

The EPA Administrator, Michael S. Regan, signed the following proposed rule on 6/19/24, and EPA is submitting it for publication in the *Federal Register* (FR). While we have taken steps to ensure the accuracy of this Internet version of the rule, it is not the official version of the rule for purposes of compliance or effectiveness. Please refer to the official version in a forthcoming FR publication, which will appear on the Government Printing Office's website ([www.gpo.gov/fdsys/search/home.action](http://www.gpo.gov/fdsys/search/home.action)) and on Regulations.gov ([www.regulations.gov](http://www.regulations.gov)) in Docket No. EPA-HQ-OAR-2021-0643. Once the official version of this document is published in the FR, this version will be removed from the Internet and replaced with a link to the official version.

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6560-50-P

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 84**

**[EPA-HQ-OAR-2021-0643; FRL-11739-01-OAR]**

**Phasedown of Hydrofluorocarbons: Restrictions on the Use of HFCs under the AIM Act in Variable Refrigerant Flow Air Conditioning Subsector**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

**SUMMARY:** The U.S. Environmental Protection Agency is proposing to amend a provision of the Technology Transitions regulations promulgated under the American Innovation and Manufacturing Act. This action allows one additional year, until January 1, 2027, solely for the installation of new residential and light commercial air conditioning and heat pump variable refrigerant flow systems that are 65,000 British thermal units per hour or greater using components manufactured in the U.S. or imported prior to January 1, 2026. The existing January 1, 2026, compliance date for the installation of certain variable refrigerant flow systems may result in significant stranded inventory that was intended for new construction. EPA is promulgating this action to mitigate the potential for significant stranded inventory in this subsector.

**DATES:** Comments must be received on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** You may send comments, identified by Docket ID No. EPA-HQ-OAR-2021-0643, by any of the following methods:

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- Federal eRulemaking Portal: <https://www.regulations.gov> (our preferred method). Follow the online instructions for submitting comments.
- E-mail: [a-and-r-docket@epa.gov](mailto:a-and-r-docket@epa.gov). Include Docket ID No. EPA-HQ-OAR-2021-0643 in the subject line of the message.
- Mail: U.S. Environmental Protection Agency, EPA Docket Center, Air and Radiation Docket, Mail Code 28221T, 1200 Pennsylvania Avenue NW, Washington, DC 20460.
- Hand Delivery or Courier: EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue, NW, Washington, DC 20004. The Docket Center's hours of operations are 8:30 a.m. – 4:30 p.m., Monday – Friday (except Federal Holidays).

*Instructions:* All submissions received must include the Docket ID number for this rulemaking. Comments received may be posted without change to <https://www.regulations.gov>, including any personal information provided.

Do not submit any information you consider to be Confidential Business Information (CBI) through <https://www.regulations.gov>. For submission of confidential comments, please work with the person listed in the **FOR FURTHER INFORMATION CONTACT** section. For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

**FOR FURTHER INFORMATION CONTACT:** Joshua Silver, Stratospheric Protection Division, Office of Atmospheric Protection (Mail Code 6205A), Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460; telephone number: (202) 564-2473; email address: [silver.joshua@epa.gov](mailto:silver.joshua@epa.gov). You may also visit EPA's website at <https://www.epa.gov/climate-hfcs-reduction> for further information.

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## **SUPPLEMENTARY INFORMATION:**

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

AC – Air Conditioning  
AHRI – Air-Conditioning, Heating, and Refrigeration Institute  
AIM Act – American Innovation and Manufacturing Act of 2020  
The Alliance – Alliance for Responsible Atmospheric Policy  
APA – Administrative Procedure Act  
BTU/h – British thermal units per hour  
CAA – Clean Air Act  
EPA – U.S. Environmental Protection Agency  
FR – *Federal Register*  
GWP – Global Warming Potential  
HARDI – Heating, Air-conditioning & Refrigeration Distributors International  
HFC – Hydrofluorocarbon  
OEM – Original Equipment Manufacturer  
RACHP – Refrigeration, Air Conditioning, and Heat Pumps  
SNAP – Significant New Alternatives Policy  
VRF – Variable Refrigerant Flow  
VRV – Variable Refrigerant Volume

### **I. General Information**

#### *A. Does this action apply to me?*

You may be potentially affected by this proposed rule if you manufacture, import, export, sell or otherwise distribute, or install residential and light commercial air conditioning and heat pump equipment. Potentially affected categories, by North American Industry Classification System code, include:

- Plumbing, Heating, and Air Conditioning Contractors (238220).
- Air Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment Manufacturing (333415).
- Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers (423720).

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- Warm Air Heating and Air Conditioning Equipment and Supplies Merchant Wholesalers (423730).

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

*B. What action is the Agency taking?*

This proposed rule would provide one additional year, until January 1, 2027, for the installation of new residential and light commercial air conditioning and heat pump systems using variable refrigerant volume (VRV) or variable refrigerant flow (VRF) technology that are 65,000 British thermal units per hour (BTU/h) or larger when using components that were manufactured in the U.S. or imported into the U.S. before January 1, 2026. Specifically, this proposed rule would allow for pre-2026 condensing units, evaporators, and air handlers using R-410A, a blend of two regulated hydrofluorocarbons (HFCs) listed in the American Innovation and Manufacturing Act of 2020 (AIM Act), or other regulated substances and blends of regulated substances not meeting the 2023 Technology Transitions Rule's restrictions, to be assembled into new systems (*i.e.*, installed), so long as those systems are assembled prior to January 1, 2027.

*C. What is the Agency's authority for taking this action?*

On December 27, 2020, the AIM Act was enacted as section 103 in Division S, Innovation for the Environment, of the Consolidated Appropriations Act, 2021 (codified at 42

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U.S.C. 7675). Subsection (k)(1)(A) of the AIM Act provides EPA with the authority to promulgate necessary regulations to carry out EPA’s functions under the Act, including its obligations to ensure that the Act’s requirements are satisfied. Subsection (k)(1)(C) of the AIM Act also provides that 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.

The AIM Act authorizes EPA to address HFCs by providing new authorities in three main areas: phasing down the production and consumption of listed HFCs; managing these HFCs and their substitutes; and facilitating the transition to next-generation technologies by restricting use of these HFCs in the sector or subsectors in which they are used. This rulemaking focuses on the third area: the transition to next-generation technologies by restricting use of these HFCs in the sector or subsectors in which they are used. 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). The AIM Act lists 18 HFCs, and by reference any of their isomers not so listed, that are covered by the statute’s provisions, referred to as “regulated substances” under the Act.<sup>1</sup> (42 U.S.C. 7675(c)(1)). EPA is proposing to amend restrictions on the use of certain HFCs in the residential and light commercial air conditioning and heat pump subsector for large equipment that use VRV or VRF technology.

*D. What are the incremental costs and benefits of this action?*

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<sup>1</sup> “Regulated substance” and “HFC” are used interchangeably in this document.

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This proposed rule would reduce regulatory burden associated with the Technology Transitions program while having a negligible environmental impact. Original equipment manufacturers (OEMs) have indicated that large quantities of manufactured inventory of VRF equipment could go unsold without an extension of the installation date. Stranding equipment that does not meet the new restrictions is counter to the overall approach EPA has taken in the 2023 Technology Transitions Rule. Extending the installation date for these systems will not have an impact on the benefits modeled in the 2023 Technology Transitions Rule because EPA is limiting the extension to equipment manufactured in the U.S. or imported into the U.S. before the existing compliance date of January 1, 2026 (88 FR 73098). Furthermore, EPA did not analyze this subsector separately from the broader residential and light commercial air conditioning and heat pump sector for which EPA has already provided similar regulatory relief.

## **II. Background**

### *A. Previous Technology Transitions Rules*

On October 24, 2023, EPA's final rule establishing the Technology Transitions program was published in the *Federal Register* (88 FR 73098, hereafter "2023 Technology Transitions Rule"). That rule restricted the use of certain HFCs in over 40 subsectors in which they are used by establishing limits for those subsectors based on global warming potential (GWP). It also prohibited, among other things, the manufacture and import of factory-completed products and the installation of certain refrigeration, air conditioning, and heat pump systems that use HFCs above specified GWP limits. The compliance dates for these restrictions vary by subsector and range from January 1, 2025, to January 1, 2028. The rule also prohibited the sale, distribution, and export of factory-completed products that do not comply with the relevant restrictions three years after the prohibition on manufacture and import.

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After issuance of the 2023 Technology Transitions Rule, manufacturers, importers, and distributors of residential and light commercial air conditioning and heat pump equipment requested clarification of the provisions of the rule regarding two categories of equipment: residential and light commercial air conditioning and heat pump systems and variable refrigerant flow (VRF) systems. The November 13, 2023, letter to EPA from the Air-Conditioning, Heating, and Refrigeration Institute (AHRI), the Alliance for Responsible Atmospheric Policy (the Alliance), and Heating, Air-conditioning & Refrigeration Distributors International (HARDI) states that these organizations understand that components for systems in these two categories manufactured in the U.S. or imported into the U.S. before January 1, 2025, and January 1, 2026, respectively, using a regulated substance with a GWP of 700 or more, cannot be installed as new systems after each such compliance date.<sup>2</sup> The letter states that this would be “particularly problematic for residential new construction, including both single-family and multi-family dwellings, where builders order heating and cooling equipment well in advance of knowing the exact date of install. Such equipment is not installed until construction is nearly complete, but at time of order builders do not know when this date will be.” The letter further articulates that allowing the use of components manufactured in the U.S. or imported into the U.S. prior to the compliance date to be installed as part of new systems for one year after the compliance date would provide some relief to the economic and practical burdens.

On December 26, 2023, EPA issued an interim final rule (88 FR 88825) that reevaluated the specific circumstances for residential and light commercial air conditioning and heat pumps and extended the installation compliance date for that subsector from January 1, 2025, to January

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<sup>2</sup> This letter can be found in the docket at EPA Docket ID No. EPA-HQ-OAR-2021-0643.



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1, 2026, when using components that were manufactured in the U.S. or imported into the U.S. prior to January 1, 2025. EPA separately considered comments on that rule. The Agency is proposing a similar adjustment to the restrictions on the installation of VRF systems.

Specifically, EPA is proposing to extend the installation compliance date for the VRF subsector from January 1, 2026, to January 1, 2027, when using components that were manufactured in the U.S. or imported into the U.S. prior to January 1, 2026.

### *B. Variable Refrigerant Flow Subsector*

Variable refrigerant flow (VRF) and variable refrigerant volume (VRV) systems are direct expansion multi-split systems that incorporate the following: a split system air conditioner or heat pump incorporating a single refrigerant circuit that is a common piping network to two or more indoor evaporators, each capable of independent control, or compressor units. VRF split systems contain a single module outdoor unit or combined module outdoor units with at least one variable capacity compressor that has three or more steps of capacity, with air or water as the heat source. This design is generally more energy efficient than unitary split systems without VRF. In this rule, EPA is considering only those VRF systems that are larger than 65,000 BTU/h and are used for air conditioning.

While this technology is used in air conditioning and heat pump equipment of any size, the 2023 Technology Transitions Rule limited its restrictions for this subsector to air-source VRF systems with capacities of 65,000 BTU/h (19 kW) or more and water-source VRF systems of any capacity. EPA proposed, and finalized, a compliance date that provided one additional year compared to the rest of the residential and light commercial air conditioning and heat pump subsector due to the complexity of the design and installation for large VRF systems. Data released annually by AHRI show that equipment with capacities of 65,000 BTU/h or more

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constitute roughly three percent of all residential and light commercial equipment sold. VRF equipment of that size are a subset of that three percent. EPA has summarized this publicly available data and included it in the docket for this proposed rule.

### *C. Avoiding Stranded Inventory*

An important consideration in the 2023 Technology Transitions Rule was to avoid stranding inventory of existing equipment. This includes systems that are already installed and operating as well as unsold equipment in the manufacturing and distribution chain. EPA stated that “[w]e recognize that the production and purchase of products or components that are unable to be sold to consumers is an economic and environmental outcome no parties desire, and the proposed rule’s forward-looking compliance dates were intended to allow all parties in the market supply chain sufficient time to avoid that outcome” (88 FR 73123). EPA’s goal of avoiding the stranding of inventory is consistent with the requirement in subsection (i)(6) that Technology Transition restrictions may not take effect sooner than one year from the date of promulgation; this provision also serves to ensure that regulated parties have sufficient time to prepare for and comply with restrictions under this provision. In response to concerns about stranded inventory raised during the public comment period on the proposed rule, EPA made two significant adjustments in the final 2023 Technology Transitions Rule.

First, EPA removed the applicability of the rule’s use restrictions to components. EPA explained that components are pieces of equipment that do not function independently and must be assembled together in the field in order to function for its intended purpose. Components are replaceable and a faulty component can be swapped out to avoid replacing an entire system. Recognizing the ongoing need for servicing and updating previously installed systems, EPA allowed for the continued manufacture, import, sale, distribution, offer for sale and distribution,

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and export of components that rely on regulated substances that would not meet the new restrictions. Aside from reporting requirements, components are therefore not subject to the restrictions in the 2023 Technology Transitions Rule, except insofar as those components may not be installed in new systems on or after the installation compliance dates.

Second, the proposed rule set a compliance date, one year after the manufacture and import compliance date, by which factory-completed products could no longer be distributed, sold, and offered for sale or distribution (*i.e.*, the “sell-through” date). For the purposes of the refrigeration, air conditioning, and heat pump (RACHP) sector, factory-completed products are equipment which are charged at the factory with the full and proper amount of refrigerant needed to function. Since the Agency received many comments on this topic, including from those commenters that considered one year to be insufficient especially for certain seasonal products, EPA extended the sell-through period for factory-completed products in the 2023 Technology Transitions Rule to be three years after the manufacture and import compliance date.

Through these two modifications in the 2023 Technology Transitions Rule, EPA determined it had minimized the potential for stranded inventory. Specifically with respect to components, the Agency’s view was that there would continue to be a market for components not meeting the GWP limit thresholds for new systems, because those components could continue to enter the market to service existing systems.

Additionally, in the 2023 Technology Transitions Rule, EPA extended the compliance dates, or raised the GWP limit, for the installation of most field-assembled refrigeration systems (as compared to its proposed compliance dates), recognizing, in part, that refrigeration systems would require manufacturers and importers to make component equipment available and that such systems can be specifically designed for an individual facility and would need more time to

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transition.<sup>3</sup> EPA did not finalize later compliance dates for the installation of systems in the residential and light commercial air conditioning and heat pump, and VRF, subsectors in that rule.<sup>4</sup> Subsequent to promulgating the 2023 Technology Transitions Rule, EPA learned that additional time, which had already been extended to nearly all of the subsectors covering field-assembled refrigeration systems, was needed for those air conditioning subsectors. EPA responded by issuing an interim final rule reevaluating the specific circumstances for residential and light commercial air conditioning and heat pumps and extending the installation compliance date for that subsector by one year (88 FR 88825) and by undertaking this proposed rulemaking.

EPA is reevaluating the planning, purchasing, and installation timeframes for new construction using VRF equipment as referenced in the November 13, 2023, letter from industry stakeholders and is proposing an extension of one additional year, which would align with the additional time already provided for many refrigeration subsectors in the 2023 Technology Transitions Rule and in the interim final rule for installation of certain residential and light commercial air conditioning and heat pumps.

Multi-unit residential and commercial new construction buildings must be planned well in advance, including plans for the heating and cooling systems intended to be installed in that new construction. Builders may order those planned heating and cooling systems in concert with

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<sup>3</sup> See 88 FR 73143 (industrial process refrigeration systems—proposed January 1, 2025, compliance date, finalized January 1, 2026 compliance date (January 1, 2028, for some subsectors); 88 FR 73149 (data centers, ITEF, computer room cooling equipment—proposed January 1, 2025, compliance date, finalized January 1, 2027 compliance date); 88 FR 73150 (systems in retail food refrigeration subsector—proposed January 1, 2025, compliance date, finalized a range of compliance dates from January 1, 2026 to January 1, 2028); 88 FR 73162 (cold storage warehouses—proposed January 1, 2025, compliance date, finalized January 1, 2026, compliance date); 88 FR 73163 (ice rinks—retained proposed January 1, 2025, compliance date in final rule but increased GWP limit from 150 to 700); 88 FR 73175 (chillers-industrial process refrigeration—proposed January 1, 2025 compliance date, finalized compliance dates of January 1, 2026, and January 1, 2028 depending on the system).

<sup>4</sup> See 88 FR 73178 (residential and light commercial air conditioning and heat pumps—proposed January 1, 2025, compliance date, finalized January 1, 2025, compliance date); *id.* (VRF systems—proposed January 1, 2026, compliance date, finalized January 1, 2026, compliance date).

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the planning process without knowing when those systems will be installed. As noted by stakeholders, installation of these systems is often one of the final steps in construction. EPA acknowledges that it may therefore be the case that for new construction planned to occur in 2026, builders may have already designed and received a permit ahead of the issuance of the 2023 Technology Transitions Rule, for a building that contains a heating and cooling system that is planned to be installed in that new construction. Specifically, EPA recognizes that for construction planned to occur in 2026, components of residential and light commercial air conditioning and heat pump systems using VRF with regulated substances may have already been incorporated into the design of the building, received a permit from the appropriate authority having jurisdiction, and ordered by builders, such that the VRF system equipment associated with these projects are at risk of being stranded. EPA also recognizes that as one of the first subsectors facing a system installation compliance date under the new Technology Transitions program, the ability of the VRF subsector to comply with this deadline relies on manufacturers, importers, and distributors to quickly make commercially available component parts that comply with the GWP thresholds. For this reason, as well, EPA has determined it is appropriate to propose this limited extension for compliance.

As discussed in the 2023 Technology Transitions Rule, EPA established the compliance date of January 1, 2026, based on consideration of the AIM Act's subsection (i)(4) factors, and in particular, the assessment that the VRF subsector will be able to meet the 2023 Technology Transitions Rule's GWP limit of 700, and transition from the current use of HFCs in the subsector. EPA's consideration of the statutory factors continues to support a speedy transition for this subsector. However, as discussed above, the Agency recognizes that the January 1, 2026, installation compliance date could result in builders of new construction being left with stranded

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inventory that could not be used. Stranding inventory is an economically and environmentally undesirable outcome, and the issue addressed in this proposed rule was not brought to the Agency's attention until after the 2023 Technology Transitions Rule was finalized. This action therefore proposes to extend the January 1, 2026, new installation compliance date to January 1, 2027, provided the new installation uses components that were manufactured in the U.S. or imported into the U.S. prior to January 1, 2026.

Stakeholders, including the authors of the November 13, 2023, letter, have indicated that extending the installation compliance date by one year would alleviate their concerns about stranded inventory.<sup>5</sup> EPA also heard from one stakeholder that its concerns would be alleviated by exempting the installation of VRF systems in buildings from the restrictions of the 2023 Technology Transitions Rule if those buildings received a permit prior to finalization of the 2023 Technology Transitions Rule (*i.e.*, October 24, 2023).<sup>6</sup>

EPA recognized in the 2023 Technology Transitions Rule that some buildings had already been permitted prior to finalization of that rule. While permits may not always specify the refrigerant to be used in a refrigeration or air conditioning technology in a building, some permits may require a particular regulated substance or blend of regulated substances. Recognizing that where earlier issued permits required a particular regulated substance or blend, and where such permitted systems were likely to be highly complex and costly to redesign, the 2023 Technology Transitions Rule provided one additional year beyond the final rule compliance dates for the installation of certain field-assembled systems. Specifically, for the

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<sup>5</sup> The letter dated November 13, 2023, can be found in the docket at EPA Docket ID No. EPA-HQ-OAR-2021-0643. Another letter from a stakeholder, dated October 17, 2023, can be found in the docket for this proposed rule.

<sup>6</sup> The letter from this stakeholder, dated March 5, 2024, and supporting documentation that accompanied that letter, are included in the docket for this proposed rule.

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installation of refrigeration systems in four subsectors (certain industrial process refrigeration systems; retail food refrigeration – supermarkets; cold storage warehouses; and ice rinks) if an approved building permit was issued before the signature date of the 2023 Technology Transitions Rule (*i.e.*, October 5, 2023), and the permit specified the use of a system containing a particular regulated substance or blend of regulated substances with a GWP above the relevant GWP threshold for that subsector (88 FR 73120; 40 CFR 84.54(d)).

EPA intended this limited flexibility in the 2023 Technology Transitions Rule to prevent the need to redesign these systems and, in some cases, the facility that houses these systems. EPA granted this permit-based extension selectively, as most systems are not typically designed specifically for an individual facility and/or most systems have a later compliance date and thus can make any necessary changes with the GWP restrictions in mind.

The stakeholder that requested an exemption of VRF systems from the restrictions of the 2023 Technology Transitions Rule where such systems were covered by a building permit issued prior to finalization of the 2023 Technology Transitions Rule, is a developer of buildings which are hundreds of thousands of square feet. The stakeholder described, in information it provided to EPA, how the time from initial permitting to final construction can take several years.<sup>7</sup> One of its buildings received an approved permit in June of 2023, and the developer expects the building to be completed in 2028. This stakeholder would like the VRF system in this building to be exempted from the restrictions of the 2023 Technology Transitions Rule, which would otherwise have required installation of GWP-compliant VRF systems starting on January 1, 2026.

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<sup>7</sup> See letter from stakeholder, dated March 5, 2024, included in the docket for this proposed rule.

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Included in the information this stakeholder provided to EPA was an attachment from the manufacturer of VRF equipment that the developer intends to install in its building. In this attachment, dated March 4, 2024, the manufacturer states that while it “has not made available selection software or complete engineering data for the upcoming R-32 product to satisfy the project” indicated by the developer, the manufacturer “can confirm that on or before the date of the mandated transition to A2L refrigerants, equipment will be available for design, manufacture, and sale in North America.”<sup>8</sup>

EPA does not agree that it would be appropriate and consistent with subsection (i)(4) to provide a broad, unlimited exemption from the 2023 Technology Transitions Rule to any project where the system had received a building permit prior to finalization of the rule. EPA is cognizant in establishing these restrictions, and in considering requested flexibilities from stakeholders, that in some instances, the individual costs to some regulated entities to accommodate updated regulations in their planning must be balanced with the national priorities established in the AIM Act of phasing down HFCs on a set schedule and transitioning away from the use of HFCs where practicable. In this case, EPA’s analysis under the 2023 Technology Transitions Rule was that lower-GWP substitutes for HFCs will be available for the component equipment needed for these VRF installations in time for the January 1, 2026, compliance date. One of the primary manufacturers of this equipment has confirmed EPA’s assessment about availability in the materials provided to the Agency. The fact that such equipment may not be available for purchase in early 2024 does not mean that projects planned for 2028 should not be expected to comply with restrictions promulgated in 2023.

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<sup>8</sup> See Attachment A, after the letter from stakeholder, dated March 5, 2024, (page 10), included in the docket for this proposed rule.



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However, EPA recognizes that a permit-based flexibility is an alternative way to accommodate potential concerns about compliance. We are therefore proposing in the alternative a similar one-year extension that was provided to certain field-assembled systems with building permits that specified use of a particular HFC or blend under the 2023 Technology Transitions Rule. Specifically, this proposal in the alternative would extend the compliance date for installation of new VRF systems from January 1, 2026, to January 1, 2027, where the building permit both specified the HFC or HFC blend to be used and was issued prior to the signature date of the 2023 Technology Transitions Rule (October 5, 2023). This alternative proposal is consistent with the permit-based flexibility provided to the four previously mentioned refrigeration subsectors (88 FR 73120; 40 CFR 84.54(d)). However, it is likely that fewer projects would meet the criteria for this permit-based extension compared to the number of projects potentially impacted by EPA's primary proposal of extending the compliance date to January 1, 2027, for installation of all VRF systems using components manufactured in the U.S. or imported into the U.S. by January 1, 2026.

#### *D. Limiting the environmental impact of this action*

EPA is narrowly tailoring this proposal to respond to stakeholder concerns about stranded inventory in this subsector while maintaining the human health and environmental benefits of the 2023 Technology Transitions Rule. To do so, EPA is proposing to extend the installation compliance date by one year to January 1, 2027, only for new VRF systems installed from specified components (*e.g.*, condensing units and indoor evaporators) that were manufactured in the U.S. or imported into the U.S. prior to January 1, 2026. This restriction means that the total number of VRF systems using HFCs or HFC blends with a GWP above 700 installed in 2025 and 2026 would match what the Agency modeled for installation in 2025. The extra year for

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installation would not increase demand for HFCs in this subsector but rather could shift some of the demand from 2025 into 2026.

EPA is proposing to extend the original compliance date for new installations in this subsector to January 1, 2027, when using components manufactured in the U.S. or imported into the U.S. on or after January 1, 2026. These components remain subject to the original restrictions of the 2023 Technology Transitions Rule. Specifically, if they contain an HFC with a GWP of 700 or greater, their use is limited to servicing previously installed systems. As elaborated on more below, all the existing labeling, reporting, and recordkeeping requirements also continue to apply to components using, or intended to use, any regulated substance. Consideration of extending the compliance date for all installations in the subsector by one year is not warranted based on EPA's prior analysis of the availability of substitutes within this subsector, as described in the 2023 Technology Transitions Rule and supporting documents in the docket for that rule.<sup>9</sup>

EPA finds that this proposed approach of providing additional time for installation effectively responds to stakeholder concerns about stranded inventory while remaining protective of the environment. This approach was suggested by industry stakeholders in their letter dated November 13, 2023, and it aligns with industry's plans to transition in this subsector.

This proposed rule would provide an additional year for installation only if all "specified components" of that system are manufactured in the U.S. or imported into the U.S. prior to January 1, 2026. The term "specified component" is defined under the 2023 Technology Transitions Rule as "condensing units, condensers, compressors, evaporator units, and evaporators" (88 FR 73112). Other components of an air conditioning or heat pump system such

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<sup>9</sup> This refers to EPA Docket ID No. EPA-HQ-OAR-2021-0643.

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as valves or refrigerant piping are not restricted by the 2023 Technology Transitions Rule and can be installed regardless of manufacture or import date.

*E. How would the labeling, recordkeeping, and reporting provisions apply?*

The 2023 Technology Transitions Rule requires labels on products and certain components that use HFCs. The labeling requirement takes effect for each subsector at the same time as the manufacture and import prohibition for products or the installation prohibition for systems. This timing reflects the primary purpose of the labels, which is for assessing compliance of products and systems in sectors and subsectors with active HFC restrictions.

This action would not require any specific labeling for components that are manufactured in the U.S. or imported into the U.S. prior to January 1, 2026. Nameplates typically include the date that a component is manufactured, which would be sufficient for the purposes of this action. Furthermore, it would be impractical to require entities that are not OEMs to relabel components that are already within the distribution chain.

This action would not change the existing labeling requirements related to components that are effective January 1, 2026. For specified components of systems, the 2023 Technology Transitions Rule required labels as of the applicable installation compliance date. This means that for specified components manufactured in the U.S. or imported into the U.S. on or after January 1, 2026, the requirements of the 2023 Technology Transitions Rule continue to apply. These requirements include, among others, that such components must be labeled with the statement “For servicing existing equipment only.” This labeling is particularly important to distinguish components manufactured in the U.S. or imported into the U.S. before January 1, 2026, from those that are not.

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The 2023 Technology Transitions Rule established recordkeeping and reporting requirements for any entity that manufactures or imports products or specified components that use or are intended to use HFCs in the sectors and subsectors covered in that rule. The reporting period for all sectors and subsectors starts on January 1, 2025, and the first reports must be submitted to the Agency by March 31, 2026. This action does not add to nor modify the existing reporting and recordkeeping requirements for specified components. EPA is not proposing to establish new reporting and recordkeeping requirements related to the sale or installation of components manufactured in the U.S. or imported into the U.S. prior to January 1, 2025. Reporting and recordkeeping would still be required for specified VRF components that are manufactured in the U.S. or imported into the U.S. on or after January 1, 2025.

*F. Evaluation of the subsection (i)(4) factors*

Subsection (i)(4) of the AIM Act directs EPA to factor in, to the extent practicable and using best available data, various considerations when carrying out a rulemaking under subsection (i). As discussed in detail in the preamble to the 2023 Technology Transitions Rule, EPA views subsection (i)(4)(A) through (D) as providing overarching direction for setting restrictions under subsection (i) (88 FR 73129-73141). In this action, EPA is not reconsidering the interpretations provided in the 2023 Technology Transitions Rule regarding how it considers the factors laid out in subsection (i)(4). Nor is the Agency revisiting its analysis of the (i)(4) factors with respect to the residential and light commercial air conditioning and heat pump subsector that uses VRF technology as set forth in the 2023 Technology Transitions Rule preamble (88 FR 73177-73180). However, in proposing this narrow adjustment to the January 1, 2026, compliance date for the residential and light commercial air conditioning and heat pump

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VRF subsector, we have considered the (i)(4) factors to the extent practicable, as applicable to the Agency's adjustment of that compliance date.

The issue being addressed by this proposal was brought to the Agency's attention by stakeholders impacted by the 2023 Technology Transitions Rule. As noted in EPA's discussion of subsection (i)(4)(A), in addition to information generated by other governing bodies and agencies, the Agency does also take into account information provided by industry, environmental non-governmental organizations, trade associations, academia, standard-setting bodies, and more (88 FR 73129). We acknowledge that in some cases, regulated entities may be best situated to identify best available information regarding implementation challenges. As part of this proposed rule, EPA is providing an opportunity for comment and invites stakeholders who may have information relevant to this action to weigh in.

With respect to the Agency's evaluation of the availability of substitutes under subsection (i)(4)(B), EPA previously determined that substitutes with a GWP less than 700 are available effective January 1, 2026, for the residential and light commercial air conditioning and heat pump VRF subsector. EPA is not proposing to change that determination and continues to find that substitutes with a GWP less than 700 will be available January 1, 2026, for this subsector. Manufacturers in this subsector are currently making air conditioning and heat pump systems and components with lower-GWP refrigerants for other markets and are prepared to meet the January 1, 2026, installation compliance date for such systems. This action is not proposing to reconsider the Agency's prior evaluation of the availability of substitutes for meeting the use restrictions issued in the 2023 Technology Transitions Rule for this subsector; rather, this action is narrowly tailored to address the disposition of components manufactured in the U.S. or imported into the U.S. prior to January 1, 2026.

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This proposal to adjust the installation compliance date for large VRF systems is motivated by the policy goal of avoiding stranding inventory where possible, while recognizing that the AIM Act directs the Agency to establish use restrictions where appropriate for sectors and subsectors to move away from the use of high-GWP HFCs. We believe these goals to be consistent with the direction in subsection (i)(4)(C), which instructs the Agency to factor in, to the extent practicable, overall economic costs and environmental impacts, as compared to historical trends. As discussed in the 2023 Technology Transitions Rule, EPA interprets (i)(4)(C) as purposefully accommodating different types and degrees of analysis of economic costs and environmental impacts, including costs and impacts that may be difficult to quantify (88 FR 73138). The narrow adjustment being proposed would reduce the potential to unintentionally strand large VRF components, while still achieving a prompt transition for this subsector. Specifically, even with the adjustments in this proposed rule, manufacturers and importers of components for new VRF systems will be required in the very near term (*i.e.*, before January 1, 2026) to transition from using R-410A and other higher-GWP regulated substances in those components, and developers and builders will not be permitted to install new systems that use R-410A or other non-compliant HFCs or HFC blends beginning January 1, 2027. This proposed action would not affect the overall consumption of HFCs because EPA does not anticipate a change in the amount of new VRF equipment that would be manufactured in the U.S. or imported into the U.S prior to January 1, 2026. Further discussion of environmental impacts can be found in section III.B.

EPA requests comment on the incremental costs and benefits associated with this action, including avoiding impacts such as stranded inventory (*e.g.*, number and type of units affected) and on the incremental impacts to regulated entities regarding compliance (*e.g.*, avoiding

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redistribution of equipment, avoiding revisions or new permits to replace previously secured building permits).

Finally, subsection (i)(4)(D) directs the Agency to factor in, to the extent practicable, the remaining phasedown period for regulated substances under the allowance allocation program. The reduction in the supply of HFCs is an important factor supporting compliance dates and GWP limits that are as stringent as feasible under the analysis of all the (i)(4) factors. EPA finds that this proposed rule would not materially affect the demand for HFCs because it limits installations to components that were manufactured in the U.S. or imported into the U.S. prior to January 1, 2026. The effect of this proposed rule would be to extend the installations that EPA modeled to occur in 2025 over the two-year period of 2025 and 2026. However, given the small size of this subsector, at a subset of roughly three percent of all equipment sold in the residential and light commercial subsector, EPA did not independently model this subsector in the 2023 Technology Transitions Rule's Regulatory Impact Assessment Addendum.

#### *G. Negotiated Rulemaking*

Prior to proposing a rule, subsection (i)(2)(A) of the Act directs EPA to consider negotiating with stakeholders in the sector or subsector subject to the potential rule in accordance with negotiated rulemaking procedures established under subchapter III of chapter 5 of title 5, United States Code (commonly known as the "Negotiated Rulemaking Act of 1990"). If EPA makes a determination to use the negotiated rulemaking procedures, subsection (i)(2)(B) requires that EPA, to the extent practicable, give priority to completing that rulemaking over completing rulemakings under subsection (i) that are not using that procedure. If EPA does not use the negotiated rulemaking process, subsection (i)(2)(C) requires the Agency to publish an

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explanation of the decision not to use that procedure before commencement of the rulemaking process.

EPA noted in the 2023 Technology Transitions Rule that, where appropriate, EPA will consider recent Agency actions and decisions related to restrictions on the use of HFCs in sectors and subsectors when considering using negotiated rulemaking procedures. EPA provided the example of not issuing a separate notice to consider using negotiated rulemaking for four petitions received after a first round of petitions had received public notice. EPA's reasoning was that these petitions were received well ahead of the final action and the requested restrictions are in the same sectors and subsectors contained in petitions for which a determination had already been made. EPA stated that nothing in those four petitions caused EPA to reconsider that decision and that it was unnecessary for the Agency to reconsider whether to use negotiated rulemaking procedures.

Upon considering recent Agency action, specifically the 2023 Technology Transitions Rule, this proposed rulemaking does not merit a reconsideration of the prior determination not to use negotiated rulemaking procedures. This proposal is a direct and immediate response to a specific concern arising from the recent Agency action to establish a compliance date for the installation of certain systems within the residential and light commercial air conditioning and heat pump VRF subsector. EPA is not proposing to address a new subsector nor establish a new restriction. Instead, this proposed rule would provide targeted relief to address concerns about stranded inventory in a single subsector subject to a recently finalized restriction.

Furthermore, this action was requested through a November 13, 2023, letter signed jointly by AHRI, the Alliance, and HARDI, which together represents a majority of the stakeholders in the subsector subject to the rule. The groups did not request the use of the



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negotiated rulemaking procedure in their letter, and EPA does not believe that the rule would benefit from the negotiated rulemaking procedure especially because timeliness is a concern universally shared by stakeholders in this subsector.

### **III. 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 14094: Modernizing Regulatory Review*

This action is not a significant regulatory action as defined in Executive Order 12866, as amended by Executive Order 14094, and was therefore not subject to a requirement for Executive Order 12866 review.

#### *B. Paperwork Reduction Act (PRA)*

This action does not impose an information collection burden under the PRA because it does not contain any information collection activities.

#### *C. Regulatory Flexibility Act (RFA)*

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. In making this determination, EPA concludes that the impact of concern for this proposed rule is any significant adverse economic impact on small entities and that the Agency is certifying that this proposed rule would not have a significant economic impact on a substantial number of small entities because the proposed rule would relieve regulatory burden on the small entities subject to the rule. This proposed rule would prevent the stranding of components used to install residential and light commercial air conditioning and heat pump systems using variable refrigerant flow technology. We have

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therefore concluded that this action would relieve regulatory burden for all directly regulated small entities.

*D. Unfunded Mandates Reform Act (UMRA)*

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

*E. Executive Order 13132: Federalism*

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

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

This action does not have tribal implications as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this action.

*G. Executive Order 13045: Protection of Children From Environmental Health 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. This action is narrowly tailored to prevent the stranding of certain air conditioning and heat pump equipment using variable refrigerant flow technology while not affecting the demand for HFCs. Therefore, this action is not subject to Executive Order 13045

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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.

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

This action is not subject to Executive Order 13211, because it is not a significant regulatory action under Executive Order 12866.

*I. National Technology Transfer and Advancement Act (NTTAA)*

This rulemaking does not involve technical standards.

*J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations and Executive Order 14096: Revitalizing Our Nation's Commitment to Environmental Justice for All*

EPA believes that this type of action does not concern human health or environmental conditions and therefore cannot be evaluated with respect to potentially disproportionate and adverse effects on communities with environmental justice concerns. This action is narrowly tailored to prevent the stranding of inventory of air conditioning and heat pump equipment using variable refrigerant flow technology while not affecting the demand for HFCs.

Although this action does not concern human health or environmental conditions, EPA identified and addressed environmental justice concerns within the 2023 Technology Transitions Rule (88 FR 73098; October 24, 2023).

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**List of Subjects in 40 CFR Part 84**

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

**Michael S. Regan,**  
Administrator.

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For the reasons stated in the preamble, EPA proposes to amend 40 CFR part 84 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 B-Restrictions on the Use of Hydrofluorocarbons**

2. Amend § 84.54 by revising paragraph (c)(2) to read as follows:

**§ 84.54 Restrictions on the use of hydrofluorocarbons.**

\* \* \* \* \*

(c) \* \* \*

(2) Effective January 1, 2026, variable refrigerant flow systems for use as residential or light commercial air-conditioning or heat pumps, using a regulated substance, or a blend containing a regulated substance, with a global warming potential of 700 or greater. New variable refrigerant flow systems using a regulated substance, or a blend containing a regulated substance, with a global warming potential of 700 or greater may be installed prior to January 1, 2027, where all specified components of that system are manufactured in the U.S. or imported into the U.S. prior to January 1, 2026.

\* \* \* \* \*