, there is continued uncertainty regarding the demand for HFC–32 as the overall market for HFCs is likely to continue

changing in light of AIM Act and market shifts to HFC–32 and HFC blends. The 2023 Technology Transitions Rule set a GWP threshold of 700 for certain sectors and subsectors. HFC–32 has a GWP of 675 and may be a suitable alternative in those sectors and subsectors which could result in increased demand. For other sectors and subsectors where other HFCs, HFC blends, or non-HFCs (*e.g.,* HFC–152a, HFO–1234yf) are used, the GWP threshold is lower (*e.g.,* 300, 150). The first set of restrictions under the 2023 Technology Transitions Rule have compliance dates of January 1, 2025, with additional later compliance dates. Additionally, the final 2024 Emissions Reduction and Reclamation Rule could also affect the use and availability of new and reclaimed HFC–32. EPA's Vintaging Model shows consistent levels of demand for HFC–32 through 2030, but, as described above, consumption of HFC–32 has been increasing, suggesting an increased demand for HFC–32. This differing information further highlights the uncertainty regarding the overall market for HFC–32. In sum, while there is currently a reasonably large supply of HFC–32 that is expected to increase over the coming years relative to other HFCs, there is significant uncertainty around supply and demand for HFC–32.

EPA analyzed the supply of HFC–41 in 2022 in the proposed rule. There was one domestic producer of HFC–41 and multiple entities that imported HFC–41. The use of HFC–41 in the semiconductor manufacturing application is moderately large compared to the annual consumption of HFC–41. In 2022, semiconductor ASA holder purchases of HFC–41 accounted for 21 percent of calculated consumption of HFC–41. At the end of 2022, suppliers held 27 MT of HFC–41 in domestic inventory, which is equivalent to about 60 percent of calculated consumption of HFC–41 in 2022; as noted for the supply of HFC–23 and HFC–32 and for other applications, not all of this inventory may be considered available. EPA did not receive any comments regarding the supply of HFC–41.

The 2023 and 2024 data regarding the supply of HFC–41 confirm many of the supply constraints described in the proposed rulemaking. The number of producers and importers remained the same in 2024 compared to 2023. Production of HFC–41 decreased about 24 percent from 2023 to 2024 while virgin imports decreased by about 1 percent in the same time period. In 2024, semiconductor ASA holder purchases of HFC–41 accounted for about 95 percent of calculated consumption of HFC–41, nearly equivalent to the previous year. Exports of virgin HFC–41 decreased by about 14 percent, and there was a 17 percent increase in the quantity of HFC–41 held in inventory at the end of the year from 2023 to 2024.

Due to the reasons outlined here, EPA is finalizing the determination that at least the supply of HFC–23 and HFC–41 is insufficient to accommodate the application.

3. Final Determination on Application-Specific Allowance Eligibility

EPA proposed to renew the eligibility of entities using regulated substances for the defined semiconductor application to receive ASAs for the five-year period of calendar years 2026 through 2030. Several commenters were generally supportive of the proposed determination to renew the eligibility of entities in the semiconductor application to continue receiving ASAs for the full five-year period of calendar years 2026 through 2030.

EPA is finalizing as proposed the determination that no safe or technically achievable substitute will be available for the semiconductor application and that supply of the regulated substance that manufacturers and users are capable of securing from chemical manufacturers is insufficient to accommodate the semiconductor application through calendar year 2030. Therefore, EPA finalizing the proposal to renew the eligibility of entities using regulated substances for the defined semiconductor application to receive ASAs for the five-year period of calendar years 2026 through 2030.

E. Mission-Critical Military End Uses

EPA has been allocating ASAs for regulated substances used for MCMEU in accordance with subsection (e)(4)(B)(iv)(I)(ee) of the AIM Act. In the Allocation Framework Rule, EPA defined ''mission-critical military end uses'' as ''those uses of regulated substances by an agency of the Federal Government responsible for national defense which have a direct impact on mission capability, as determined by the U.S. Department of Defense (DOD), including, but not limited to uses necessary for development, testing, production, training, operation, and maintenance of Armed Forces vessels, aircraft, space systems, ground vehicles, amphibious vehicles, deployable/expeditionary support equipment, munitions, and command and control systems,'' (40 CFR 84.3).

EPA proposed to renew eligibility for DOD to receive MCMEU ASAs for the five-year period of calendar years 2026 through 2030. EPA proposed to determine ''that the requirements described in subclauses (I) and (II) of clause (i) are met'' in accordance with the requirements of 42 U.S.C. 7675(e)(4)(B)(v)(II). Specifically, EPA proposed to determine that no safe or technically achievable substitute will be available for the entirety of the application and that the supply of the regulated substance that manufacturers and users are capable of securing from chemical manufacturers is insufficient to accommodate the application through calendar year 2030. EPA is aware that there are various end uses that DOD considers mission-critical, and DOD uses different HFCs across these end uses. The docket for this rulemaking includes technical reports in which DOD identifies indicative uses of regulated substances which DOD has deemed to be mission-critical. In the proposed rule, EPA outlined its analysis relative to these uses underpinning the proposed determination that technically achievable and safe substitutes do not exist across the entirety of this application. EPA also outlined its assessment of HFCs that have been used by DOD for mission-critical purposes where EPA proposed to determine that there was insufficient supply to accommodate the application. EPA also described in the proposal how this application is more fluid in terms of which particular HFC uses fall within the application, and DOD may change which end uses it determines to be mission-critical over time. DOD has informed EPA that it will continue to need HFCs for mission-critical end uses through at least 2030.

One commenter supported EPA's proposal to renew eligibility for the MCMEU application for the five-year period from 2026 through 2030. EPA did not receive any adverse comments on its proposal to renew the eligibility of this application for ASAs or on the assessments outlined at the time of proposal to underpin that proposed outcome. EPA is not aware of any developments in the identification of safe and technically achievable substitutes to the currently used HFCs for mission-critical end uses. For the supply criterion, EPA evaluated HFCs used by DOD in its assessment of other applications and has determined that the supply of some of these HFCs is insufficient to accommodate the application. For example, in the evaluation of supply for the onboard aerospace fire suppression application, EPA is finalizing the determination that the supply of HFC–227ea is insufficient to accommodate the application. This is

in addition to the unique restrictions that apply to the Defense Logistics Agency and DOD purchasing requirements that impact the available supply of HFCs to DOD for MCMEU. Therefore, EPA is finalizing renewal through the entire period for the MCMEU application as proposed.

F. Onboard Aerospace Fire Suppression

EPA has been allocating ASAs for regulated substances used for onboard aerospace fire suppression in accordance with subsection (e)(4)(B)(iv)(I)(ff) of the AIM Act. In the Allocation Framework Rule, EPA defined ''onboard aerospace fire suppression'' as the ''use of a regulated substance in fire suppression equipment used on board commercial and general aviation aircraft, including commercial-derivative aircraft for military use; rotorcraft; and space vehicles. Onboard 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,'' (40 CFR 84.3). At the time of proposal, EPA was aware of only one area, lavatory trash receptacles, in which HFCs are used in commercial aviation. For military uses, HFCs have been used in engine nacelles, APUs, and a streaming application (*i.e.,* a portable extinguisher).[24] In addition to HFC uses in commercial and military aviation, EPA is aware that HFCs have limited usage in general aviation, which consists of private and/or business aircraft. HFC–227ea is the only HFC for which onboard aerospace fire suppression ASAs have ever been expended.

In the proposed rulemaking, EPA proposed to determine that no safe or technically achievable substitute will be available for the entirety of onboard aerospace fire suppression. While EPA suggested in the proposed rulemaking that 2-bromo-3,3,3-trifluoropropene (2–BTP) is a safe and technically achievable substitute for portable extinguishers, EPA did not identify a safe and technically achievable substitute available for other HFC uses including for lavatory trash receptacle systems, engine nacelles, or APUs. EPA also proposed that supply of the regulated substance that manufacturers and users are capable of securing from chemical manufacturers is insufficient to accommodate the application through calendar year 2030. Therefore, EPA proposed to renew the eligibility of entities using regulated substances for onboard aerospace fire suppression to receive ASAs for the five-year period of calendar years 2026 through 2030.

EPA only received one comment regarding EPA's proposal. The commenter supported EPA's proposal to renew the application for the full five years but did not provide any additional data that could be used to inform EPA's analysis on the two statutory criteria.

EPA is not aware of any additional information since the publication of the proposed rule that would alter the Agency's analysis of the substitutes criterion that was presented in the proposed rule and accompanying TSD. For the Agency's assessment of the supply criterion, as explained in section IV.B., EPA is individually evaluating each HFC for which ASAs are being expended. HFC–227ea is the only regulated substance for which onboard aerospace fire suppression ASAs have been expended to date. Therefore, in this final rule EPA only considered the supply of HFC–227ea in assessing whether the onboard aerospace fire suppression application meets the statutory criteria for renewed eligibility for ASAs. EPA analyzed two additional years of reported data since the publication of the proposed rulemaking to determine whether the new data supports EPA's proposed determination that the supply of HFC–227ea is insufficient to accommodate the application. The 2023 and 2024 data confirm many of the supply constraints on HFC–227ea described in the proposed rulemaking. Production of HFC–227ea has remained fairly even since 2022, while the quantity imported has declined year over year from 494.3 MT in 2022 to 50.7 MT in 2024. Suppliers also held less HFC–227ea in inventory at the end of 2024 than either of the previous two years, dropping from a high of 1,173.3 MT in 2023 to 744.0 MT in 2024. The supply chain for HFC–227ea remains more fragile than supply chains for other HFCs given it has one of the highest EVs of the regulated HFCs and there are a limited number of producers in the United States and abroad.

Consistent with the analysis completed for the proposed rule and described in more detail in the TSD, EPA is finalizing renewed eligibility for the full five-year period from 2026 to 2030 as proposed.

VI. What are the requirements associated with a petition to be listed as an application that will receive application-specific allowances?

The Agency proposed a procedural framework for a petition filed pursuant to 42 U.S.C. 7675(e)(4)(B)(ii) requesting the designation of an application as eligible for ASAs. Subsection (e)(4)(B)(ii) outlines requirements that apply if the Administrator receives a petition requesting consideration of eligibility for ASAs. In the event a complete petition is received, the Agency would make a determination on whether to designate the application as eligible for ASAs after considering the criteria listed in subsection (e)(4)(B)(i). The AIM Act specifies a timeline by which the Agency must consider these petitions. Within 180 days, the Agency must make the complete petition available to the public and propose and seek comment on whether to designate the application as eligible for ASAs and if so, the requisite number of allowances. Within 270 days of receiving the petition, the Agency must take final action on the petition. The Agency envisions that petitions could be submitted by a single entity, such as a company or trade association, or a group of entities.

In order to have sufficient information to evaluate a petition based on the criteria in subsection (e)(4)(B)(i), EPA proposed to require that certain information must be included in order for a petition to be considered complete. This proposed required list was not meant to be comprehensive, but rather a minimum threshold after which the Agency would consider a petition complete.

EPA received two comments regarding the elements which EPA proposed to require as part of a complete petition. One commenter suggested that the Agency should be flexible in what information is required so that a new application (*i.e.,* an end use newly using HFCs) would be able to satisfy the requirements and submit a complete petition. The commenter stated as an example that it may be difficult for a new application to include the total quantity of regulated substances acquired for the application in the past three years.

[24] *See https://www.epw.senate.gov/public/_cache/files/d/1/d152a591-878f-4a4d-b9c1-dc7121c06eca/9D366FF1E61F7EFFD6A71C37C92924A5.04.03.2020-boeing.pdf.*

EPA responds that the elements which EPA proposed to require are achievable regardless of the length of time a petitioner has been using HFCs. EPA clarifies that, for elements for which EPA is requesting three years of data, an entity would still be able to submit three years of data even if that entity has been using HFCs for less time; an entity can indicate zero for any years for which regulated substances were not used in the application and, as with all provided data, assuming the information is accurate, the petitioner would satisfy the requirement. Similarly, EPA proposed that entities submitting the petition must include certain information on their HFC suppliers for the past three years. If an entity has been using HFCs for one year, then the entity should indicate that in the submission and provide the required supplier information for that one year.

Another commenter, while expressing general support for outlining petition requirements, suggested that these requirements should focus on the essentiality of the use and that requirements for completeness of a petition should be limited to what is relevant and necessary. The commenter provided, as an example, that requiring the cost of the product or system that reflects the cost of regulated substances, should not be required.

In developing this final rule, EPA revisited the proposed requirements to determine whether any elements would be extraneous in the development of a well-informed position on a petition. The Agency was deliberate in proposing to require information that would be critical for reviewing a petition consistent with the criteria in subsection (e)(4)(B)(i) of the AIM Act. EPA considered proposing to require certain other elements that in the Agency's view did not rise to the level of critical for evaluating a petition; some of these were included in the proposed rulemaking as optional elements which the Agency may find helpful in evaluating a petition. Upon review, EPA reaffirms that all the proposed requirements would meaningfully inform whether a petition meets the statutory criteria. For example, the commenter indicated that EPA should not need data on the proportion of the overall cost of the product or system that reflects the cost of regulated substances. EPA responds that this element would meaningfully inform the Agency's assessment of the criteria listed in subsection (e)(4)(B)(i) of the AIM Act, in particular affordability for residential and small business consumers. If a high proportion of a product's cost is due to the cost of the currently used regulated substance, and a potential alternative is vastly more expensive, then the Agency may consider whether that poses affordability concerns for residential and small business consumers. EPA responds that this is a key data point which may not be easily retrievable based on public data alone, and therefore it is appropriate to require as one element of a complete petition.

After considering the comments received, EPA is finalizing the list of petition requirements as proposed with minor modifications for clarity. Therefore, a complete petition must include, at a minimum:

- A description of the application, including an explanation of what the application is, what purpose or function it achieves, and what populations or commercial products benefit from the application;
- A list of regulated substance(s) and description of their use(s) in the application and an explanation as to why HFCs are required in the application;
- Evidence that no safe or technically achievable substitute, including not-in-kind technologies, is or is expected to be available, and that the petitioner has conducted research to evaluate substitutes for the HFC(s). Examples of evidence that may be accepted include, but are not limited to, third-party analyses and technical reports by recognized experts in the field, test results evaluating potential substitutes on safety and technical achievability, decisions by EPA to list alternatives under the SNAP Program, or federal regulatory standards that inhibit the ability of the application to transition to a substitute;
- Evidence that supply of the regulated substance(s) used in the application is insufficient to accommodate the application. Examples of evidence that may be accepted include, but are not limited to, signed and notarized [25] communication from responsible corporate officers at multiple representative suppliers or potential suppliers for the sector or related sectors that the application falls in stating that the currently used HFCs cannot be sourced; signed and notarized communication from responsible corporate officers at 10 or more allowance holders, including at least three of the 10 largest consumption allowances holders, stating that the currently used HFCs cannot be sourced;
- A signed certification from a responsible corporate officer at the requesting entity that the application cannot use recovered and reprocessed HFCs in conjunction with or in place of virgin HFCs, either due to demonstrated lack of technical achievability or insufficient supply, and an explanation and evidence documenting why recovered and reprocessed HFCs cannot be used for the application;
- Total quantity (in kilograms (kg)) of all regulated substances acquired for the application specified in the petition in each of the previous three years, including a copy of the sales records, invoices, or other records documenting that quantity; if multiple entities are submitting a joint petition, they must each provide EPA with unaggregated entity-specific information, which may be transmitted jointly or individually;
- The name of the entity or entities supplying regulated substances for and contact information for those suppliers over the past three years; if multiple entities are submitting the petition, they must each provide this information individually to EPA;
- Total quantities (in kg) of regulated substances held in inventory for use in the application specified in the petition as of the date the petition is submitted; if multiple entities are submitting the petition, they must each provide this information individually to EPA;
- An estimate of the total quantity of HFCs the petitioner expects to purchase for use in the application specified in the petition in the first year it would be eligible for ASAs;
- Data on the proportion of the overall cost of the product or system that reflects the cost of regulated substances; if multiple entities are submitting the petition, they must each provide this information individually to EPA;
- Historic and projected sales of the product or system; if multiple entities are submitting the petition, they must each provide this information individually to EPA;
- Evidence of research into design changes to decrease the amount of HFCs used in the product or system;
- An explanation regarding whether the use of the regulated substance is necessary for the health, safety, or is critical for the functioning of society (encompassing cultural, intellectual, and economic aspects);
- An explanation regarding steps taken to minimize the use of the regulated substance and any associated emission of the HFC(s); and
- Information on regulatory restrictions related to possible alternatives and substitutes.

Consistent with the proposal, EPA is also providing a non-exhaustive list of

[25] Notarization ensures authenticity of the signature and deters fraud.

other elements that are optional, and the Agency may find compelling or helpful in making a determination on a petition:

- Market research on the application, which could include: an estimate of the number of domestic entities within the application; an estimate of the amount of bulk HFCs used domestically within the application; an estimate of the projected annual growth rate for the duration of the period for which the application is seeking eligibility to receive ASAs, with supporting evidence by third-party sources;
- Economic research on the elasticity of demand for products or systems within the application, with supporting evidence by third-party sources;
- Research on whether products or systems in the application outside of the United States have had success in transitioning to substitutes or otherwise reducing use of HFCs; and
- Other information that may be relevant as the Agency evaluates the petition, based on the factors listed in subsection (e)(4)(B)(i).

In addition to establishing minimum required elements of a complete petition, EPA proposed some framework elements on how EPA would process petitions received. EPA proposed to consider the statutory timeline triggered upon the filing of a complete petition. In the event that an entity filed an incomplete petition, EPA would notify that entity that their petition was incomplete, but not process the petition any further. EPA proposed to consider a petition re-submitted if the petitioner supplements the petition, and the statutory timelines for action would restart. Comments on EPA's proposed determination on a petition would not restart the statutory timelines unless the petitioner formally requested to supplement or revise their petition. EPA did not receive any comments on the framework under which a petition would be considered and is therefore finalizing as proposed.

EPA notes that for an entity to be eligible to receive ASAs in a given calendar year, a complete petition should be submitted no later than January 31 two calendar years prior to provide the Agency sufficient time to review a petition and be able to issue allowances in advance of the statutory deadline of October 1 each year. For example, if an entity would like to receive allowances in calendar year 2028, the entity should submit a complete petition no later than January 31, 2026. Earlier submission and/or discussion with the Agency is encouraged to allow for timely reviews. EPA is setting this clear expectation so entities can factor this into their planning when deciding to petition EPA to be added to the list of eligible applications. This timeline will allow the Agency the requisite time to review and take final action on the petition, consistent with the statutory timeline in subsection (e)(4)(B)(ii), and also issue a final rule to effectuate that decision in 40 CFR 84.13.

EPA proposed to allocate allowances to entities in a new application through the same manner as other entities receiving ASAs, per 40 CFR 84.13 and 40 CFR 84.31(h). In other words, entities within a new application would need to request ASAs by July 31 like all other applications (per 40 CFR 84.13(b)). This may mean that in cases where there is a final rule pending to add an application to the list of entities eligible for ASAs at 40 CFR 84.13, any entity wishing to be eligible for ASAs in the next calendar year would need to provide the information required at 40 CFR 84.13(h)(2) by July 31. EPA did not receive comment on this proposal and is finalizing as proposed.

EPA proposed that if a petition is granted and a new application is listed as eligible to receive ASAs, that eligibility would apply until the end of the five-year review cycle during which its petition was granted. Per subsection (e)(4)(B)(v), EPA must review each ASA use receiving an allocation of allowances not less frequently than once every five years. EPA also proposed that, at the end of each five-year review cycle, it will review any applications listed in 40 CFR 84.13(a) at the time of review, regardless of how they were initially included on the list. For example, the five-year review period covered in this rule includes calendar years 2026 through 2030. If a petition were granted to receive ASAs starting for calendar year 2028, that application would be eligible for calendar year 2028, 2029, and 2030 allowances, and then EPA would review the eligibility for that application to continue receiving ASAs starting with calendar year 2031 allowances. EPA did not receive comment on these proposals and is finalizing as proposed.

Consistent with the reporting requirements under 40 CFR 84.31(a), EPA proposed that for an entity that is eligible for ASAs as the result of EPA granting a petition, all reports, petitions, and any related supporting documents must be submitted electronically in a format specified by EPA,[26] and quantities of regulated substances must be stated in terms of kilograms unless otherwise specified. EPA also proposed that these records and copies of reports required by this section must be retained for three years. EPA did not receive comment on these proposals and is finalizing as proposed.

VII. Revisions to Existing Regulations

EPA finalized an approach under the Allocation Framework Rule for issuing ASAs for the initial years after enactment of the AIM Act. As explained in more detail in the Allocation Framework Rule, EPA allocates ASAs differently for MCMEU, given the complex nature of the way DOD sources and uses HFCs in the mission-critical context. The 2024 HFC Allocation Rule did not reopen the methodology for issuing ASAs but noted that the Agency had begun development of this rule to review and consider whether to renew eligibility for each of the six applications for ASAs and would herein consider revisions to existing regulatory requirements. As EPA foreshadowed in the 2024 HFC Allocation Rule, the Agency proposed targeted regulatory changes after considering whether any changes should be made to the existing regulatory requirements governing ASAs based on implementation over the past several years. EPA also proposed one specific regulatory change to clarify how EPA's regulations would apply to any illegally imported HFCs that are seized and auctioned by enforcement officials, proposed to require exporting companies to report ITNs quarterly, and proposed to simplify the ''date of purchase'' requirement for a RACA.

Under the current regulations established in the Allocation Framework Rule, EPA issues ASAs based on multiplying the company's HFC use in the prior year by the higher of:

- The Average Annual Growth Rate (AAGR) of use for the company over the past three years; or
- The AAGR of use by all entities requesting that type of ASA (*e.g.,* for MDIs) over the past three years.

For the calculation of AAGR, EPA calculates the growth rate between the first and second year plus the growth rate between the second and third year, divided by two. The formula is as follows:

[26] Currently, most HFC reports under the AIM Act are submitted through HAWK, the HFC reporting system.

$$\frac{\left(\left(\frac{\text{Application or Entity HFC Use in Year 2}}{\text{Application or Entity HFC Use in Year 1}}-1\right)+\left(\frac{\text{Application or Entity HFC Use in Year 3}}{\text{Application or Entity HFC Use in Year 2}}-1\right)\right)}{2}$$

EPA relies on activity from July 1 to June 30 for each of the three preceding years prior to the annual allocation because of the biannual reporting deadlines and to include the most recent year of data prior to the October 1 allocation deadline in the allowance allocation determinations. EPA established the information an entity requesting ASAs must provide in 40 CFR 84.31(h)(2). EPA proposed to codify the existing practice such that entities reporting on or applying for ASAs provide supporting documentation to verify reported data on total quantities of HFCs acquired through conferring allowances, expending allowances for direct import, purchases without expending allowances, and quantity held in inventory above zero. EPA did not receive any comments on this proposal, and therefore is finalizing as proposed.

In the Allocation Framework Rule, EPA also established that the Agency would consider unique circumstances that are not reflected by the rates of growth calculated in the methodology outlined above that are factually documented when determining allowance allocations. EPA codified the following circumstances as potentially meriting an increased allocation to an individual company beyond historical growth rates: (1) additional capacity will come on line in the next year, such as a new manufacturing plant, expanded manufacturing line, or launch of a new product within the scope of the application, (2) a domestic manufacturer or some of its manufacturing facilities has been acquired, and (3) a global pandemic or other public health emergency increases demand for use of HFCs in an application, such as an increase in patients diagnosed with medical conditions treated by MDIs. These scenarios could provide reasons to increase allowance allocations to affected companies in the affected years. If a company wanted to make a claim that it qualifies for individualized treatment due to one of these unique circumstances, the company must sufficiently document in a verifiable way why it qualifies. Acceptable documentation includes, but is not limited to, recent invoices for new tools; permit documentation for new facilities, facility expansion, or installation of equipment related to retooling; agency or company press releases for the launch of new products; documentation reflecting the hiring of additional employees or adding additional shifts; or Securities and Exchange Commission filings documenting facility acquisitions or expansions. Ultimately, accommodating documented unique circumstances that are not reflected by the recent rates of growth, in addition to an amount of allowances based on verified use in the past three years, supports the Agency in fulfilling Congress's mandate that EPA ''allocate the full quantity of allowances necessary, based on projected, current, and historical trends,'' (86 FR 55116, 55151, October 5, 2021).

As a result of the lessons learned from multiple years of issuing HFC allocations, EPA proposed limited changes to these existing regulations. Specifically, EPA proposed: to require companies provide the total expected amount of HFCs they intend to purchase in the calendar year, to expand permissible scenarios that could qualify as unique circumstances, a different allocation methodology for certain very small users of HFCs and entities with irregular purchasing history, how to account for inventory in allocation decisions, new requirements for conferrals of MCMEU allowances, to establish a pool of set-aside allowances for situations that meet the criteria for unique circumstances related to medical conditions treated by MDIs, and to allow ASA holders to return a portion of their allowances voluntarily if they do not intend to use them. EPA proposed other specific regulatory changes to: clarify how EPA's regulations would apply to any illegally imported HFCs that are seized and auctioned by enforcement officials, require exporting companies to report ITNs quarterly, and simplify the ''date of purchase'' requirement for a RACA. This section discusses each of these elements in detail, specifically, what EPA proposed; what, if any, comment the Agency received on the proposal; and whether and how EPA is finalizing the proposed changes. In the instance that a reviewing court determines any of these changes to be unlawful, EPA intends each of these regulatory revisions to be severable from the others, as each is based on individual reasoning and bases that is distinct from the other revisions.

A. Expected Total HFC Purchases

EPA proposed to amend the regulations to require all entities to provide their total expected HFC purchases for the next calendar year as a component of overall applications due July 31 for ASAs for the following calendar year. Entities would be required to provide the total quantity of HFCs they expect to purchase next year based on their expected eligibility for allowances. EPA proposed to allocate at that level if it is lower than what that entity is eligible for based on the regulatory formula. EPA's rationale for making this proposal were detailed in the proposed rule.

EPA received only one comment on this proposal, which was supportive of the requirement that entities provide a total request for allowances for the next calendar year and for EPA to allocate ASAs to that level if lower than what the entities are otherwise eligible for based on the regulatory formula.

Therefore, EPA is finalizing this approach as proposed. Entities must report this quantity, in MTEVe, by the July 31 deadline to request ASAs. The total request should be the *total* expected HFC purchases for the next calendar year, so would be inclusive of any HFCs an entity anticipates purchasing as a result of a unique circumstance(s). The amount should be equal to the full quantity of allowances an entity believes EPA should allocate and that the entity wants to have on hand to expend or confer. Accordingly, EPA will not apply a 10 percent purification loss multiplier when allocating to the total request level for an entity in the semiconductor application.[27]

B. Unique Circumstances

Under EPA's current regulations, entities may request that EPA consider unique circumstances that are not reflected by the rates of growth calculated when making annual allowance allocations. Entities ''must

[27] In the Allocation Framework Rule, EPA created a 10 percent purification loss allowance for the semiconductor industry, which is applied after EPA calculates a semiconductor manufacturer's allocation under the regulatory formula, including any unique circumstances or other applicable individual considerations (86 FR 55116, 55152, October 5, 2021). To provide clarity on how this loss allowance works with the other changes finalized in this rule, EPA has modified the regulatory text in 40 CFR 84.13.

provide additional information if requesting that EPA consider unique circumstances'' under 40 CFR 84.13(b)(1). EPA proposed to codify into the regulations the Agency's existing practice of requiring entities to provide supporting documentation to verify any claimed need. EPA did not receive any comments on this proposal, and therefore is finalizing as proposed.

EPA previously codified three situations that would be considered as unique circumstances (40 CFR 84.13(b)(1)). EPA proposed to broaden one of these unique circumstances that is related to MDIs and proposed to add two new unique circumstances under which EPA may allocate additional allowances beyond what is calculated from the regulatory allocation formula.

1. Healthcare System Needs

EPA proposed to expand the scope of the existing unique circumstance for a global pandemic or other public health emergency that increases patients diagnosed with medical conditions treated by MDIs to include ''healthcare system needs.'' In the proposed rule, EPA noted that the reference in the regulations to an ''other public health emergency'' is not limited to situations where the Department of Health and Human Services (HHS) has officially declared a public health emergency.

EPA proposed to define a healthcare system need as circumstances where an increase in demand for MDIs used to treat asthma, chronic obstructive pulmonary disease, and other respiratory diseases may occur because of a change in market conditions that otherwise would not be included in calculated rates of growth.

EPA provided the following examples of the types of events that could fall into a healthcare system need:

- A manufacturer that makes MDIs outside of the United States stops selling approved MDI products in the United States;
- Major recall or suspension of production of alternative (non-MDI) emergency asthma treatments prompting increase in MDI demand;
- Change in preferred products from pharmacy benefit managers or state Medicare programs to patients;
- FDA compliance or enforcement actions that impact MDI market dynamics by reducing availability of generic drug products;
- Significant increase in respiratory infections in the general population (*e.g.,* respiratory syncytial virus (RSV), coronavirus disease (COVID)); and
- Decrease in availability of active pharmaceutical ingredient or device component for one or more MDI manufacturers causing a supply shortage.

All comments received on this proposal were supportive. Therefore, EPA is finalizing the expansion of the scope of the unique circumstance for a global pandemic or other public health emergency that increases patients diagnosed with medical conditions treated by MDIs to include ''healthcare system needs.''

If an entity is requesting consideration for this unique circumstance, they must submit supporting documentation that allows EPA to verify this request. Supporting documentation for a unique circumstance has been a requirement under 40 CFR 84.31(h)(1)(viii), and entities will be required to continue providing this documentation if requesting consideration of additional allowances due to ''healthcare system needs.'' Examples of such documentation could include, but are not limited to, market share and/or sales data (*e.g.,* IQVIA or internal company data), press releases announcing a particular MDI product leaving the market, or supplier announcement or other communications regarding a supply shortage for a particular MDI device component. EPA will determine if other forms of supporting documentation are acceptable on a case-by-case basis. Additionally, as described in the proposed rule, EPA intends to consult closely with FDA and potentially HHS more broadly before allocating allowances for ''healthcare system needs.''

2. Economic Disruptions

The first new unique circumstance EPA proposed to create was for economic disruptions outside the immediate control of the entity applying for ASAs, such as an economy-wide recession or other documented short- or medium-term market events that negatively impact a company's operations. In the proposed rulemaking, EPA described the types of documentation that an entity would be required to submit in its request including documentation verifying that the disruption has taken place and that it has materially impacted the entity's HFC needs.

Several commenters generally supported EPA's proposal. One commenter supported EPA's proposal that the requesting party would need to provide documentation to verify the event occurred, the current status of the event, and how the event impacted HFC needs. EPA acknowledges the commenters' support.

One commenter stated that requests for allowances under this unique circumstance would be likely due to the cyclical nature of the application, as well as other events, including shifts in market share based on competitiveness of the product mix, changes in product mix which change use of HFCs, ramp of new technology nodes, and new investment. This commenter also requested further clarity on the scope and required documentation to qualify for the use of this unique circumstance.

In the proposal, EPA described this proposed unique circumstance as applying to ''documented short- to medium-term market events that negatively impact a company's operations,'' (89 FR 75898, 75927, September 16, 2024). In reviewing the commenter's input, and upon further consideration of the proposal, EPA has determined that the proposal did not include a definition or sufficiently discuss the types of events that would qualify under this unique circumstance. Without additional specificity beyond what was proposed, EPA has concerns that this unique circumstance could not be appropriately evaluated and decided within the context of individual allocation decisions.

While commenters supported the proposal in concept, some were unsure what the scope of the proposed unique circumstance would include and on the types of documentation needed to demonstrate eligibility for the proposed unique circumstance. Others did not provide any additional specificity or constructive feedback on how to further operationalize the proposed unique circumstance. In the one instance where specificity was provided on the types of additional situations that could be eligible, the events appear to be outside the scope of what was proposed. The examples mentioned in the comment, *e.g.,* new manufacturing processes, new products and technology improvements, and investments in new facilities, are not short- to medium-term economic disruptions and commenters did not explain how these events would qualify as such. Further, these situations appear to be covered by the existing unique circumstance for new manufacturing capacity coming online, at least in part.

While EPA acknowledges the potential for unanticipated short- to medium-term disruptions that could lead to a need to purchase HFCs beyond what is reflected in the regulatory formula, the Agency has not seen such a situation occur to date and has concerns that the term ''economic disruption'' as proposed was not specific enough for the Agency to finalize a change at this time. The Agency plans to monitor the issue and engage with stakeholders further on this

concept as requested by commenters and may repropose a new unique circumstance to address such events in the future if warranted.

3. Stockpiling

The second unique circumstance EPA proposed to add was building a stockpile of a specific HFC in the event a major producer for an application announces they will be ceasing production of the HFC used by the application-specific entity in the near future. An entity could request additional allowances for the purpose of building inventory ahead of a supplier ceasing production. For an entity to be eligible for additional allowances under this unique circumstance, EPA proposed that the entity must provide EPA with a letter from their supplier signed by a responsible corporate officer stating that the supplier is ceasing all production of the HFC at issue within three years. Further, EPA proposed that an eligible entity must certify that they have regulatory requirements beyond the 40 CFR part 84 requirements that limit its ability to switch suppliers or there are no other suppliers that could meet their needs (*e.g.,* because there are no other chemical manufacturers that can supply the needed HFC). EPA proposed to also require evidence that the entity has a restricted HFC supply chain, such as required purity requirements. If additional allowances were granted because of this requested unique circumstance, EPA proposed to require reporting specific to the building of inventory by the entity that would be allocated ASAs in advance of their supplier's production facility ceasing production. Such inventory buildup must be held by the entity that is allocated allowances, and EPA would subtract those quantities from the entity's purchase history such that it is not included in the regulatory formula to determine the entity's allocation the following year.

EPA received a number of supportive comments on the proposal. One commenter stated that the potential need for building a stockpile at some point is well supported by the historical experience with the chlorofluorocarbon MDI transition, while another commenter representing the semiconductor industry stated that with the cyclical nature of semiconductor manufacturing, such a unique circumstance may be likely. Another commenter also found it reasonable that EPA require an entity requesting this unique circumstance to provide the Agency with a letter from their supplier signed by a responsible corporate officer stating that the supplier is ceasing all production of the HFC at issue within three years; certify that the entity has regulatory requirements beyond CFR part 84 requirements that limit the entity's ability to switch suppliers or there are no other suppliers that could meet their needs; and provide evidence that the entity has a restricted supply chain.

EPA acknowledges commenters' support of the proposal. EPA agrees with the commenter that the Agency should not authorize a stockpiling unique circumstance without strong evidence that alternative supply sources are not available. As EPA stated in its proposal, an entity would need to certify that there are no other suppliers that can supply the regulated substances in the quantity that they need. EPA recognizes that this unique circumstance should only apply in situations when an entity has no other avenue in which to procure the HFCs to meet their full needs in the near future in the event their supplier announces that they are no longer producing the relevant HFC material.

Another commenter stated that EPA should not authorize a stockpiling unique circumstance without finding that the supply from alternative sources is and will be insufficient for the expected life of the stockpile, and that the ASA holder should not transfer the HFCs it stockpiled because of a supplier closure to any other entity.

EPA does not agree that it needs to determine that supply is unavailable for the full lifetime of the stockpile. EPA is finalizing this unique circumstance in a narrow manner such that the provision as finalized will require that (1) the ASA holder have regulatory requirements beyond the 40 CFR part 84 requirements that limit its ability to switch suppliers or document that there are no other suppliers that can supply the regulated substances in the quantity that they need and (2) the requester provide evidence that it has a restricted HFC supply chain. The commenter did not provide any rationale for why these requirements were not sufficient or why the Agency would need to review whether supply is unavailable for the full lifetime of the stockpile. Additionally, building and managing a stockpile is not a decision that most manufacturers would make lightly. As discussed with stakeholders prior to the development of the proposed rule, there are upfront costs associated with creating a multiyear stockpile and then ongoing costs associated with managing a stockpile, *e.g.,* to avoid contamination and leakage. There may also be limitations on how long the HFCs can be stored (*e.g.,* EPA understands the shelf life for HFCs for pharmaceutical grade HFCs can be five years before they would potentially need to be reprocessed back to purity specifications). These factors decrease the incentive to choose stockpiling over switching suppliers.

EPA does not see the need to limit the ability of an ASA holder to transfer or sell the HFCs it stockpiled under this unique circumstance. Under current regulations in place before this rulemaking, HFCs acquired by expending ASAs must be used solely for the application for which they were produced or imported, and entities must report that sale or conveyance to EPA (40 CFR 84.5(c) and 84.21(a)). As a result, an entity could only sell or convey HFCs if they were for use within the same application. The commenter did not provide a rationale for why EPA should add additional restrictions for regulated substances acquired under this unique circumstance. This additional limitation would effectively require entities to destroy or permanently hold onto any unused HFCs when they could meaningfully be deployed for use in the same application. EPA considers using already produced HFCs to be a better outcome than destroying those HFCs or forcing them to remain in storage indefinitely, where there would be a higher risk of leakage. Furthermore, EPA sees advantage in allowing entities within the same application to transfer or sell regulated substances in this situation, given that entities using the same regulated substance for the same application may face similar supply challenges.

EPA is finalizing the proposed requirement to add the unique circumstance of building a stockpile of a specific HFC in the event a major producer for an application announces they will be ceasing production of the HFC used by the application-specific entity in the near future. Any entity requesting such unique circumstance must provide sufficient evidence of the following to be eligible:

(1) Confirmation that its supplier is ceasing production of the specific HFC needed within three years. This must be documented in a letter from its supplier signed by a responsible corporate officer at the company.

(2) Certification that the requester has regulatory requirements beyond the 40 CFR part 84 requirements that limit its ability to switch suppliers or that there are no other suppliers that can supply the regulated substances in the quantity that they need. The requester should submit the specific regulatory requirements or if the requester is

certifying that there are no other suppliers that could meet their needs, an entity must provide documentation of due diligence to identify and secure supply from potential alternative suppliers. This documentation is especially relevant for cases in which there is more than one global producer of the regulated substance. This documentation may include a signed certification from a responsible corporate officer at other producers of the regulated substance certifying that they are not able to supply the regulated substance in sufficient quantities to the requester.

(3) The requester has a restricted supply chain. While required purity requirements were cited as an example in the proposed rulemaking, EPA envisions that an entity could provide different types of evidence of a restricted supply chain, such as third-party reports demonstrating the limited number of producers or purifiers of the HFC being used and/or the specific purity requirements that make it challenging to acquire HFCs that limit the available supply.

Entities submitting a request under this unique circumstance must specify how much of each HFC they intend to purchase (in kg) and the year(s) they intend to purchase the HFCs in. The request should also include a description of the requester's plan. If the requester intends to build its inventory over multiple years, they should continue requesting a unique circumstance for stockpiling in each of the years they hope to acquire HFCs for the stockpile.

Finally, in the proposed rule, EPA stated that it would subtract quantities purchased to build a stockpile from the entity's purchase history such that it is not included in the regulatory formula to determine the entity's allocation the following year. EPA received no adverse comments on this proposal. To implement the proposal EPA is requiring that entities include information in their request on how long they expect their stockpiled material to last or when they expect to fully draw down the stockpiled material. This should be updated annually if building an inventory over multiple years. After approval of the unique circumstance, entities must track and manage their inventory of the stockpiled HFC separately from their other inventory, and report biannually on the buildup and drawdown (including sales or conveyance to another entity) of the stockpile until the stockpile is depleted.[28] This reporting requirement applies even if the allowance holder is no longer requesting additional allowances. This approach will ensure that for as long as there is a stockpile, the entity receiving the allocation will receive allowances commensurate with non-stockpile use. The Agency expects this will be a relatively straightforward task given the HFC that is being stockpiled would be hard to otherwise acquire once a supplier stops providing it.

C. Inventory

EPA's current regulations require entities receiving ASAs to provide, as part of their biannual reporting requirements, information on the quantities of HFCs left in their inventory at the end of the previous six-month reporting period (40 CFR 84.31(h)(1)(iv)). Upon finalization of this rulemaking and heading into the allocation of calendar year 2026 allowances, EPA will have several years of data on inventory, including how inventory levels have changed over time. In the Allocation Framework Rule, EPA noted its intent to account for changes in inventory in the allocation of ASAs.

EPA proposed to include verified changes in inventory into the calculation of the quantity of HFCs an entity used over the 12-month period for all applications except MCMEU. EPA noted in the proposed rulemaking that incorporating changes in inventory would yield a more accurate reflection of HFC use than if the Agency were to look at HFC purchases alone. EPA proposed to factor in both drawdown and growth in inventory, meaning that a drawdown of inventory would be added to HFC purchases and a buildup of inventory would be subtracted from HFC purchases in determining an entity's HFC use for the year. EPA alternatively proposed to not incorporate small amounts of growth (*i.e.,* below 20 percent) in inventory in allocation decisions or, alternatively, growth in inventory for only a single year. EPA also proposed as another option that entities may provide a rationale as to why a buildup in inventory should not be incorporated.

EPA received one comment regarding EPA's proposal to account for changes in inventory in allocation decisions. The commenter stated that incorporating inventory may have a place in calculating allocations, but the commenter expressed concern that its implementation could lead to unintended consequences. For example, the commenter presented a hypothetical scenario in which a company drew down inventory before the finalization of this rule and subsequent to the finalization of this rule rebuilds that inventory. In this scenario, the commenter posits that the company would not have received the benefit of higher allocations from drawing down inventory pre-finalization, and their calculated usage would be reduced by growing inventory post-finalization.

In response to the commenter, EPA acknowledges that any change in the methodology by which the Agency allocates allowances could result in changes in the amount that an entity is eligible to receive. However, subsection (e)(4)(B)(iv)(I) of the AIM Act directs EPA to ''allocate the full quantity of allowances necessary, based on projected, current, and historical trends.'' In order to meet that directive, EPA has determined it is appropriate to evaluate and refine the allocation methodology so that the Agency is able to best approximate the number of allowances an ASA holder may need in the next calendar year. After multiple years of implementing the phasedown, EPA has noted challenges with relying heavily on purchase history to calculate ASA allocations, and some stakeholders have raised concern as well. Some ASA holders that tend to purchase HFCs at irregular intervals have experienced considerable swings in the amount they have been eligible for year-to-year, even in cases where their annual HFC usage has remained relatively steady. While the circumstances and data for each individual company are different, the Agency anticipates that incorporating changes in inventory will generally result in more stable allocation amounts year-to-year and better reflect company needs.

The same commenter expressed support for EPA's alternative pathway to exclude small amounts of growth in inventory in allocation decisions or to exclude a single year of inventory growth. The commenter's rationale for excluding small amounts of growth in

[28] An entity allocated allowances under this unique circumstance will receive an allocation based on the regulatory formula, including all other eligible unique circumstances, and an amount based on the stockpiling unique circumstance. Any HFCs purchased for the stockpile should be tracked separately and reported as inventory buildup. This amount would at minimum be the difference between the total amount acquired in the year minus the non-stockpile portion of the allocation and the maximum amount would be the total amount of allowances allocated for stockpiling. For example, if an entity was allocated 500 allowances based on historic purchases and changes in inventory plus an additional 1,000 allowances under the stockpiling unique circumstance, any amount acquired in the year above 500 allowances' worth would be the minimum amount of HFCs that would be considered as entered into a stockpile and 1,000 allowances worth would be the maximum.

inventory in allocation decisions was that including the full amount of inventory growth could reduce an entity's allocation.

EPA has considered this comment, but in developing the final rule has determined that such a methodology does not align with the best interpretation of the statutory directive in subsection (e)(4)(B)(iv)(I) of the AIM Act to ''allocate the full quantity of allowances necessary, based on projected, current, and historical trends.'' As previously noted, EPA considers that the inclusion of inventory drawdown and buildup in allocation decisions will yield a more accurate reflection of HFC use than HFC purchases alone. If the Agency moved forward with excluding small amounts of inventory buildup, it would be detrimental to the concept of accurately estimating an entity's use and could result in over-allocating to ASA holders. Allowing an entity to provide a rationale as to why a buildup in inventory should not be subtracted from the quantities of HFCs they annually acquire would similarly detract from the Agency's intent to approximate the entity's use with the greatest accuracy possible and could result in over-allocation. Given there is a finite pool of allowances available in each calendar year, over-allocation to ASA holders would come at the expense of general pool allowance holders.

Finally, the same commenter encouraged EPA to finalize a definition of inventory to prevent inconsistent reporting. Specifically, the commenter suggested that EPA finalize a definition for inventory that reflects the quantity of inventory stored in containers, including heels, but excludes containers in service. While EPA sees benefits to defining how an entity should report what is to be included when calculating the amount of HFCs in inventory and may revisit it in the future, EPA did not propose and is not finalizing that entities report inventory based on a specific definition at this time. For the first few years of the allocation program, EPA has communicated to ASA holders that each individual entity should report inventory in a consistent manner year-over-year, and the Agency will continue to encourage ASA holders to maintain rigorous inventory tracking systems so that they are able to report the quantity of regulated substances held in inventory with accuracy. However, EPA understands that entities receiving ASAs are in differing applications (*e.g.,* aerosol fillers versus semiconductor etching) and that they may have different ways of maintaining inventory. Therefore, EPA will continue to evaluate whether an entity has reported inventory in an appropriate manner on a case-by-case basis. For example, EPA would not accept an ASA biannual report if an entity reported inventory buildup without documentation for how those HFCs had been acquired.

EPA is finalizing as proposed that the Agency will include verified changes in inventory into the calculation of the quantity of HFCs an entity used over the 12-month period for all applications except MCMEU. The Agency will factor in both drawdown and growth in inventory, meaning that a drawdown of inventory would be added to HFC purchases and a buildup of inventory would be subtracted from HFC purchases. EPA is not finalizing its alternative pathway to exclude small amounts of growth in inventory for allocation decisions or its proposal that entities may provide a rationale as to why a buildup in inventory should not be subtracted from the quantities of HFCs they annually acquire. In developing this final rule, EPA has determined it is also necessary to add an additional required reporting element on regulated substances sold, returned, or otherwise conveyed to another entity. EPA has determined this is necessary so that an entity's sale of HFCs does not artificially appear to be a drawdown in available inventory attributed to use in allocation determinations. For the purposes of this additional reporting element, EPA is not requiring ASA holders to report the return of heels in cylinders to an entity's supplier.

D. Methodology for Small Purchasers of HFCs, Entities That Do Not Purchase HFCs Every Year, and Entities With Irregular HFC Use

Since beginning the allocation program, EPA has observed that there are certain entities for which the regulatory formula either is not able to calculate an allocation or applying the terms of the regulatory formula would produce absurd results. EPA proposed to create an alternative method of allocating to these entities. Specifically, EPA proposed to create an alternative methodology for entities that fall in any of the following categories: (1) entity has small purchases of HFCs (<100 kg) at least one of the last three years and an AAGR of 200 percent or higher, (2) entity has zero purchases in one of the last three years for reasons other than newly using HFCs, or (3) entity's HFC purchases add up to less than 100 kg in each of the previous three years. For entities that fall into these categories, the Agency proposed to allocate the highest, as measured in exchange value equivalent (EVe), verified purchase amount in the last three years. EPA also solicited comment on whether the Agency should round allowance allocations for very small purchasers (*i.e.,* entities whose HFC purchases add up to less than 100 kg in each of the previous three years) to account for purchase of a specific cylinder volume. Further information about the rationale behind this proposal can be found in the proposed rule.

EPA did not receive adverse comments on how the Agency proposed to define the categories of entities that would fall under the alternative methodology proposed. Therefore, EPA is largely finalizing the three categories as proposed. However, in light of more general concern raised that the proposed methodology may not fully address industry fluctuations, EPA is making a modification for entities who have a significant decline in HFC usage in Year 3 as compared to Year 2. For example, an entity that uses 15,000 MTEVe in Year 1, 20,000 MTEVe in Year 2, and 500 MTEVe in Year 3 would have an AAGR of −32% and would only be eligible for 339.6 MTEVe of allowances in the following calendar year, which, assuming Year 3 was an aberration, would be an unreasonable allocation. It is not EPA's intent for the methodology to unintentionally penalize entities for a market fluctuation and/or need to only use a minimal amount of HFCs in a given year. EPA is therefore finalizing the converse of a tripling of growth represented by an AAGR >200 percent—an entity will be considered an irregular user of HFCs if its Year 3 usage is ≤33 percent of its Year 2 usage, *i.e.,* the entity has a ≥67 percent decrease in HFC usage from Year 2 to Year 3.

EPA had proposed that entities in this irregular HFC user category would be allocated the highest verified purchase amount in the last three years, as measured in EVe. EPA stated that it was taking comment on whether the Agency should look back further at up to five years' worth of purchase history and also solicited comment on whether EPA should round allowance allocations for very small purchasers to account for purchase of a specific cylinder volume. EPA did not receive comment on either of these issues for which it solicited comment.

One commenter stated that while this alternate methodology may be helpful, it may still not be sufficient for changes in use and typical industry fluctuations and requested that EPA consider a minimum allocation for entities in a specific application, suggesting 5,000 MTEVe.

EPA disagrees with the commenter's suggestion to allocate a minimum number of allowances to entities in the semiconductor application. Providing a set minimum allocation to any entity requesting allowances in the semiconductor application does not align with the AIM Act's direction that EPA ''allocate the full quantity of allowances necessary, based on projected, current, and historical trends.'' A set minimum allocation level would not be tailored to the allocation level ''necessary'' nor would it be ''based on projected, current, and historical trends.''

The commenter did not provide an explanation of why providing a minimum allocation would be the best reading of the relevant statutory language. EPA considers its ASA allocation methodology to be the best read of Congress's directive because it is specifically based on historical HFC usage trends, while also allowing for an entity to request additional allowances for verified unique circumstances (40 CFR 84.31(b)(1)) which document where the entity is trending currently and will be in the future. EPA's best interpretation of the statutory direction in the AIM Act is that all applications receiving ASAs should be allocated allowances in the same manner. The AIM Act directs EPA to ''allocate the full quantity of allowances necessary . . . for the production or consumption of a regulated substance for the exclusive use of the regulated substance in an application solely for [the six applications being discussed in this rulemaking],'' and nowhere suggests that one application may be allocated allowances in a different manner or otherwise treated independently from the other applications receiving ASAs.

Further, the commenter did not provide any data or information that would substantiate their statement that allocations have not been sufficient to date or would be insufficient in the future. In fact, data from previous years suggests allowances allocated to all ASA holders are sufficient. For example, the semiconductor application, which has the largest number of applicants, has left a substantial number of allowances unexpended in previous years; in 2023, 39 percent of semiconductor allowances (approximately 741,000 allowances) went unexpended, and in 2024, 30 percent (just over 550,000 allowances) went unexpended. These unexpended allowances can be transferred to meet the needs of entities within the same application, should there be a need for additional allowances by an entity in the semiconductor application. Further, based on EPA's review of the data, there isn't technical support for 5,000 MTEVe as an appropriate minimum allocation, and the commenter did not provide a basis for the amount. Further, the data does not support a decision to choose any other specific quantity to serve as a minimum allocation. Entities applying for ASAs range in size and HFC needs. In calendar years 2023, 2024, and 2025 allocations, approximately 40 percent of ASA applicants were eligible for less than 5,000 MTEVe of allowances, and 15 to 20 percent were eligible for less than 1,000 MTEVe. Of the 20 entities receiving less than 5,000 MTEVe for calendar year 2025 allowances, 15 had also received less than 5,000 MTEVe in 2024, and 11 had received less in 2023 (three entities received allowances for the first time in 2024). EPA is not aware of widespread concerns with entities not receiving allowances commensurate with their planned use, and many of the entities even requested a total allocation substantially below 5,000 MTEVe.

In the near term, if entities require more allowances beyond their allocation, ASA holders can either receive a transfer of allowances from other entities within their application, as noted above, or from general pool allowances holders, or they can acquire additional HFCs from the open market. EPA further notes that, given the finite pool of allowances available in each calendar year, any overallocation of ASAs lessens the number of allowances available to general pool allowance holders. Following finalization of this rule, the Agency will continue to monitor ASAs and has the ability to undertake future rulemakings to pursue additional methodology updates if appropriate.

Therefore, EPA is finalizing that the Agency will allocate to the highest amount in the last three years beginning with the allocation of calendar year 2026 allowances. Because EPA is finalizing the proposal to incorporate inventory usage into calculation of entities' AAGRs (see section VII.C. for more information), whether an entity qualifies for the alternative allocation methodology will be based on AAGR where relevant, and therefore inventory use will be taken into account in the determination. Further, allocation decisions will be made based on use, not purchases. EPA is thereby finalizing that entities that qualify for the alternative methodology here will be allocated allowances in a quantity equivalent to the highest verified use amount in the last three years, as measured in EVe.[29]

[29] Entities newly using HFCs within the past three years are not intended to be captured under the categories described in this section unless they have zero purchases in one of the last three years for reasons other than newly using HFCs (*i.e.,* zero purchases in a year after they began using HFCs). For an entity newly using HFCs, EPA would calculate its base allocation (*i.e.,* the eligible amount based on historical activity) by multiplying that entity's Year 3 HFC usage by the higher of the application-wide AAGR or one.

E. Department of Defense Conferrals

In the Allocation Framework Rule, EPA finalized that anyone conferring an ASA, except for the conferral of allowances for MCMEU, would be required to submit information about each conferral prior to conferring allowances (40 CFR 84.31(h)(4)). While DOD was not required to submit conferral information to EPA, DOD was required to maintain records documenting the conferral(s) of ASAs to other entities up to and including the producer or importer of the chemical (40 CFR 84.31(h)(7)(iv)).

In order to ensure that imports are not delayed or denied, EPA proposed to modify the 40 CFR part 84, subpart A regulations to require that conferrals of MCMEU allowances be reported to EPA consistent with the process for all other ASA holders in 40 CFR 84.31(h)(4). This would include the identity of each conferrer and conferee and the quantity in MTEVe of ASAs being conferred. More detailed information on the reasons why EPA proposed this change is available in this rulemaking's proposal (89 FR 75898, September 16, 2024). EPA also proposed to require that a certificate number, generated by DOD, be reported to EPA for each conferral and expenditure of MCMEU allowances. For example, if an intermediary receives a conferral of MCMEU allowances from DOD and then confers the allowances further to a supplier, both DOD and the intermediary must report the same certificate number as part of the conferral. When the supplier expends the conferred MCMEU allowances for production or import of HFCs, the supplier must report the certificate number in the same report in which the expenditure of MCMEU allowances is reported. EPA made this proposal in light of a suggestion from DOD that requiring such information would be helpful for administrative efficiency of this program.

EPA did not receive any comments on any aspect of these proposed changes and is therefore finalizing these changes as proposed.

F. Limited Set-Aside for Unique Circumstances Related to Metered Dose Inhalers

EPA proposed to create a set-aside of allowances that would be available for

the use of HFCs as a propellant in MDIs if the requester meets the criteria for the unique circumstance established in 40 CFR 84.13(b)(1)(iii), including the changes described in section VII.B.1. In other words, this would be a set-aside to accommodate unforeseen need for regulated substances related to a global pandemic, other public health emergency, or other healthcare system needs related to increased patients diagnosed with medical conditions treated by MDIs. Application-specific entities could apply to EPA for these allowances based on a demonstrated need to purchase more HFCs in the present calendar year in light of events that were unforeseen at the time of the entity's application for ASAs for the calendar year at issue and that qualify under 40 CFR 84.13(b)(1)(iii), as modified in this rule. EPA took comment on whether there are other analogous situations where an unexpected increased need for HFCs resulting from the other established and proposed unique circumstances could arise in which the facts would justify the potential use of another set-aside for ASA holders. EPA also solicited comment on whether, because historic producers and importers of HFCs for application-specific uses may be effectively receiving a ''double allocation,'' a set-aside is not truly needed, or if a set-aside is necessary because historic importers and producers are requiring conferral of ASAs to meet the needs of application-specific entities.

Multiple commenters supported the creation of a set-aside pool for unique circumstances that meet the criteria defined in in 40 CFR 84.13(b)(1)(iii), as updated. One commenter noted the proposal is responsive to previously raised concerns that ''the annual allocation decision may not adequately account for increased needs and is not flexible enough to respond to changed circumstances,'' with the COVID–19 pandemic being a good example, as EPA had raised in the proposal. No commenters suggested this limited set-aside should be expanded to other unique circumstances and applications, and one commenter specifically stated that a set-aside for the semiconductor application is unnecessary. The commenter noted there was no justification for an HFC–32 set-aside because the analysis in this rulemaking is that HFC–32 is not ''insufficient to supply the ASA sectors,'' and ''production or import with general pool allowances will be able to satisfy any increase in demand in the ASA sectors for HFC–32.''

EPA acknowledges commenters' support of EPA's proposal. EPA is finalizing as proposed that this set-aside pool of allowances would only be available for unique circumstances that meet the criteria defined in 40 CFR 84.13(b)(1)(iii), as updated through this rulemaking. EPA plans to consult with FDA in determining whether the presented situation meets the criteria as defined. Examples of scenarios can be found in section VII.B.1. of this preamble and the proposed rule.

In addition to a requester demonstrating that they meet the criteria for the unique circumstance as defined in in 40 CFR 84.13(b)(1)(iii), EPA noted in the proposed rulemaking that, at a minimum, it would be appropriate to require a requesting entity to present EPA with information on how facts have changed that were unknowable at the time the entity applied for that year's ASAs and also evidence that the entity has been unable to acquire needed HFCs from the open market or through allowance transfer, as well as that EPA would likely require at least some of the records described in section VI. EPA took comment on any other evidence requesters should provide when applying for set-aside ASAs and on the appropriate records that would need to be provided to EPA to document the entity's unsuccessful efforts to acquire HFCs without additional allowances from EPA.

EPA did not receive comments on required records. EPA is thereby finalizing, as described in the proposal, that entities applying for this set-aside would need to provide EPA with the minimum information it noted in the proposal, *i.e.,* documentation that they meet the criteria for the unique circumstance as defined in 40 CFR 84.13(b)(1)(iii), information on how facts have changed that were unknowable at the time the entity applied for that year's ASAs, and evidence that the entity has been unable to acquire needed HFCs from the open market or through an allowance transfer. Examples of evidence that may be accepted include, but are not limited to, signed and notarized communication from responsible corporate officers from its approved suppliers and potential suppliers for the sector or related sectors that the application falls in stating that the currently used HFC(s) cannot be sourced; entities must also include the name of the entity or entities supplying regulated substances for and contact information for those suppliers over the past three years. In addition, EPA is finalizing that entities should provide the total quantities (in kg) of regulated substances held in inventory as of the date the application is submitted, including documentation to verify this quantity (this includes zero quantities), and an explanation of why that inventory, if available, will not be sufficient to accommodate this increased demand.

EPA presented a series of options for comment on how such a set-aside pool would be created. Under Option 1, EPA would form this pool by setting aside 10 percent of the allocation of entities that produced or imported HFCs during 2011–2019 to serve the applications eligible for ASAs, except MCMEU. The second option EPA presented was to create this set-aside pool from any revoked allowances, including from administrative consequences already finalized. Under this second option, instead of redistributing revoked allowances to all other allowance holders, EPA would put the revoked allowances into a set-aside pool in case additional ASAs were needed as a result of a public health emergency. A third option was to hold back a set amount of allowances from all general pool allowance holders. EPA proposed that the Agency could hold back allowances in the range of 500,000 to 1,000,000 MTEVe production and consumption allowances. EPA also proposed that this set-aside pool could be created from voluntarily returned ASAs, if that proposal was finalized.

Finally, as an alternative to creating a set-aside at all, EPA took comment on the possibility of allowing conferral of ASAs from other applications should an unforeseen event that meets the unique circumstance outlined in 40 CFR 84.13(b)(1)(iii) occur. In this occurrence, EPA would amend the regulations in 40 CFR 84.13(h) to allow ASAs to be conferred and expended to produce or import HFCs for application-specific use different from the application associated with the allowance.

Commenters were mixed on how this pool should be created. One commenter supported creating this pool from revoked allowances, and one preferred withholding 10 percent of allowances from historic producers and importers for ASA uses (Option 1) based on the information currently available and a desire to maximize certainty and flexibility; neither commenter explained their preferences in more detail. Another commenter raised multiple concerns about Option 1. Specifically, the commenter argued that withholding 10 percent is excessive and not justified, particularly given that ASA holders represent only 5 percent of consumption allowances for calendar year 2025. The commenter also flagged that EPA did not explain how it will gather data on

what entities sold HFCs to entities now being issued ASAs. The commenter also asserted that EPA did not show that entities that supplied for these applications are now benefitting from a ''double allocation.'' The commenter similarly argued that only producers and importers currently receiving conferrals, and conferrals larger than a *de minimis* amount, should contribute to this pool; the commenter further argued that only producers and importers of HFCs used by the MDI application should contribute to this pool, as producers and importers for other applications that do not use any of the same HFCs would not be able to supply the necessary HFCs should such a need arise. Comments on how voluntarily returned allowances should be distributed were mixed, but one commenter supported using voluntarily returned allowances for this set-aside pool; responses to these comments are covered in full in section VII.G. EPA did not receive comments on allowing transfers between applications or creating this set-aside pool from all general pool allowance holders.

EPA is not finalizing the proposal to allow for the voluntary return of allowances (see section VII.G.), so this option is not discussed further in this section.

Option 1 was originally EPA's preferred option; however, after considering comments received, EPA agrees with the commenter on the challenges and some of the potential inequities with this approach and thus is not finalizing this approach. EPA acknowledges that currently it does not have the required data to pursue Option 1, and it will be difficult to acquire such data going back to 2011 at this time. Further, as discussed in more detail below, EPA is finalizing the proposal to set aside a set number of allowances before allocating the remainder to the general pool.

While EPA agrees with the commenter that creating this pool from revoked allowances is a viable approach, EPA still has the same concerns that were raised in the proposed rulemaking. Specifically, to date, there have only been revoked consumption allowances.[30] Because entities can expend ASAs to either produce or import HFCs, if only consumption allowances were revoked, a pool of production allowances would still be needed to ensure entities can source ASAs from domestic producers, in addition to being able to import the HFCs (as consumption allowances allow). In addition, a pool created from revoked allowances would vary in size (*e.g.,* for calendar year 2025, EPA revoked 523,912.0 MTEVe of allowances, as compared to 272,329.6 MTEVe in calendar year 2024) and thus would lack stability and certainty around addressing the intent of this provision to ensure access to additional allowances in the case of an unforeseen public health emergency or other healthcare system need.

Commenters did not raise particular concerns with EPA's proposed approach to hold back allowances from the entire general pool to create this set aside. While EPA had noted some concerns in the proposal regarding potential inequity of holding back allowances from all general pool allowance holders to create this pool, upon further consideration and review of comments EPA sees benefits in subtracting allowances used for the set-aside from the full set of allowances available for the general pool allowance holders. This approach is consistent with how the Agency allocates for ASAs currently and also creates certainty in the size of the set-aside pool each year, as compared to creating a pool from revoked allowances.

EPA is thereby finalizing the option to withhold 1,000,000 MTEVe of consumption and production allowances from all general pool allowance holders to create this set-aside pool; this is significantly smaller than the Agency's proposal under Option 1, as it would withhold approximately 0.5 percent of all allowances allocated through 2029, compared to 10 percent under proposed Option 1. This pool of allowances is greater than 50 percent of the total number of allowances allocated to the MDI application for calendar year 2025,[31] which should be sufficient to address any future unexpected spikes in demand that qualify for this set-aside pool. During the peak of the COVID–19 pandemic, HFC usage increased by approximately 540,000 MTEVe (a 35 percent relative to pre-pandemic numbers), so 1,000,000 MTEVe (*i.e.,* an additional 50 percent over the total MDI allocation for 2025) provides a meaningful buffer. Should the size of this pool be shown to be insufficient, EPA could reevaluate the number of allowances withheld in a future rulemaking.

Therefore, EPA is finalizing in this rule that when EPA issues allowances annually it will issue allowances in the following order: first, allocate ASAs based on requests submitted by July 31 of that year (unchanged from the current approach), second, set aside 1,000,000 MTEVe allowances for potential additional ASA needs for the limited MDI needs described in this rule, and, third, allocate the remainder of allowances to the general pool based on each entity's market share (unchanged from the current approach).

EPA had proposed that allowances held back from the general pool, whether only historic producers and importers for ASA uses or all general pool allowances, would be withheld until April 30. If no application-specific entity applied for the allowances by April 30, then the withheld allowances would be issued to the entities from which they were withheld. If a request is pending, EPA would withhold allowances until that request was evaluated and allowances were issued. Such issuance would be done in a proportionate fashion if some, but not all, of the set-aside allowances were allocated to application-specific entities.

EPA did not receive comments on the dates by which set-aside allowances should be requested and unclaimed allowances would be released. Therefore, EPA is finalizing April 30 as the deadline by which entities must request allowances from this set-aside pool. EPA will not accept additional supporting documentation after this date but may reach out to entities to ask clarifying questions as needed. EPA will assess the validity of requests and will work to provide a notice of its determination and issue the set-aside allowances, if appropriate, within 60 days. If the total request for set-aside allowances is greater than the set-aside pool, EPA will distribute the allowances proportionally. For example, Entity A requests 600,000 allowances, Entity B requests 360,000 allowances, and Entity C requests 240,000 allowances, equaling a total of 1,200,000 allowances, which is greater than the size of the set-aside pool. Assuming all requests are verified, because Entity A's request is 50 percent of total set-aside allowances requested, Entity B's is 30 percent, and Entity C's is 20 percent, Entity A would receive 50 percent of the total available pool of allowances (*i.e.,* 500,000 MTEVe allowances), Entity B would receive 30 percent (*i.e.,* 300,000 MTEVe), and Entity C would receive 20 percent (*i.e.,* 200,000 MTEVe). If no set-aside allowances are requested, requests are not granted, or there are any remaining allowances after the set-aside pool is

[30] *See https://www.epa.gov/climate-hfcs-reduction/administrative-consequences-under-hfc-allocation-rule.*

[31] This includes consumption allowances allocated to GlaxoSmithKline, who is an MDI manufacturer and a historic HFC importer that is thereby eligible for both ASAs and consumption allowances.

distributed, EPA also intends to distribute any remaining set-aside allowances pro rata amongst general pool allowance holders within 60 days of the April 30 request date.

G. Return of Unneeded Allowances

EPA proposed to allow ASA holders to return their allowances voluntarily if they did not intend to use them. EPA proposed to use any returned allowances to either: (1) fulfill unexpected higher demand of another ASA holder (see section VII.F. on a limited set-aside for unique circumstances related to MDIs) or (2) return the allowances to the general pool of allowance holders proportionate to respective market shares. EPA solicited comment on this proposal, including whether it would be needed if EPA finalized other proposals outlined in the proposed rulemaking. EPA was particularly interested in whether this proposed approach would be needed if EPA finalized the requirement for entities to include in their application for allowances their anticipated need for the following calendar year (see section VII.A.). In addition, EPA proposed other potential sources of allowances for the limited set-aside for unique circumstances related to MDIs (see section VII.F.).

EPA received mixed comments on the proposal to allow ASA holders to return their allowances voluntarily. One commenter supported the proposal and suggested that EPA retain the flexibility to redeploy returned allowances based on the most urgent need. Another commenter, a general pool allowance holder, conditionally supported the proposal if returned allowances were redistributed to the general pool. A third commenter, an ASA holder, opposed the proposal, indicating that they would not be in a position to voluntarily return allowances and that returning allowances could limit the availability of intra-application allowance transfers.

EPA is not finalizing the proposal to allow ASA holders to return their allowances voluntarily at this time for several reasons. First, as mentioned earlier in this section, EPA proposed a variety of sources of allowances that could support the limited set-aside for MDIs described in section VII.F. Because of EPA's decision to finalize setting aside 1,000,000 MTEVe of allowances before allocating to production and consumption allowance holders, EPA anticipates that there will be a sufficient number of allowances available to support the set-aside already. Second, EPA is not aware of any ASA holders who have suggested that they would voluntarily return allowances. No ASA holders commented in support of this flexibility and as previously noted, one ASA holder commented that they would not be in a position to return allowances due to unpredictability in the HFC supply chain. Therefore, it seems that at the present time this mechanism would not be used. However, EPA sees benefit in continuing to consider whether a mechanism for unused ASA allowances may be beneficial. Third, as described in section VII.A., EPA is finalizing the requirement that all entities provide their total expected HFC purchases for the next calendar year as a component of overall applications due July 31 for ASAs for the following calendar year. EPA noted in the proposed rulemaking that this change may help avoid overallocation on ASAs at the expense of general pool allowance holders, which in turn may reduce the amount of unused allowances held by ASA holders. Fourth, EPA noted in the proposed rulemaking, and a commenter agreed, that allowing for the return of unneeded allowances could limit the availability of allowances for transfer to another application-specific entity that has an unanticipated need for more allowances during the calendar year. Allowance transfers can be an important flexibility for ASA holders in the event that they need more allowances than they have been allocated in a given calendar year. Thus, while EPA is not finalizing returning unneeded allowances to the Agency, EPA instead encourages ASA holders with unneeded allowances to consider transferring those allowances to other entities within their application if any of those entities are seeking additional allowances.

H. Enabling Auctions of Illegally Imported HFCs

EPA proposed to amend the prohibition relating to the sale and distribution of illegally imported HFCs in 40 CFR 84.5 to clarify that a person may sell or distribute, or offer for sale or distribution, a regulated substance purchased at an auction authorized by U.S. Customs and Border Protection (CBP) if the buyer expended consumption allowances or ASAs in a quantity equal to the EV-weighted equivalent of the illegally imported regulated substances.[32]

EPA also proposed targeted changes to the reporting requirements to provide clarity in the regulations for how such purchases would be reported. Specifically, entities purchasing HFCs at auction would need to report the import of those HFCs (that was done by another entity prior to administration of the auction) under 40 CFR 84.31(c)(1) and maintain records consistent with 40 CFR 84.31(c)(2). In addition, EPA proposed that entities would use the entry date for the HFCs purchased at auction for purposes of 40 CFR 84.31(c)(1) reporting and maintain records of that purchase under 40 CFR 84.31(c)(2).

Additionally, EPA proposed that entities who purchase HFCs at auction would not be subject to the advance notification requirement in 40 CFR 84.31(c)(7) for HFCs purchased via an auction authorized by CBP, as the window for the notification would have already passed and EPA would be verifying whether a prospective purchaser has sufficient allowances as part of any auction. However, EPA proposed that entities would still have to provide notification to EPA via a CBP-authorized electronic data interchange system, such as the Automated Broker Interface, prior to the HFCs entering U.S. commerce and provide the same data elements as in 40 CFR 84.31(c)(7). If a certificate of analysis (*see* 40 CFR 84.31(c)(7)(xvi)) is not available at the time of filing entry, EPA proposed that the entity would need to do any required sampling and testing prior to sale in U.S. commerce.

Several commenters expressed concern at the appropriateness of auctions generally for the handling of illegally imported regulated HFCs and instead urged the Agency to require that these materials be destroyed at the expense of the illegal importer. Commenters argued that auctions would generally be inappropriate because an auction would force CBP into a particular outcome prior to them issuing a proposal for handling illegally imported HFCs, and the high organizational, creation, and facilitation costs for auctions would be better spent on other mechanisms such as import screening, sustainable management practices, and destruction orders. One commenter also expressed the same conceptual concern with auctions of previously illegally imported HFCs as they did with auctions for the statutorily-required yearly issuance of allowances.

At the outset, EPA is restating that the proposed amendment to the prohibition relating to the sale and prohibition of illegally imported HFCs in 40 CFR 84.5 was to clarify that a person may sell or distribute, or offer for sale or distribution, a regulated substance

[32] The sales provision in 40 CFR 84.5 does not apply to other government personnel or contractors that need to move the HFCs for eventual disposition consistent with the regulatory requirements, such as through an auction with verification by EPA prior to sale.

purchased at an auction authorized by CBP if the buyer expended consumption allowances or ASAs in a quantity equal to the EV-weighted equivalent of the illegally imported regulated substances. The Agency's proposal did not prejudge the outcome of the handling of illegally imported materials, nor was it an endorsement of auctions as a lead option over other outcomes such as re-export or destruction. Accordingly, EPA disagrees that the regulatory changes contemplated force EPA, CBP, or any other agency to pursue one specific action; instead, an auction is one possible outcome, and the regulatory changes simply provide flexibility for auctions to be operationalized if and when deemed appropriate.

In response to comments that the high costs and burdens associated with auctions would be better spent on monitoring legal HFC imports, supporting programs that promote sustainable HFC management practices, and carrying out what the commenter referred to as ''a more straightforward'' approach to requiring destruction, EPA notes that these regulatory changes do not require or necessitate the use of auctions, but rather preserve flexibility for auctions to potentially be pursued if and when deemed appropriate. Therefore, EPA does not view these comments as significant adverse comments with respect to the action proposed in this rulemaking. EPA also notes that other disposition options (*e.g.,* destruction of illegally imported HFCs) have significant costs without any opportunity to offset those costs.

EPA acknowledges the importance of monitoring for HFC imports. EPA notes that since 2021, the Agency has co-chaired an interagency task force on illegal HFC trade. Detecting, disrupting, and deterring illegal shipments of HFCs has been a priority for EPA and our interagency partners. In addition to daily monitoring of HFC imports, EPA and our federal partners have also made information technology enhancements such as upgrades to a filing system within the Automated Commercial Environment (ACE) specifically for HFCs that prohibit unknown importers or importers without sufficient allowances to file for entry. These enhancements allow EPA to more efficiently identify potential instances of illegal trade that could undermine U.S. businesses complying with the AIM Act.

For the reasons stated above, EPA is finalizing as proposed the amendment to 40 CFR 84.5 to clarify that a person may sell or distribute, or offer for sale or distribution, a regulated substance purchased at an auction authorized by CBP if the buyer expended consumption allowances or ASAs in a quantity equal to the EV-weighted equivalent of the illegally imported regulated substances.[33]

Closely joined to comments received in opposition of auctions as a concept generally for previously illegally imported HFCs, several commenters favored destruction of illegally imported HFCs at the importer's responsibility and cost. These commenters asserted that this approach ensures public safety by not introducing potentially harmful low-quality or unknown-quality HFCs, upholds the integrity of U.S. regulatory authorities by sending a clear message to illegal importers and would-be illegal importers, and prevents unfair competition against U.S. manufacturers who have made significant investments to meet environmental and regulatory standards. As noted in response to the prior comments, this rulemaking is not intended to choose one approach over another, but rather preserve flexibility for future decision making. Amendments being finalized in this rulemaking do not pre-judge an outcome or favor any outcome for illegally imported HFCs. Rather, these changes allow for the legal transfer of previously illegally imported HFCs by way of a very specific mechanism. Therefore, these comments are not significantly adverse to the regulatory changes EPA proposed here and do not require a response in the context of this rulemaking. However, in the interest of providing clarity to interested stakeholders on these issues, EPA is providing its view on these points below and will take commenters' concerns into account in making future decisions on disposition of illegally imported HFCs in cooperation and coordination with federal agency partners.

EPA has taken steps to address the concerns mentioned and disagrees with the commenters on their arguments against auctioning illegally imported HFCs. Note that under the provisions being finalized in this rule, EPA would only allow for auctioned HFCs to be sold or distributed in U.S. commerce if an equivalent amount of allowances are expended. To address concerns about quality and to ensure that all HFCs sold have an accurate label, sampling and testing and labeling requirements are in place for HFCs purchased at auction just like the requirements applicable to all other HFCs. Additionally, anyone buying HFCs through an auction would be prohibited, consistent with the sales and distribution restrictions at 40 CFR 84.5(i), from selling or distributing or offering for sale and distribution HFCs that are off specification (*e.g.,* refrigerants that do not meet the AHRI 700 purity standard) as included in EPA regulations.

Regarding the concern that auctioning illegally imported HFCs does not uphold the integrity of U.S. regulatory authorities, EPA disagrees. Any HFCs sold via an auction are HFCs that were attempted to be imported without the appropriate permissions (*e.g.,* allowances), were stopped, and were seized. The goods themselves and any value associated with them would be forfeited by the illegal importer. This upholds the integrity of the regulatory requirements by preventing the importer from bringing these into the United States without following applicable law and results in a complete financial loss to the importer. Additionally, the entity that attempted to import HFCs would still be subject to applicable civil and criminal penalties, as applicable, for violating the law.

EPA also disagrees with commenters' assertions that simply allowing an auction to occur may have negative economic effects against U.S. manufacturers. Any potential buyer would have to expend consumption allowances equal to the quantity acquired at auction. Since there are a finite number of allowances allocated each year and allowances will be expended for the quantity purchased at auction, this approach ensures there is no additional consumption beyond the limits in the AIM Act and implementing regulations at 40 CFR part 84, subpart A. In other words, the total pool of HFCs that can enter the U.S. market in a given year will not change if illegally imported HFCs are auctioned to an entity that will expend an equivalent number of allowances. Other than domestic producers, allowance holders are almost exclusively expending their allowances to import HFCs. By expending allowances for HFCs purchased at auction, these allowance holders are in effect offsetting quantities they would otherwise be importing, which is expected to result in no change in the quantity of HFCs produced domestically. Regarding concerns that there would be financial effects on U.S. manufacturers due to auctioned HFCs being sold at a below market price, EPA expects minimum pricing thresholds would reduce any effects. See the discussion later in this section.

The Agency also received comments on specific aspects of the physical goods

[33] The sales provision in 40 CFR 84.5 does not apply to other government personnel or contractors that need to move the HFCs for eventual disposition consistent with the regulatory requirements, such as through an auction with verification by EPA prior to sale.

as well as the process and criteria for holding an auction. These comments include: the quality and composition of auctioned materials and potential downstream effects on end users; payment of duties and tariffs; pricing that may undercut U.S. manufacturers; reclassifying the goods; and limiting the scope of who may bid on the goods.

As stated in responses to regulatory changes that were considered and being finalized in this rule, the changes contemplated in this rule are not intended to favor auctions as a means to handle illegally imported HFCs. Whether, and how, to pursue such an auction is subject to future decision making. However, EPA notes that to mitigate quality and component concerns for any downstream end user, EPA proposed that if a certificate of analysis (*see* 40 CFR 84.31(c)(7)(xvi)) is not available at the time of filing entry, the entity purchasing illegally imported HFCs would need to do any required sampling and testing prior to sale in U.S. commerce. The Agency is finalizing this provision with a minor adjustment to better reflect when the certificate of analysis is required, *i.e.,* if a certificate of analysis is not available by the time the auction concludes and the purchasing entity takes physical possession of the goods, the entity must perform any required sampling and testing prior to sale in U.S. commerce in accordance with 40 CFR 84.5(i)(3)(i), regardless of whether the entity meets one of the criteria contained in that subsection. EPA is also clarifying that in instances where a purchasing entity is repackaging regulated substances whether as a single or multicomponent substance, that they must perform lab sampling and testing in accordance with 40 CFR 84.5(i)(3)(i) even if a certificate of analysis was available at the time the purchaser took physical possession of the goods. As noted above and in combination with existing labeling and purity requirements, this ensures that the purchaser at auction knows the composition of the HFCs and whether those HFCs meet the regulatory purity standard prior to sale.

Several commenters urged EPA to require that any applicable tariffs or import duties, including anti-dumping and countervailing duties (AD/CVDs) be paid, either by the purchaser of the goods or prior to the goods being auctioned. EPA acknowledges the comment and the importance of preventing duty evasion. In addition to the authority and mandates of the U.S. Department of Commerce (DOC), CBP enforces AD/CVD laws by collecting the applicable cash deposits, administering AD/CVD entries, assessing and collecting final AD/CVDs, and enforcing AD/CVD on imports that evade AD/CVD orders. The comments on ensuring that tariffs and duties have been paid is outside of the scope of this rulemaking, and would require the Agency to determine details about factors including but not limited to scope, timing, and rationale that EPA does not have sufficient information at this time to develop. However, if the Agency pursues an auction, in collaboration with federal government partners, the Agency may consider whether to include a minimum pricing threshold to negate the detrimental effects to U.S. manufacturers of any potential dumping or countervailing. Upon verification that EPA requirements have been satisfied, CBP can affect a sale of forfeited property via national seized property contracts. These contracts are awarded by the U.S. Department of Treasury's Treasury Executive Office for Asset Forfeiture, and minimum pricing thresholds can be instituted.

Two commenters expressed concern that the auction of illegally imported HFCs could introduce below-market priced HFCs into commerce which would therefore unfairly compete against domestic companies that have followed the legal framework, borne the costs of compliance, and invested in new environmental and regulatory standards. Furthermore, these commenters contended that auctioning illegally imported HFCs at below-market prices may dilute efforts and incentives created by the HFC phasedown, specifically the adoption of lower EV alternatives. EPA responds that today's final rulemaking considers regulatory changes that could provide future flexibility to pursue an auction of previously illegally imported HFCs. This rulemaking does not consider potential criteria for any future auctions and the comments described in this paragraph are outside of the scope of this rulemaking. However, and as noted above, EPA may consider whether it is appropriate to include a minimum pricing threshold to remain competitive when compared to products from U.S. manufacturers as part of any future auction proceedings.

One commenter offered an alternative to EPA's proposal for administering an auction for previously illegally imported HFCs: these HFCs may be auctioned as ''recovered'' refrigerant which, once verified to meet AHRI 700 specifications, could be sold as reclaim to support compliance with reclamation requirements contained in the final 2024 Emissions Reduction and Reclamation Rule. This commenter also offered that only EPA-certified reclaimers who are also allowance holders may bid on the goods, that the illegal importer not be eligible to bid on the goods, that tariffs and duties have been paid, and that EPA must furnish information about the source of the material being offered at auction. EPA responds that the premise of referring to HFCs being auctioned as ''recovered'' is outside of the scope of today's rulemaking. However, in future development of an auction, if pursued, EPA would be unlikely to pursue commenter's suggestions given the definition codified in 40 CFR 84.102, for ''recover,'' which means:

> The process by which a regulated substance, or where applicable, a substitute for a regulated substance, is
>
> (1) removed, in any condition, from equipment and
>
> (2) stored in an external container, with or without testing or processing the regulated substance or substitute for a regulated substance.

One commenter suggested that entities subject to administrative consequences, or their affiliates, should be ineligible to participate in an auction of previously illegally imported HFCs. EPA reiterates that this rule is simply contemplating flexibilities that would allow future consideration of an auction. As a result, in the proposal EPA did not put forward limits or exclusionary criteria for entities who may bid on the auction of previously illegally imported HFCs.

One commenter expressed concern that auctions may have other unintended consequences, *i.e.,* they may encourage or incentivize continued illegal activities, and auctioned materials may be harder to track and ensure responsible use. The commenter alleged that by administering auctions, the illegal importers might see this process as an opportunity to legitimize their wrongdoing and continue importing HFCs in a manner that is inconsistent with EPA's regulations. The commenter expressed a concern that this may also embolden would-be illegal importers and lead to efforts to bypass EPA's regulations thereby flooding the U.S. market with illegal HFCs. EPA responds that as previously noted, the provision being finalized in this rulemaking only allows flexibility for the federal government to potentially pursue auctions, and therefore the Agency does not consider these comments to be significantly adverse to the regulatory changes proposed. EPA is not pre-judging the outcome of any illegal shipment nor is the Agency favoring auction over other final outcomes. EPA also notes that the commenter has only provided

conceptual arguments, but has not provided any data, information, or other compelling evidence to support the argument that illegal activity would be meaningfully higher if the goods were to be auctioned versus other outcomes such as re-export or destruction. However, EPA reaffirms our commitment to working with our federal partners to detect, disrupt, and deter illegal shipments of HFCs. If an auction were to be pursued, the entity that illegally imported would have their HFCs seized by CBP, losing all value and investment made to bring those HFCs into the United States illegally. Coupled with the need to purchase allowances, it is not clear how auctions would facilitate illegal trade, especially if the HFCs are auctioned with a minimum pricing threshold.

The commenter also expressed concern that there would be no guarantee that auctioned goods would be used in an environmentally responsible manner or according to regulatory standards. EPA does not view this comment as significantly adverse to the regulatory changes considered in this rulemaking. However, the Agency notes that entities must expend the appropriate number of allowances to cover the auctioned materials on an EV-weighted basis, thereby creating regulatory obligations for them if they weren't already an allowance holder. Among other things, the entity purchasing illegally imported HFCs at auction would be subject to certain reporting and recordkeeping requirements under 40 CFR 84.31(c), would be responsible for ensuring the quality and composition of the goods either through an existing certificate of analysis and/or additional lab sampling and testing, and would be subject to annual audits of certain HFC activities under 40 CFR 84.33. As applicable, purchasers of HFCs at auctions would also be subject to EPA's regulations under 40 CFR part 82, subpart F, where applicable, including but not limited to any recordkeeping provisions under the sales restriction contained in 40 CFR 82.154(c). Failure to abide by one or more of any of these traceable and tangible obligations created as a result of taking possession of or selling previously illegally imported HFCs could result in administrative consequences, traditional enforcement action, or a combination of the two. End users of any HFCs are also subject to EPA regulations implemented under the 2023 Technology Transitions Rule and the 2024 Emissions Reduction and Reclamation Rule.

EPA also proposed targeted changes to the reporting requirements to provide clarity in the regulations for how such purchases would be reported. Specifically, entities purchasing HFCs at auction would need to report the import of those HFCs (that was done by another entity prior to the auction purchase) under 40 CFR 84.31(c)(1) and maintain records consistent with 40 CFR 84.31(c)(2). The Agency did not receive any comments during the public comment period with respect to this proposed provision, and in the absence of any information that would deem these provisions to be inappropriate, EPA is finalizing this provision as proposed.

In addition, EPA proposed that entities would use the entry date for the HFCs purchased at auction for purposes of 40 CFR 84.31(c)(1) reporting and maintain records of that purchase under 40 CFR 84.31(c)(2). The Agency did not receive any comments during the public comment period with respect to this proposed provision, but after consultation with CBP specifically with respect using the date that entry was filed for the purposes of 40 CFR 84.31(c)(1), EPA is amending this provision to be the date that the goods were released to the entity purchasing the HFCs at auction. The Agency understands that there may be logistical issues that arise for CBP if the purchaser were to file for entry; accordingly, EPA is adjusting the date to use for the purposes of reporting to 40 CFR 84.31(c)(1) in a manner that should not materially affect either domestic or international compliance or reporting obligations while simultaneously not creating additional burden for another Federal Agency.

Lastly, EPA proposed that entities who purchase HFCs at auction would not be subject to the advance notification requirement in 40 CFR 84.31(c)(7) for HFCs purchased via an auction authorized by CBP, as the window for the notification would have already passed and EPA would be verifying whether a prospective purchaser has sufficient allowances as part of any auction. However, EPA proposed that entities would still have to provide notification to EPA via a CBP-authorized electronic data interchange system, such as the Automated Broker Interface, prior to the HFCs entering U.S. commerce and provide the same data elements as in 40 CFR 84.31(c)(7). The Agency did not receive any comments during the public comment period with respect to this proposed provision, but after consultation with CBP specifically with respect to the notion of the purchaser providing notification to EPA via a CBP-authorized electronic interchange system as the Automated Broker Interface, EPA is not finalizing this requirement. EPA understands that having a broker or importer transmit notification via a CBP-authorized electronic interchange system may create logistical issues for CBP, and accordingly will work directly with an entity purchasing HFCs at auction to ensure that the same information that is contained in 40 CFR 84.31(c)(7) is received prior to the HFCs entering commerce. Specifically, in lieu of entities providing notification to EPA via a CBP-authorized electronic data interchange system, entities who purchase HFCs through an auction shall provide information contained in 40 CFR 84.31(c)(7) directly to EPA in an electronic format specified by EPA. EPA had proposed that the required information be submitted within three business days of the HFCs being purchased at auction. However, after further reflection and recognizing that the general auction process would be novel to both government agencies and purchasers, EPA is finalizing that the required information must be submitted within 30 calendar days of the HFCs being purchased at auction and that the HFCs may not enter commerce until the required information is submitted. Additionally, transmittal shall also certify that the entity has expended the necessary allowances as of the date of purchase and will report the transaction(s) in the quarterly importer report required under 40 CFR 84.31(c)(1) as if the HFCs had been imported on the date the HFCs were released to the purchaser at auction.

I. Quarterly Exporter Reporting of Internal Transaction Numbers

ITNs uniquely identify shipments being exported from the United States to another country. EPA currently requires companies to report ITNs when they request additional consumption allowances after exporting bulk HFCs. EPA proposed to require companies, as part of reporting done pursuant to AIM Act subsection (d)(1), to additionally report ITNs quarterly for all HFC exports, but that exporters would not be required to report on their quarterly reports ITNs for shipments that are exempt from needing ITNs under CBP regulations. EPA did not receive comment on this proposal so is finalizing these changes as proposed. EPA did not propose any changes to the existing regulations related to RACAs, such that reporters would still need to obtain ITNs for any exports listed in RACA submissions (*e.g.,* exports to Canada).

J. Date of Purchase for Requests for Additional Consumption Allowances (RACAs)

EPA proposed to amend the existing requirement in 40 CFR 84.17(a)(5) to require an entity to only report whether the HFCs exported were purchased before or after January 1, 2022, rather than the exact date purchased as is currently required. EPA did not receive comments on this proposal and is accordingly finalizing this amendment as proposed.

VIII. Authorization To Produce for Export

Subsection (e)(5) of the AIM Act provides that the Administrator may authorize an entity to produce a regulated substance in excess of the number of production allowances otherwise allocated to that entity, subject to several conditions including:

- The authorization is valid for a renewable period of not more than five years;
- The authorization must be established via notice and opportunity for public comment;
- The production is solely for export to, and use in, a foreign country that is not subject to the prohibition in subsection (j)(1); [34] and
- The production so authorized would not violate the production or consumption limits.

On March 28, 2024, EPA received a request from Iofina Chemical (Iofina) to authorize additional production of HFCs under subsection (e)(5) that can be exported to supply semiconductor manufacturers outside of the United States. Details of Iofina's request can be found in the proposed rulemaking and in the docket associated with this rulemaking.

After considering Iofina's specific situation, the limited number of allowances that would be needed to accommodate its request, and its stated intent to export HFCs for use in an application that Congress specified in subsection (e)(4)(B) of the AIM Act, EPA proposed to allocate 3,000.0 MTEVe non-transferrable production for export allowances exclusively to Iofina on an annual basis for each of the calendar years 2026 through 2030. A detailed discussion of the rationale for the Agency's proposal and final action follow.

[34] Given that the prohibition of (j)(1) does not take effect until 2033, and EPA is making allowances available to Iofina through 2030, EPA does not consider this restriction related to subsection (j)(1) as relevant to this rulemaking.

A. To what entities is EPA finalizing provisions to allocate production for export allowances?

As described above, EPA proposed to only allocate production for export allowances to Iofina. As outlined in the proposal, the Agency had determined that the company has demonstrated its need for production for export allowances. EPA also outlined in the proposed rule how such an authorization supports the HFC phasedown overall, given that Iofina only produces HFC–41, one of the lowest EV HFCs controlled by the AIM Act with an EV of 92, at its facility in Covington, Kentucky.

EPA notes that while there may be other HFC producers interested in receiving production for export allowances, EPA has only assessed the appropriateness of proposing an allocation for Iofina in light of the specific circumstances presented by that entity. The Agency did not propose, nor create a mechanism to finalize, production for export allowances for any other entity through this rulemaking. If other producers were to express a similar interest, EPA may consider whether to act in a separate rulemaking under subsection (e)(5) on a case-by-case basis. At this time, EPA emphasizes that this action is dependent on facts specific to Iofina, including the relatively small size of Iofina's production and the modest impacts on the overall market for HFCs that will result.

The Agency received supportive comments from Iofina and did not receive comments from any other entity either in support of, or against, our proposal. EPA is finalizing as proposed that Iofina will receive production for export allowances in the amount and duration described in this final rule.

B. How many production for export allowances will EPA issue to Iofina on an annual basis, and for how many years will EPA issue these allowances?

EPA proposed to issue Iofina non-transferrable production for export allowances in the amount of 3,000.0 MTEVe on an annual basis for the five-year period between 2026 and 2030. The Agency arrived at this proposed amount based on an evaluation of a combination of factors, including: Iofina's request; supporting information from the company explaining and demonstrating the need for production for export allowances; Iofina's relative market share of production allowances and recent yearly allocations from EPA; recent conferral activity where Iofina is the recipient; and the general effect to other producers of issuing Iofina production for export allowances in the proposed amount.

The Agency received supportive comments from Iofina during the public comment period for this provision, and did not receive comments from any other entity either in support of, or against, our proposal. Consistent with the provisions in subsection (e)(5)(A)(i), EPA is finalizing that Iofina will be allocated production for export allowances in the amount of 3,000.0 MTEVe on an annual basis for a five-year period between 2026 and 2030.

C. Will Iofina need to expend consumption allowances for materials produced with production for export allowances and subsequently exported?

Subsection (e)(5) of the AIM Act allows EPA to ''authorize a person to produce'' for export if such production would not violate the yearly cap described in subsection (e)(2)(B). To operationalize this statutory requirement, EPA proposed to require that any material produced with production for export allowances must be exported in the same year it was produced. The AIM Act defines ''consumption'' as the amount of HFCs produced and imported minus the quantity of HFCs exported. Therefore, production of an HFC in a given year would be ''netted out'' when calculating consumption if that HFC is exported in that same year. Because HFCs produced with production for export allowances would be exported in the same year and therefore would be ''netted out'' when evaluating the United States' calculated yearly consumption, EPA proposed that when Iofina produces for export using this specific category of allowances, it would not be required to expend consumption allowances in an equivalent amount. Relatedly, EPA also proposed that Iofina's materials produced with production for export allowances would not be eligible for additional consumption allowances through the RACA provisions in 40 CFR 84.17.

No comments were received on this provision during the public comment period. Accordingly, EPA is finalizing these provisions as proposed, *i.e.,* any material produced with production for export allowances must be exported in the same year it was produced, Iofina does not need to expend consumption allowances in equivalent amount when it produces regulated HFCs using production for export allowances, and Iofina's materials produced with production for export allowances are not eligible for the RACA provisions in 40 CFR 84.17.

D. How will this process affect the issuance of other types of allowances?

Under 40 CFR part 84, subpart A, EPA first determines ASAs prior to determining any other allowances. Because the Agency proposed to issue an annual finite number of production for export allowances for Iofina, EPA proposed to determine these non-transferrable allowances immediately after ASAs are determined. As a result, EPA proposed small modifications to 40 CFR 84.9 to reflect that the number of available general pool production allowances is the difference between the yearly production cap and the sum of ASAs issued and the number of production for export allowances. EPA did not propose any changes to how general pool consumption allowances are issued on an annual basis and did not propose to either revise or reopen the methodology codified in 40 CFR 84.11.

The Agency did not receive comments on the proposed process for issuing production for export allowances or how this process may affect other types of allowances. In the absence of any information that would indicate that the proposed provisions would be inappropriate, EPA is finalizing the provision to determine non-transferrable allowances to Iofina immediately after ASAs are determined as well as related modifications to 40 CFR 84.9 to reflect that the number of available general pool production allowances is the difference between the yearly production cap and the sum of ASAs issued and the number of production for export allowances. It should be noted that because production for export allowances is a separate category from general pool production allowances, Iofina would be eligible for both of these types of allowances beginning in 2026 through 2030. No changes to how general pool consumption allowances are allocated are being finalized in this rulemaking.

E. What are the final recordkeeping and reporting requirements for production for export allowances?

EPA is finalizing that Iofina comply with recordkeeping and reporting requirements in addition to what is already required of the entity as a domestic producer under 40 CFR 84.31(a) and (b) and as an exporter under 40 CFR 84.31(d).

1. Annual Certifications

EPA proposed that Iofina secure signed certifications by a responsible corporate officer from their overseas application-specific customers attesting that any regulated HFCs produced using production for export allowances will only be used in application-specific uses (*i.e.,* only for the etching of semiconductor material or wafers and the cleaning of CVD chambers within the semiconductor manufacturing sector). EPA proposed that Iofina must provide such written and signed certification for each of their overseas customers, accompanied by a description of how the foreign use aligns with the definitions in 40 CFR 84.13(a) and 40 CFR 84.3. The Agency also proposed that if the regulated HFCs produced by Iofina using production for export allowances are to be held at an intermediary prior to receipt by the semiconductor manufacturer, the intermediary must also submit the same certification. As part of the yearly written certification, EPA proposed that the name and address of the foreign entity, and the contact person's name, email address, and phone number are included. Further, EPA proposed that Iofina must provide copies of these signed certifications with its end of year fourth quarter report due February 14 (*i.e.,* certifications for calendar year 1 are due on February 14 of year 2).

During the public comment period, Iofina explained that as one of its common business practices, it sells regulated HFCs to intermediary companies, who then repackage and sell the regulated HFCs to the final end users. Iofina interpreted the Agency's proposed provisions as requiring it to obtain and submit copies of the signed certifications from all intermediaries and final end users. In an effort to protect customer confidentiality, Iofina requested that it be responsible for obtaining and submitting to EPA the signed certifications from the intermediary, and that Iofina or the intermediary be responsible for obtaining and submitting to EPA the signed certification from the final end user.

EPA acknowledges Iofina's concerns regarding customer confidentiality, and is clarifying the final provisions for annual certifications. In instances where the regulated HFCs produced using production for export allowances are sold by Iofina directly to a final end user, EPA is finalizing that Iofina must secure signed certifications by a responsible corporate officer from its overseas application-specific customers attesting that any regulated HFCs produced using production for export allowances will only be used in application-specific uses (*i.e.,* only for the etching of semiconductor material or wafers and the cleaning of CVD chambers within the semiconductor manufacturing sector). The certifications must be accompanied by a description of how the use in another country aligns with the definitions in 40 CFR 84.13(a) and 40 CFR 84.3. EPA is finalizing that in instances when regulated HFCs produced using production for export allowances are sold directly for use by foreign end users, the name and address of the foreign entity, and the contact person's name, email address, and phone number are included in the certification. Further, EPA is finalizing that Iofina must provide copies of these signed certifications with its end of year fourth quarter report due February 14 (*i.e.,* certifications for calendar year 1 are due on February 14 of year 2).

If the regulated HFCs produced by Iofina using production for export allowances are to be held at an intermediary prior to receipt by the semiconductor manufacturer, EPA is clarifying that Iofina must secure signed certifications by a responsible corporate officer from the intermediary attesting that any regulated HFCs produced using production for export allowances will only be used in application-specific uses (*i.e.,* only for the etching of semiconductor material or wafers and the cleaning of CVD chambers within the semiconductor manufacturing sector). The certifications must be accompanied by a description of how the foreign use aligns with the definitions in 40 CFR 84.13(a) and 40 CFR 84.3. As part of the yearly written certification for the intermediary, EPA is finalizing that Iofina must provide the name and address of the intermediary, as well as the contact person's name, email address, and phone number. Further, EPA is finalizing that Iofina must provide copies of these signed certifications with its end of year fourth quarter report due February 14 (*i.e.,* certifications for calendar year 1 are due on February 14 of year 2).

2. Quarterly Export and Inventory Reporting

In addition to submitting the quarterly exporter reports currently required under 40 CFR 84.31(a) and (b), the Agency proposed that Iofina must, as part of these quarterly exporter reports, document the amounts exported that were produced using production for export allowances. Iofina would also be required to document the country to which HFCs were exported. As part of this documentation and to help ensure that EPA can quickly locate exports of regulated HFCs produced by Iofina, the Agency proposed that an ITN be provided for each shipment regardless of monetary value, destination country, or other characteristics that could

otherwise exempt or preclude an exporting entity from obtaining an ITN. Additionally, EPA proposed that Iofina report quarterly no later than 45 days after the applicable quarterly control period on inventory of regulated HFCs produced with production for export allowances so EPA can effectively track their use. Inventory of regulated HFCs produced with production for export allowances must be zero as of December 31 for that calendar year; otherwise, EPA may pursue actions including but not limited to allowance adjustments, *i.e.,* administrative consequences, or enforcement action.

The Agency did not receive any comments during the public comment period on this set of provisions. Accordingly, EPA is finalizing that as part of the existing quarterly exporter reports, Iofina must also: document the amounts exported that were produced using production for export allowances; document the country to which HFCs were exported along with an ITN for each shipment regardless of monetary value, destination country, or other characteristics that could otherwise exempt or preclude an exporting entity from obtaining an ITN; and, that Iofina report quarterly no later than 45 days after the applicable quarterly control period on inventory of regulated HFCs produced with production for export allowances. As stated in the proposal and reiterated in this final rulemaking, inventory of regulated HFCs produced with production for export allowances must be zero as of December 31 for that calendar year; otherwise, EPA may pursue actions including but not limited to allowance adjustments, *i.e.,* administrative consequences, or enforcement action. All reports described in this section are subject to EPA's auditing provisions under 40 CFR 84.33.

3. Recordkeeping

EPA proposed that Iofina maintains for a period of five years the certifications from all of its customers and any intermediaries attesting that the regulated HFCs they are receiving are only to be used for the etching of semiconductor material or wafers and cleaning of CVD chambers within the semiconductor manufacturing sector. The Agency also proposed that Iofina maintain for a period of five years records demonstrating that Iofina has conducted extensive due diligence to verify and ensure that the HFCs they sell abroad are only sold to an entity that will use the HFC for an application-specific use and are not going to be diverted for some other use (*e.g.,* destroyed for carbon credits, sold to another entity that will use the HFCs for another end use).

The Agency did not receive any comments during the public comment period on this set of provisions. Accordingly, EPA is finalizing that: Iofina maintain for a period of five years the certifications from all of its customers and intermediaries attesting that the regulated HFCs they are receiving are only to be used for the etching of semiconductor material or wafers and cleaning of CVD chambers within the semiconductor manufacturing sector; and, Iofina maintain for a period of five years records demonstrating that Iofina has conducted extensive due diligence to verify and ensure that the HFCs they sell abroad are only sold to an entity that will use the HFC for an application-specific use and are not going to be diverted for some other use (*e.g.,* destroyed for carbon credits, sold to another entity that will use the HFCs for another end use).

IX. How will EPA handle confidentiality for newly reported information?

Consistent with EPA's commitment to transparency in program implementation, as well as to proactively encourage compliance, support enforcement of program requirements, and enable third-party engagement to complement EPA's enforcement efforts, EPA proposed several ways it would treat the release of data that would be collected if this rule were finalized as proposed. Specifically, EPA proposed to make categorical confidentiality determinations for some of the proposed data elements that would be submitted to EPA. The proposal identified certain information that would be subject to disclosure to the public without further notice because the Agency proposed to find that the information did not meet the standard for confidential treatment under Exemption 4 of the Freedom of Information Act. EPA also proposed to identify certain other categories of information that would be entitled to confidential treatment.

EPA is finalizing confidentiality determinations for certain individual reported data elements as proposed. Some aspects of the proposal are not being finalized because they related to elements of data that are not being required upon finalization of this rule. For example, EPA proposed determinations related to the proposal to allow ASA holders to voluntarily return unneeded allowances, but as explained in section VII.G., EPA is not finalizing this proposal to allow ASA holders to voluntarily return allowances. For data elements for which EPA is not making a confidentiality determination in this action, EPA will apply the 40 CFR part 2 process for establishing case-by-case confidentiality determinations. EPA will also follow the aggregation criteria as finalized in the Allocation Framework Rule.

Two comments discussed EPA's general approach to confidential information. One commenter suggested that the Agency was proposing a different standard for determining confidential business information (CBI) than that used in other programs and encouraged the Agency to handle confidentiality determinations consistently across the Agency and its programs and not adjust treatment depending on ASA applications. Another commenter similarly noted that it is important for the Agency to protect CBI consistently to ensure that CBI is afforded appropriate protection from disclosure.

EPA responds that by establishing confidentiality determinations through this rulemaking, EPA will provide predictability for both information requesters and entities submitting information to EPA. The confidentiality determinations are also intended to increase transparency around this program's implementation. EPA did not propose, nor is the Agency finalizing, a different standard for the handling of confidential information related to ASA applications than that used by the Agency generally across programs. Unless directed otherwise by statute, EPA uses the same legal review standard for confidentiality determinations across all Agency programs, whether through rulemaking or through the Agency's 40 CFR part 2 process. EPA explained at length this legal standard and its rationale for proposing categorical confidentiality determinations in the proposed rule. EPA's rationale remains the same from the proposed rule, and EPA is not reproducing that rationale in this final rule. In short, through this rulemaking, submitters are on notice before they submit any information that EPA has determined that the information identified as not CBI in the memorandum provided in the docket for this action titled *Confidentiality Determinations for Data Elements in the Application-specific Allowances Review and Renewal Rule,* will not be entitled to confidential treatment upon submission and may be released by the Agency without further notice. As a result, for any data element included in the memorandum and categorized as not CBI, submitters do not have a reasonable

expectation that the information will be treated as confidential; rather, they should have the expectation that the information will be disclosed.

There may be additional reasons not to release information determined to not be entitled to confidential treatment, *e.g.,* if it is personally identifiable information (PII). The Agency will separately determine whether any data should be withheld from release for reasons other than business confidentiality before data is released.

A. Data Elements Associated With a Petition To Be Listed as an Application That Will Receive Application-Specific Allowances

In light of the statutory requirement in subsection (e)(4)(B)(ii) to make a complete petition available to the public, and consistent with EPA's commitment to transparency in program implementation, EPA is finalizing the proposal without change. The Agency will not provide confidential treatment to, and may release without further process, petitions submitted under 40 CFR 84.14 in full with limited exception. EPA will treat as confidential a subset of required elements for which EPA is finalizing that multiple entities could submit information individually to EPA, specifically information submitted under 40 CFR 84.14(a)(6), (7), and (8). All other information, including all information submitted to EPA that does not correspond to a required element, will be released without further process. EPA did not receive comments in response to the proposed determinations for data submitted in a petition. The memorandum to the docket lists each individual element of a complete petition with an accompanying determination on whether that element is entitled or not to confidential treatment. EPA proposed and is finalizing that through this rulemaking, entities are put on notice of data release in line with the legal standard established by the *Argus Leader* decision and EPA regulations at 40 CFR part 2, as more fully explained in the proposal. EPA is providing an express indication to all potential petitioners prior to the time information is submitted to EPA that EPA will publicly disclose the information without further process. Therefore, potential future submitters cannot reasonably expect confidentiality of the information upon submission, and the information is not entitled to confidential treatment under Exemption 4.

B. Data Elements Related to Proposed Revisions to Existing Regulations

To maximize program transparency, EPA is finalizing that the Agency will release data elements corresponding to the following regulatory revisions: (1) a pool of set-aside allowances for situations that meet the criteria for unique circumstances related to the propellants in MDIs application; and (2) the ''date of purchase'' requirement for a RACA. EPA did not receive comments on these elements which the Agency proposed that it would intend to release. The memorandum to the docket lists each individual element related to these regulatory revisions with an accompanying determination on whether that element would be entitled or not to confidential treatment. EPA proposed and is finalizing those individual determinations through this rulemaking. Entities reporting this information are put on notice that this data may be released without further notice in line with the legal standard established in the *Argus Leader* decision and EPA regulations at 40 CFR part 2. Therefore, potential future submitters cannot reasonably expect confidentiality of the information upon submission, and the information is not entitled to confidential treatment under Exemption 4.

EPA proposed and is finalizing determinations through rulemaking that certain other reported information is entitled to confidential treatment. EPA proposed and is finalizing that supporting documentation verifying a need to purchase regulated substances in the present calendar year for purposes of the set-aside is entitled to confidential treatment because it is likely to include the type of information that submitters customarily keep private or closely held. This is also consistent with the Agency's current approach regarding requests for ASAs. EPA also proposed and is finalizing determinations that the following data elements are entitled to confidential treatment: (1) companies reported total expected amount of HFCs they intend to purchase in the calendar year; (2) elements reported on the conferral of MCMEU allowances; and (3) exporters' quarterly reported ITNs. These data elements constitute the type of information that submitters customarily keep private or closely held and will be treated as confidential information consistent with the approach taken in the Allocation Framework Rule.

One commenter stated that ITN numbers are customarily kept private or closely held. EPA agrees with the commenter. Furthermore, in the case of ITNs reported by exporters, it is EPA's understanding that the ITN, as part of the Electronic Export Information (EEI) contained in the Automated Export System (AES), is considered confidential by DOC. This further underpins EPA's final determination in this rulemaking that ITN numbers reported in quarterly export reports are entitled to confidential treatment. Additional information on the determinations for specific data elements associated with the regulatory revisions is provided in the memorandum in the docket for this action.

C. Data Elements Reported to EPA Related to Production for Export

EPA is finalizing a production for export category of allowances as described in section VIII. EPA stated in the rule proposal that the Agency would release several data elements that a ''production for export'' allowance holder would be required to submit, including: (1) quantity of allowances expended for each regulated substance; (2) quantity of each regulated substance produced for export; (3) quantity of each regulated substance, produced using production for export allowances, that was exported; (4) quantity of each regulated substance held in inventory at the end of the quarter; and (5) the country to which regulated substances, produced using production for export allowances, were exported. The memorandum to the docket for the proposed rulemaking listed each individual element EPA proposed related to the production for export allowances with an accompanying proposed determination on whether that element would be entitled or not to confidential treatment. EPA invited comment on this proposed determination.

Additionally, EPA proposed that the ITNs submitted for all exports of regulated substances produced using production for export allowances would be entitled to confidential treatment, under the same rationale described earlier in this section for the proposed requirement that exporters report ITNs on a quarterly basis. EPA requested comment on this proposed determination, including comments on why this information may not be entitled to confidential treatment.

EPA also proposed that the signed certifications would be entitled to confidential treatment because it is EPA's understanding that these certifications could have the potential to reveal confidential business relationships (*i.e.,* the relationship between the allowance holder, overseas

customer, and any intermediaries). EPA requested comment on this proposed determination, including comments on why this information may not be entitled to confidential treatment. Specifically, EPA requested comment on whether the existence of a business relationship between an HFC producer and customer is information that is customarily closely held.

In response to these proposed determinations for data related to production for export, one commenter requested that all elements related to any reporting and recordkeeping requirements for production for export allowances be treated as confidential. The commenter stated that protecting the confidentiality of business relationships and customers is critical with respect to the names of any intermediaries and final end users. Additionally, the commenter asserted that CBI protection is necessary to prevent unfair competitive advantages resulting from the publication of intermediary and end user information. The commenter also expressed concern that other HFC manufacturers in countries where regulations may not yet be in place would gain a competitive advantage over US manufacturers if CBI protections are not provided.

EPA responds that at the time of proposal, the Agency had proposed that certain data elements for which the commenter requested confidential treatment, *i.e.,* ITNs and the signed certifications, should be treated as confidential. EPA did not receive comments from any other entity and in the absence of information demonstrating why it would be inappropriate to treat these specific elements as confidential. Therefore, the Agency is finalizing its determination that ITNs and signed certifications for the production for export provisions are CBI.

EPA also proposed confidentiality determinations for several other data elements related to production for export allowances, including: (1) quantity of allowances expended for each regulated substance; (2) quantity of each regulated substance produced for export; (3) quantity of each regulated substance, produced using production for export allowances, that was exported; (4) quantity of each regulated substance held in inventory at the end of the quarter; and (5) the country to which regulated substances, produced using production for export allowances, were exported. Upon further analysis of the confidentiality determinations previously finalized in the Allocation Framework Rule, the Agency has determined that for four of these five elements confidentiality determinations already exist, specifically determinations for production and export data. The one exception is the fourth data element listed at proposal—the quantity of each regulated substance held in inventory at the end of the quarter. For every other data element, while production for export allowances is a distinct and novel category of allowances under the HFC allocation program, the confidentiality determinations finalized in the Allocation Framework Rule cover all production and export of HFCs. Therefore, under the existing determinations for production data reported to EPA, the quantity of allowances expended for each regulated substance and the quantity of each regulated substance produced are not entitled to confidential treatment. Similarly, consistent with the existing determinations for export data reported to EPA, the quantity of each regulated substance that was exported and the country to which regulated substances were exported are not entitled to confidential treatment. Because EPA is not finalizing new determinations for these data elements, any data released on production or export activity would be aggregated to include all production or export activity for a given reporting period, without distinction based on type of allowance used.

With respect to the fourth element listed at proposal, which is the quantity of each regulated substance held in inventory at the end of the quarter, this is a data element that is not covered under existing confidentiality determinations. While producers must report on the quantity of each regulated substance held in inventory, and EPA previously determined that this information is entitled to confidential treatment, producers are only required to report inventory on an *annual* basis, per 40 CFR 84.31(b)(2)(x). However, in light of the prior determination that annual inventory reporting is entitled to confidential treatment, the Agency finds that it is appropriate to treat the quantity of each regulated substance held in inventory at the end of each quarter as confidential.

For all other data elements for which the Agency is not finalizing a confidentiality determination in this rulemaking, EPA will follow the individualized determination process outlined in 40 CFR part 2 on a case-by-case basis, as described earlier in section IX. and the aggregation criteria established in the Allocation Framework Rule.

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

This action only results in minor additional costs and benefits attributable to changes in recordkeeping and reporting requirements, primarily marginal benefits associated with not renewing ASAs for defense sprays and the resulting changes in recordkeeping and reporting costs for the defense sprays application. This rule will not result in any significant changes to the HFC phasedown program as a whole (*i.e.,* the number of allowances that will be issued in total and overall phasedown schedule remain the same) and will allow the defense sprays application to remain exempt from the restrictions under the 2023 Technology Transitions Rule. Thus, while EPA considered both the Allocation Framework Rule and the 2023 Technology Transitions Rule to be the status quo from which potential incremental costs and benefits should be evaluated, the rule does not fundamentally alter the analytic results associated with these prior rulemakings. In the Allocation Framework Rule, EPA estimated benefits and costs for the HFC phasedown between 2022 and 2050. Given that some elements in this rule may result in incremental impacts for a subset of entities, the Agency analyzed potentially salient costs and benefits considerations associated with this rulemaking.

The analysis described in this section is intended to provide the public with information on the relevant costs and benefits of this action and has been completed to comply with relevant Executive Orders. The analysis does not form a basis or rationale for any of the actions EPA is finalizing in this rulemaking. As explained in section II.B., the AIM Act requires EPA to review applications receiving allocations pursuant to subsection (e)(4)(B)(iv) at least every five years and to renew eligibility based on two statutory criteria. Specifically, EPA must renew ASA eligibility for an application when the Agency determines there is (1) no safe or technically achievable substitute available during the applicable period and (2) an insufficient supply of the HFC(s) used in the application that can be secured from chemical manufacturers to accommodate the application. Without finalization of this rule, none of the applications listed in the AIM Act and currently receiving ASAs would continue to receive priority access to allowances beyond calendar year 2025.

For entities in the five applications with renewed eligibility for ASAs, there

are no costs or benefits in addition to those already accounted for in the Allocation Framework Rule; when EPA originally established eligibility for ASAs, the Agency did not presuppose that applications would lose that eligibility for analytical purposes. Furthermore, per subsection (i)(7)(B)(i) of the AIM Act, the Technology Transitions provisions codified at 40 CFR part 84, subpart B are not currently applicable to any application receiving an ASA (40 CFR 84.56(a)(2)). As such, they are not subject to the restrictions on the manufacture or import at 40 CFR 84.54(a), sale and distribution at 40 CFR 84.54(b), or installation at 40 CFR 84.54(c). The labeling, reporting, and recordkeeping requirements are also not applicable.

EPA does not anticipate that there are marginal costs associated with entities in the defense spray application no longer being able to procure HFCs using ASAs. The decision to not renew the defense sprays application is based on analysis that the requirement described in subclause (II) of clause (i) are not met in accordance with the requirements of subsection (e)(4)(B) of the AIM Act (*i.e.,* the supply of the HFC used by the defense spray application is not insufficient to accommodate the application beginning January 1, 2026). The Agency is making the determination that the supply of the regulated substance that manufacturers and users are capable of securing from chemical manufacturers is not insufficient to accommodate the application. Entities using HFCs in the defense spray application are able to source HFCs from the open market, subject to general restrictions under 40 CFR part 84. Therefore, EPA anticipates that there would be no cost associated with losing eligibility to receive ASAs.

EPA acknowledges that the ability to receive ASAs and confer these allowances to HFC importers/producers as opposed to buying HFCs on the open market may theoretically be of value in cases where it insulates an entity in part from market risk related to availability or price increases. However, for those entities where EPA is making the determination not to renew ASA eligibility, EPA does not anticipate the price or availability of HFCs would differ on the open market.

Further, EPA's determination to not renew an application's eligibility for ASAs does not alter the overall amount of allowed production and consumption or the benefits associated with the phasedown. EPA notes that there are marginal benefits due to avoided recordkeeping and reporting costs required of an ASA holder (*e.g.,* biannual report submissions, conferral requests). The annual recordkeeping and reporting cost burden for an ASA holder is estimated to be $25,781 per entity. While only six entities have ever requested ASAs, EPA is aware of nine entities that manufacture defense sprays in the United States. All nine companies, as well as any additional companies that begin manufacturing defense sprays in the United States in the future, would have been eligible for ASAs if EPA renewed the application. For analytical purposes, the Agency is assuming six would request ASAs in each year consistent with the total number of entities that have requested ASAs to date. Assuming burden relief for six defense spray manufacturers would collectively avoid $154,686 annually and $773,430 over the five-year renewal period in recordkeeping and reporting costs for ASA holders.

There may be marginal benefits for general pool allowance holders (*i.e.,* production and consumption allowance holders) due to the defense sprays application no longer being eligible for ASAs. However, EPA notes that that the number of additional allowances allocated to the general pool, and not allocated to the defense spray application, totals well under one percent of consumption allowances in a given year. For example, for calendar year 2025 allowances, defense spray companies were allocated 209,254.5 allowances collectively, which is equivalent to approximately 0.1% of consumption allowances issued. Because general pool allowances are allocated based on market share according to the methodology at 40 CFR 84.9 and 84.11, this effectively means each general pool allowance holder would be allocated approximately 0.1% more in allowances. While this may represent a marginal benefit to specific allowance holders, EPA notes that—as these benefits constitute a transfer from one group to another and do not change the total number of allowances issued—there is no net benefit. EPA has not endeavored to quantify the value of this marginal benefit for individual allowance holders and notes that it would likely differ from company to company.

EPA analyzed whether there are marginal costs or benefits associated with codifying a petition process for requesting the designation of an application as eligible for ASAs. EPA assumes for analytical purposes that the Agency will receive one petition over the five-year period with five entities in the application. EPA estimates a cost per entity of $13,139 and a total cost of $65,695.

As detailed in section VII. of the preamble, EPA is also finalizing updates to the recordkeeping and reporting requirements originally established in the Allocation Framework Rule and the 2024 Allocation Rule. While some of these updates represent clarifications of the existing requirements, others represent additional requirements that would impact the total anticipated compliance costs of this rule. Section VIII. of the preamble details EPA's determination to authorize an entity (*i.e.,* Iofina) to produce for export for application-specific uses abroad. There are likely benefits that Iofina would experience from receiving additional production for export allowances, such as the ability to increase its production of HFC–41 for export to support foreign semiconductor manufacturers. The Agency does not have sufficient information—such as the additional quantity that might be produced, the profits that might accrue from that production, and the related effects on employment at the facility—to quantify the effect. As a result of the regulatory changes listed above, EPA estimates that, starting in 2026, recordkeeping and reporting costs across all entities regulated under the HFC Allocation requirements will increase by approximately $10,611 annually relative to the previous estimates reflected in the 2024 Allocation Rule.

Overall, EPA estimates this final rule will result in an annual net cost savings of $130,936. More details on recordkeeping and reporting costs can be found in the Information Collection Request (ICR) in the docket for this rulemaking.

XI. Judicial Review

The AIM Act provides that certain sections of the CAA ''shall apply to'' the AIM Act and actions ''promulgated by the Administrator of [EPA] pursuant to [the AIM Act] as though [the AIM Act] were expressly included in title VI of [the CAA],'' (42 U.S.C. 7675(k)(1)(C)). Among the applicable sections of the CAA is section 307, which includes provisions on judicial review. Section 307(b)(1) provides, in part, that petitions for review must only be filed in the United States Court of Appeals for the District of Columbia Circuit: (i) when the agency action consists of ''nationally applicable regulations promulgated, or final actions taken, by the Administrator,'' or (ii) when such action is locally or regionally applicable, but ''such action is based on a determination of nationwide scope or effect and if in taking such action the Administrator finds and publishes that

such action is based on such a determination.''

The final action herein noticed is ''nationally applicable'' within the meaning of CAA section 307(b)(1). The AIM Act imposes a national cap on the total number of allowances available for each year for all entities nationwide (42 U.S.C. 7675(e)(2)(B)–(D)). In this rulemaking, EPA is not adjusting the baseline from which that total number of allowances is derived. The action noticed herein establishes a methodology to distribute that finite set of allowances in a nationally applicable rule. EPA is also establishing other nationally applicable regulations for reporting, recordkeeping, and other implementation measures.

For these reasons, this final action is nationally applicable. Under CAA section 307(b)(1), petitions for judicial review of this action must be filed in the United States Court of Appeals for the District of Columbia Circuit by October 27, 2025.

XII. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at *https://www.epa.gov/laws-regulations/laws-and-executive-orders.*

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

This action is a significant regulatory action that was submitted to the Office of Management and Budget (OMB) for review. Any changes made in response to OMB recommendations have been documented in the docket. EPA prepared an economic analysis of the potential costs and benefits associated with this action which can be found in section X. of this preamble, titled, ''What are the costs and benefits of this action?''. The costs and benefits of this rule are estimated in the table below:

TABLE 2—SUMMARY OF COSTS AND BENEFITS

Activity	Annual costs (cost savings)
ASA recordkeeping and reporting burden relief for entities no longer eligible for ASAs	$(154,686)
Petitions requesting eligibility for ASAs	13,139
Other regulatory revisions	10,611
Total	(130,936)

B. Executive Order 14192: Unleashing Prosperity Through Deregulation

This action is considered an Executive Order 14192 deregulatory action. Details on the estimated cost savings of this final rule can be found in EPA's analysis of the potential costs and benefits associated with this action.

C. Paperwork Reduction Act (PRA)

The information collection activities in this rule, along with the full ICR titled ''Recordkeeping and Reporting of the Hydrofluorocarbon Allowance Allocation and Trading Program,'' will be submitted for approval to OMB under the PRA. The ICR document that EPA prepared modifies and renews the existing ICR and has been assigned EPA ICR number 2685.06. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here. The new information collection requirements finalized in this rule are not enforceable until OMB approves them.

Subsection (d)(1)(A) of the AIM Act specifies that on a periodic basis, but not less than annually, each person 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 person: 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 collects such data regularly to support implementation of the AIM Act's HFC phasedown provisions. EPA requires 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 collects information to calculate allowances, to track the movement of HFCs through commerce, and to require auditing. Collecting these data elements allows EPA to confirm that the entity has not exceeded its allowed level of production and consumption and that the aggregated annual quantity of production and consumption in the United States does not exceed the cap established in the AIM Act. As described above in this preamble, EPA is establishing a procedural process for submitting a petition to designate a new application as eligible for priority access to allowances; reporting and recordkeeping requirements relevant for narrow revisions to the methodology used to allocate allowances to ASA holders for calendar years 2026 and beyond; and other limited reporting and recordkeeping revisions, such as authorizing an entity to produce regulated substances for export.

All information sent by the submitter electronically is transmitted securely to protect information that is CBI or claimed as CBI consistent with the confidentiality determinations made in the Allocation Framework Rule and the confidentiality determinations being finalized in this rule as described in section IX. of this preamble. The reporting tool guides the user through the process of submitting such data. Documents containing information claimed as CBI must be submitted in an electronic format, in accordance with the recordkeeping requirements.

Respondents/affected entities: Respondents and affected entities will be individuals or entities that produce, import, export, reclaim, recycle for use as a fire suppressant, distribute, destroy, transform, use HFCs as a process agent, or produce for export, certain HFCs that are defined as a regulated substance under the AIM Act. Respondents and affected entities will also be any entity issued or conferred ASAs.

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

Estimated number of respondents: 342.

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

Total estimated burden: 36,248 hours (per year). Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: $5,643,734 (per year), includes $1,063,204 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. When OMB approves this ICR renewal and modification, the Agency will announce that approval in the **Federal Register** and publish a technical amendment to 40 CFR part 9 to display the OMB control number for the approved information collection activities contained in the existing ICR and as modified in this final rule.

D. 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. In making this determination, EPA concludes that the impact of concern for this rule is any significant adverse economic impact on small entities and that the Agency is certifying that this rule will not have a significant economic impact on a substantial number of small entities because the rule has a minor burden on a subset of the small entities subject to the rule. However, this rule relieves the overall burden for small entities subject to the rule, and all entities expected to experience cost savings as a result of this rule are small entities. The small entities subject to the requirements of this action are entities that hold HFC allowance allocations (including production, consumption, and application-specific allowances), entities that applied for but did not receive set-aside allowances in 2022, entities that previously imported HFCs between 2017 and 2019 but did not receive 2022 allowance allocations, and entities that recover and reprocess HFCs. Details of this analysis are presented in *Economic Impact Screening Analysis for Phasedown of Hydrofluorocarbons: Review and Renewal of Eligibility for Application-specific Allowances,* which is available in the docket for this action (EPA–HQ–OAR–2024–0196). Certain small entities will have reduced regulatory burden due to EPA excluding defense sprays from Technology Transitions restrictions that would otherwise apply under the current regulation (*i.e.,* allowing for continued use of HFC–134a in defense sprays) and by removing recordkeeping and reporting requirements for those entities, while other small entities may incur negligible reporting costs. The reduced regulatory burden for entities in the defense spray application contribute to EPA's finding that this rule will result in an annual net cost savings. We have therefore concluded that this action will have minor to no net regulatory burden for all directly regulated small entities.

E. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate of $100 million (adjusted annually for inflation) or more (in 1995 dollars) 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 and the costs involved in this action are estimated not to exceed $183 million in 2023$ ($100 million in 1995$ adjusted for inflation using the gross domestic product (GDP) implicit price deflator) or more in any one year.

F. 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.

G. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

This action does not have Tribal implications as specified in Executive Order 13175. EPA is not aware of Tribal businesses engaged in activities that would be directly affected by this action. Based on the Agency's assessments, EPA also does not believe that potential effects, even if direct, would be substantial. Accordingly, this action 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 has shared information on this rulemaking through this and other fora.

H. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

EPA interprets Executive Order 13045 as applying only to those regulatory actions that concern environmental health or safety risks that EPA has reason to believe may disproportionately affect children, per the definition of ''covered regulatory action'' in section 2–202 of the Executive Order.

Therefore, this action is not subject to Executive Order 13045 because it does not concern an environmental health risk or safety risk. Since this action does not concern human health, EPA's Policy on Children's Health also does not apply.

I. Executive Order 13211: Actions Concerning Regulations 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.

J. National Technology Transfer and Advancement Act

This rulemaking does not involve technical standards.

K. Congressional Review Act (CRA)

This action is subject to the CRA, and EPA will submit a rule report to each House of the Congress and to the Comptroller General of the United States. This action is not a ''major rule'' as defined in 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 84

Environmental protection, Administrative practice and procedure, Air pollution control, Chemicals, Imports, Reporting and recordkeeping requirements.

Lee Zeldin,

Administrator.

For the reasons set out in the preamble, 40 CFR part 84 is amended as follows:

PART 84—PHASEDOWN OF HYDROFLUOROCARBONS

■ 1. The authority citation for part 84 continues to read as follows:

Authority: Pub. L. 116–260, Division S, Sec. 103.

Subpart A—Production and Consumption Controls

■ 2. Amend § 84.3 by adding the definitions ''healthcare system need'', ''responsible corporate officer'', and ''responsible official'' in alphabetical order to read as follows:

§ 84.3 Definitions.

* * * * *

Healthcare system need means circumstances where an increase in demand for MDIs used to treat asthma, chronic obstructive pulmonary disease, and other respiratory diseases may occur because of a change in market conditions that otherwise would not be included in calculated rates of growth.

* * * * *

Responsible corporate officer means a person who is authorized by the regulated entity to make representations on behalf of, or obligate the company as ultimately responsible for, any activity regulated under 40 CFR part 84, subpart A.

Responsible official means a person who is authorized by the regulated entity to make representations on behalf of, or obligate the company as ultimately responsible for, any activity regulated under 40 CFR part 84, subpart A.

* * * * *

■ 3. Amend § 84.5 by:
■ a. In paragraph (a)(1), adding ‘‘, unexpended production for export allowances,’’ after ‘‘unexpended production allowances and consumption allowances’’.
■ b. Revising paragraph (c)(2).
■ c. In paragraph (d), adding ‘‘production for export,’’ after ‘‘All production, consumption,’’ and adding ‘‘production for export,’’ after ‘‘confer a production, consumption,’’.
■ d. Revising paragraph (f).
■ e. Adding paragraph (k).

The addition and revisions read as follows:

§ 84.5 Prohibitions relating to regulated substances.

* * * * *

(c) * * *

(2) No person may use a regulated substance produced or imported by expending application-specific allowances for any purpose other than those for which the application-specific allowance was allocated, and as set forth in this paragraph (c). Application-specific allowances are apportioned to a person under §§ 84.13 and 84.15 for the production or import of regulated substances solely for the individual application listed on the allowance.

* * * * *

(f) *Sale and distribution.* No person may sell or distribute, or offer for sale or distribution, any regulated substance that was produced or imported in violation of paragraphs (a) through (d) of this section, except for such actions needed to re-export the regulated substance or if the regulated substance was purchased at a government auction authorized by the United States Customs and Border Protection and consumption allowances were expended in the requisite quantity to cover the regulated substances at issue. Every kilogram of a regulated substance sold or distributed, or offered for sale or distribution, in contravention of this paragraph constitutes a separate violation of this subpart. Sale or distribution, or offer for sale or distribution, of less than one kilogram of regulated substance in contravention of this paragraph constitutes a separate violation of this subpart.

* * * * *

(k) *Production for export allowances.* No person may use a regulated substance produced by expending production for export allowances for any purpose other than those for which the production for export allowance was allocated, aligning with the applications as listed in § 84.13(a).

■ 4. Amend § 84.9 by:
■ a. In paragraph (b)(3), adding ‘‘and 3,000.0 MTEVe allowances to be allocated pursuant to § 84.18,’’ after ‘‘§ 84.13’’.
■ b. Redesignating paragraph (c) as paragraph (d).
■ c. Adding paragraph (c).

The addition reads as follows:

§ 84.9 Allocation of calendar-year production allowances.

* * * * *

(c) Starting with the allocation of 2026 calendar year allowances, the relevant Agency official will withhold 1,000,000 MTEVe of production allowances. If there are remaining production allowances after distribution from the set-aside under § 84.15, the relevant agency official will distribute such allowances pro rata to all entities receiving production allowances in that calendar year.

* * * * *

■ 5. Amend § 84.11 by:
■ a. Redesignating paragraph (c) as paragraph (d).
■ b. Adding paragraph (c).

The addition reads as follows:

§ 84.11 Allocation of calendar-year consumption allowances.

* * * * *

(c) Starting with the allocation of 2026 calendar year allowances, the relevant Agency official will withhold 1,000,000 MTEVe of consumption allowances. If there are remaining consumption allowances after distribution from the set-aside under § 84.15, the relevant agency official will distribute such allowances to all entities receiving consumption allowances in that calendar year.

* * * * *

■ 6. Amend § 84.13 by:
■ a. In paragraph (a), replacing ‘‘2022, 2023, 2024, and 2025’’ with ‘‘as designated’’.
■ b. In paragraph (a)(1), adding ‘‘for calendar years 2022–2030’’ after ‘‘metered dose inhalers’’.
■ c. In paragraph (a)(2), adding ‘‘for calendar years 2022–2025’’ after ‘‘defense sprays’’.
■ d. In paragraph (a)(3), adding ‘‘for calendar years 2022–2030’’ after ‘‘trailer use’’.
■ e. In paragraph (a)(4), adding ‘‘for calendar years 2022–2030’’ after ‘‘semiconductor manufacturing sector’’.
■ f. In paragraph (a)(5), replacing ‘‘; and’’ with ‘‘for calendar years 2022–2030;’’.
■ g. In paragraph (a)(6), replacing ‘‘.’’ with ‘‘for calendar years 2022–2030; and’’.
■ h. Adding paragraph (a)(7).
■ i. In paragraph (b)(1), adding ‘‘, including supporting documentation that verifies this need’’ after the phrase ‘‘this section’’ in the first sentence.
■ j. In paragraph (b)(1)(ii) delete ‘‘or’’ after ‘‘facility or facilities;’’.
■ k. In paragraph (b)(1)(iii), replacing ‘‘A global pandemic or other public health emergency that increases’’ with ‘‘A global pandemic, other public health emergency, or other healthcare system needs related to increased’’ and replacing ‘‘.’’ with ‘‘; and’’.
■ l. Adding paragraph (b)(1)(iv).
■ m. Adding paragraph (b)(2).
■ n. Redesignating paragraph (c)(1) as paragraph (c)(5).
■ o. Adding paragraph (c)(1).
■ p. In paragraph (c)(2), replacing ‘‘; and’’ with ‘‘;’’.
■ q. Redesignating paragraph (c)(3) as paragraph (c)(7).
■ r. Adding paragraphs (c)(3) through (4).
■ s. In the newly designated paragraph (c)(5), replacing ‘‘Taking the higher of the use of regulated substances by the company in the specific application in the prior year multiplied by:’’ with ‘‘For entities that do not meet any of the criteria in paragraph (4), multiplying the use of regulated substances by the company in the specific application in the prior year by the higher of:’’.
■ t. Adding paragraph (c)(6).
■ u. In the newly designated paragraph (c)(7), replacing ‘‘.’’ with ‘‘; and’’.
■ v. Adding paragraph (c)(8).
■ w. Removing paragraph (e).
■ x. Redesignating paragraphs (f) through (h) as paragraphs (e) through (g), respectively.

The additions read as follows:

§ 84.13 Allocation of application-specific allowances.

(a) * * *

(7) For any application designated as eligible for application-specific allowances pursuant to § 84.14, but in all instances for no longer than calendar year 2030.

(b) * * *

(1) * * *

(iv) Buildup of a stockpile of a specific regulated substance in the event of a production cessation. Requests for this unique circumstances must include: a letter from the applicant's supplier signed by a responsible corporate officer stating that the supplier is ceasing all production of the regulated substance at issue within three years; certification and supporting documentation that the applicant has regulatory requirements beyond this part that limit ability to switch suppliers or there are no other suppliers that can supply the regulated substance in the quantity needed; and evidence that the applicant has a restricted supply chain for regulated substances. Applicants must specify: quantity (in kilograms) they intend to purchase of each HFC; the year(s) of intended purchase; and description of stockpile plan.

(2) Entities must provide an estimate of the total quantity of regulated substances they expect to purchase in the following calendar year based on their expected eligibility for allowances.

(c) * * *

(1) Accounting for verified changes in inventory and quantities of regulated substances acquired (excluding amounts conveyed or sold) in calculating use, except for applications for mission-critical military end uses;

* * * * *

(3) Excluding quantities reported under § 84.31(h)(1)(x) and (xi) in calculating growth rates and use amounts;

(4) Allocating allowances equivalent to the highest verified use amount measured in exchange value equivalent from the prior three years for entities that meet any of the following criteria:

(i) Entity purchased equal to or less than 100 kilograms of regulated substances in at least one of the last three years, and the average growth rate of use for the company over the past three years calculated under subparagraph (7)(i) is equal to or greater than 200 percent;

(ii) Entity has a Year 3 use amount that is less than or equal to 33 percent of its Year 2 use;

(iii) Entity had zero purchases or use in one of the last three years for reasons other than newly using regulated substances; or

(iv) Entity purchased equal to or less than 100 kilograms of regulated substances in each of the past three years;

* * * * *

(6) For an entity operating in the etching of semiconductor material or wafers and the cleaning of chemical vapor deposition chambers within the semiconductor manufacturing application, add 10 percent of the quantity derived pursuant to paragraphs 1 through 5;

* * * * *

(8) In all instances, using the amount reported in paragraph (b)(2) if it is less than the quantity otherwise determined under this paragraph.

* * * * *

■ 7. Add § 84.14 to read as follows:

§ 84.14 Petition for designation of an application as eligible for application-specific allowances.

(a) Petitions filed pursuant to 42 U.S.C. 7675(e)(4)(B)(ii) requesting the designation of an application as eligible for application-specific allowances must include:

(1) A description of the application, including an explanation of what the application is, what purpose or function it achieves, and what populations or commercial products benefit from the application;

(2) A list of regulated substance(s) and description of their use(s) in the application and an explanation as to why regulated substances are required in the application;

(3) Evidence that no safe or technically achievable substitute, including not-in-kind technologies, is or is expected to be available, and that the petitioner has conducted research to evaluate substitutes for the regulated substance(s);

(4) Evidence that supply of the regulated substance(s) used in the application is insufficient to accommodate the application;

(5) A signed certification from a responsible corporate officer at the requesting entity that the application cannot use recovered and reprocessed regulated substance in conjunction with or in place of virgin regulated substance, either due to demonstrated lack of technical achievability or insufficient supply, and an explanation and evidence documenting why recovered and reprocessed regulated substance cannot be used for the application;

(6) Total quantity (in kilograms) of all regulated substances acquired and used by each individual entity submitting the petition for use in the application specified in the petition in each of the previous three years, including records documenting that quantity;

(7) The name of the entity or entities supplying regulated substances and contact information for those suppliers over the past three years;

(8) Total quantity (in kilograms) of each regulated substance held in inventory for use in the application specified in the petition by each entity submitting the petition as of the date the petition is submitted;

(9) An estimate of the total quantity of regulated substances the petitioner expects to purchase for use in the application specified in the petition in the first year it would be eligible for ASAs;

(10) Data on the proportion of the overall cost of the product or system that reflects the cost of regulated substances for each entity;

(11) Historic and projected sales for the product or system for each entity;

(12) Evidence of research into design changes to decrease the amount of regulated substance used in the product or system;

(13) An explanation regarding whether the use of the regulated substance(s) is necessary for the health, safety, or is critical for the functioning of society (encompassing cultural and intellectual aspects);

(14) An explanation regarding steps taken to minimize the use of the regulated substance and any associated emission of the regulated substance(s); and

(15) Information on regulatory restrictions related to possible alternatives and substitutes.

(b) If the petition does not include the required information listed in paragraph (a), the petition will be deemed incomplete, and EPA will notify the entity submitting the petition. The Agency will not consider the petition until it is complete.

(c) In the event that an application becomes eligible to receive application-specific allowances:

(1) EPA will allocate allowances to entities in a new application in accordance with § 84.13; and

(2) A new application would be eligible to receive application-specific allowances for no longer than the latest calendar year included in § 84.13(a).

■ 8. Amend § 84.15 by adding paragraph (h) to read as follows:

§ 84.15 Set-aside of application-specific allowances, production allowances, and consumption allowances.

* * * * *

(h) Consumption and production allowances from § 84.9(c) and § 84.11(c)

are available in the form of application-specific allowances to entities that request them no later than April 30 of the calendar year in which the allowances may be expended that:

(1) Qualify for application-specific allowances under § 84.13;

(2) Provide supporting documentation that verify a need to purchase regulated substances in the present calendar year beyond what is reflected by the rates of growth calculated in § 84.13(c)(1);

(3) Provide the total quantities (in kg) of regulated substances held in inventory as of the date the application is submitted, including documentation to verify this quantity (this includes zero quantities), and an explanation of why that inventory, if available, will not be sufficient to accommodate this increased demand;

(4) Are facing a situation that qualifies as a unique circumstance as defined in § 84.13(b)(iii); and

(5) Demonstrate to the satisfaction of the relevant Agency official that the situation described in subparagraph (3) was unknowable at the time the entity made its request for application-specific allowances pursuant to § 84.13(b).

■ 9. Amend § 84.17 by:

■ a. In the introductory paragraph, adding ‘‘, except for the export of regulated substances produced with a production for export allowance’’ after ‘‘a foreign country in accordance with this section’’.

■ b. Revising paragraph (a)(5).

The revision reads as follows:

§ 84.17 Availability of additional consumption allowances.

* * * * *

(a) * * *

(5) The source of the regulated substances and whether the date purchased was before or after January 1, 2022;

* * * * *

■ 10. Add § 84.18 to read as follows:

§ 84.18 Authorization of production for export allowances.

(a) EPA will allocate 3,000.0 MTEVe of production for export allowances to Iofina Chemical by October 1 of the calendar year prior to the year in which the allowances may be used for calendar years 2026, 2027, 2028, 2029, and 2030.

(b) Production for export allowances cannot be transferred.

(c) Any regulated substances produced with production for export allowances must be exported in the same calendar year it was produced.

■ 11. Amend § 84.31 by:

■ a. In the introductory text of paragraph (a), removing the phrase ‘‘in the six applications listed in subsection (e)(4)(B)(iv) of the AIM Act’’;

■ b. In paragraph (b)(2)(ix), removing ‘‘and’’ after ‘‘those listed applications;’’;

■ c. Redesignating paragraph (b)(2)(x) as paragraph (b)(2)(xi);

■ d. Adding paragraph (b)(2)(x);

■ e. Redesignating paragraphs (c)(1)(v) through (c)(1)(ix) as paragraphs (c)(1)(vi) through (c)(1)(x), respectively;

■ f. Adding paragraph (c)(1)(v);

■ g. Redesignating paragraphs (d)(1)(vii) and (d)(1)(viii) as paragraphs (d)(1)(viii) and (d)(1)(ix), respectively;

■ h. Adding paragraph (d)(1)(vii);

■ i. In paragraph (h)(1)(i), adding ‘‘, including a copy of the sales records, invoices, or other records documenting that quantity’’ after the word ‘‘months’’;

■ j. In paragraph (h)(1)(ii), adding ‘‘, including a copy of the sales records, invoices, or other records documenting that quantity’’ after the word ‘‘months’’;

■ k. In paragraph (h)(1)(iii), adding ‘‘, including a copy of the sales records, invoices, or other records documenting that quantity’’ after the parenthetical ‘‘(*i.e.,* from the open market)’’;

■ l. In paragraph (h)(1)(iv), adding ‘‘, with separate reporting on any inventory of stockpiled HFCs acquired pursuant to § 84.13(b)(1)(iv), including a copy of inventory records documenting that quantity if said quantity is greater than zero’’ after the word ‘‘use’’;

■ m. In paragraph (h)(1)(viii), removing the last ‘‘and’’ after the phrase ‘‘additional need’’;

■ n. In paragraph (h)(1)(ix), replacing ‘‘.’’ with ‘‘;’’;

■ o. Adding paragraphs (h)(1)(x);

■ p. Adding paragraph (h)(1)(xi);

■ q. In paragraph (h)(2)(iv), adding ‘‘, including a copy of inventory records documenting that quantity if said quantity is greater than zero’’ after the phrase ‘‘current year’’;

■ r. In the introductory text of paragraph (h)(4), striking out ‘‘, except for the conferral of allowances for mission-critical military end uses,’’;

■ s. In paragraph (h)(4)(v), removing ‘‘and’’ after ‘‘submitted to EPA;’’;

■ t. In paragraph (h)(4)(vi), replacing ‘‘.’’ with ‘‘; and’’;

■ u. Adding paragraph (h)(4)(vii);

■ v. In paragraph (h)(7)(i), replacing ‘‘annual’’ with ‘‘biannual’’;

■ w. Redesignating paragraphs (h)(7)(iii) through (h)(7)(vi) as paragraphs (h)(7)(iv) through (h)(7)(vii), respectively;

■ x. Adding paragraph (h)(7)(iii);

■ y. Redesignating paragraph (l) as paragraph (n); and

■ z. Adding paragraph (l) and (m).

The additions read as follows:

§ 84.31 Recordkeeping and reporting.

* * * * *

(b) * * *

(2) * * *

(x) The conferral certificate number, generated by the Department of Defense, for any regulated substances produced using application-specific allowances for mission-critical military end uses; and

* * * * *

(c) * * *

(1) * * *

(v) The conferral certificate number, generated by the Department of Defense, for any regulated substances imported using application-specific allowances for mission-critical military end uses;

* * * * *

(d) * * *

(1) * * *

(vii) Internal Transaction Numbers for all shipments, except shipments where an exemption from the requirements for the filing of Electronic Export Information (EEI) is provided in 15 CFR part 30, subpart D;

* * * * *

(h) * * *

(1) * * *

(x) If allowances are allocated for a unique circumstance under § 84.13(b)(1)(v), the quantity (in kilograms) of each regulated substance purchased with the intent to build inventory during the prior six-month period, including a copy of records documenting that quantity; and

(xi) The quantity (in kilograms) of each regulated substance that was sold, returned, or otherwise conveyed to another entity during the previous six months, excluding heels as defined in § 84.3, including a copy of records documenting that quantity.

* * * * *

(4) * * *

(vii) For the conferral of allowances for mission-critical military end uses, a conferral certificate number generated by the Department of Defense.

* * * * *

(7) * * *

(iii) A copy of confirmation notices when conferring allowances for application-specific use;

* * * * *

(l) *Holders of production for export allowances.* Any person allocated production for export allowances must comply with the following recordkeeping and reporting requirements:

(1) *Quarterly reporting.* Within 45 days after the end of each quarter, each holder of production for export allowances must submit to the relevant Agency official a report containing the following information:

(i) The quantity (in exchange value equivalent) of production for export allowances expended for each regulated substance and the quantity (in kilograms) of each regulated substance produced for export;

(ii) The quantity (in kilograms) of each regulated substance produced using production for export allowances that was exported;

(iii) The quantity (in kilograms) of each regulated substance produced with production for export allowances held in inventory at the end of the quarter;

(iv) Internal Transaction Numbers for all exports of regulated substances produced with production for export allowances;

(v) The country or countries to which regulated substances produced using production for export allowances were exported

(2) *Annual reporting.* Within 45 days after the end of the fourth quarter, each holder of production for export allowances must submit to the relevant Agency official a report containing the following information:

(i) In instances where the regulated HFCs produced using production for export allowances are sold directly to final foreign users, signed certifications by a responsible corporate officer from all foreign customers attesting that any regulated substances produced using production for export allowances will only be used in an application as listed in § 84.13(a). Each certification must include the name and address of the foreign entity, and a contact person's name, email address, and phone number;

(ii) In instances where the regulated HFCs produced using production for export allowances are held at an intermediary prior to receipt by final foreign users, signed certifications by a responsible corporate officer from the intermediary attesting that any regulated substances produced using production for export allowances will only be used in an application as listed in § 84.13(a). Each certification must include the name and address of the foreign entity, and a contact person's name, email address, and phone number; and

(iii) A description of how the use identified in the signed certifications from either the final foreign user or intermediary as appropriate, provided pursuant to paragraph (i) aligns with the applications as listed in § 84.13(a).

(3) *Recordkeeping.* Entities who receive production for export allowances must maintain the following records for three years:

(i) A copy of all certifications reported pursuant to paragraph (2)(i); and

(ii) Records demonstrating due diligence undertaken to verify and ensure that all regulated substances produced with production for export allowances and exported are being used in an application as listed in § 84.13(a).

(m) *Purchasers of HFCs at a government auction.* Any entity purchasing regulated substances at a government auction authorized by U.S. Customs and Border Protection must report such purchase to EPA as if they were an import consistent with the applicable provisions under this section, except for the following adjustments.

(i) *Quarterly reporting.* The date that the regulated substances were released to the purchaser by U.S. Customs and Border Protection or an authorized agent acting consistent with direction from U.S. Customs and Border Protection must be reported as the date on which the regulated substances were imported for purposes of paragraph (c)(1)(v). Unless otherwise unavailable, all requirements of paragraph (c)(1) must be reported to EPA. If a data element is unavailable, the auction purchaser must contact EPA and state that fact in writing by the time they make their filed report.

(ii) *Recordkeeping.* In addition to the records specified in paragraph (c)(2), the auction purchaser must maintain records of the auction purchase, including the accepted bid, confirmation of payment, certification by the entity that they expended allowances, container composition testing to verify the regulated substances contained within the cylinder, and all other final documentation of the auction purchase. Unless otherwise unavailable, all requirements of paragraph (c)(2) must be met. If a data element is unavailable, the auction purchaser must contact EPA and state that fact in writing by the time they make their filed report.

(iii) *Advance notification.* The auction purchaser must report the information specified in paragraph (c)(7) electronically in a format specified by EPA within 30 calendar days and prior to the HFCs entering U.S. commerce. The requirement in paragraph (c)(7)(xvi) does not apply if a certificate of analysis is not available at the time of submitting the information in paragraph (c)(7). The entity must complete all required sampling and testing required in this subpart prior to sale in U.S. commerce and maintain such records consistent with 84.31.

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Subpart B—Restrictions on the Use of Hydrofluorocarbons

■ 12. Amend § 84.54 by:

■ a. In paragraph (a)(16)(i), adding ‘‘, defense sprays as defined in § 84.3,’’ after ‘‘an aerosol solvent.’’

■ b. In paragraph (a)(16)(ii), adding ‘‘, except defense sprays as defined in § 84.3’’ after ‘‘150 or greater’’.

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