



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

Response to Comments on Proposed Regulation

310 CMR 7.76:

Prohibitions on Use of Certain Hydrofluorocarbons in Aerosol Propellants, Chillers, Foam, and Stationary Refrigeration End-Uses

December 2020

Regulatory Authority:

M.G.L. c. 21N, sections 1 and 2, M.G.L. c. 111, sections 142A-E

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.

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On October 2, 2020, the Massachusetts Department of Environmental Protection (MassDEP) proposed regulation 310 CMR 7.76 *Prohibitions on Use of Certain Hydrofluorocarbons in Aerosol Propellants, Chillers, Foam, and Stationary Refrigeration End-Uses*, which prohibits the use of certain hydrofluorocarbons (HFCs) in refrigeration equipment, air conditioning chillers, aerosol propellants, and foams that are manufactured or used in Massachusetts. Prohibited use would include selling, leasing, renting, offering for sale, installing, or manufacturing HFC-containing products and equipment in specific end uses. The regulation does not require currently functioning equipment to be replaced or altered. Prohibitions would phase in on dates ranging from January 1, 2021 to January 1, 2024 based on the end-use sector and in line with similar prohibitions established in other states. The proposed regulation requires manufacturers of applicable equipment to provide a disclosure statement to end-users that allows confirmation that the product or equipment is compliant and to maintain records for five years.

On October 2, 2020, MassDEP published a notice in the Boston Globe and the Springfield Republican announcing the public hearings and public comment period on the proposed regulation. On October 23, 2020, MassDEP held a virtual public hearing and solicited comments on the proposed regulation in accordance with Massachusetts General Law Chapter 30A. The comment period closed on November 3, 2020.

This document summarizes and responds to comments that were received during the public comment period. Those who provided comments are listed below:

1. Kevin Messner and Sriram Gopal, Association of Home Appliance Manufactures (AHAM)
2. Mary Dudek
3. Clint Richmond (Richmond)
4. Sally Pick, SJP Environmental Consulting, LLC (SJP)
5. Steven Wieroniey, American Chemistry Council, Center for the Polyurethanes Industry (ACC)
6. Nicholas Georges, Household & Commercial Products Association (HCPA)
7. Melanie Holtz, Jacobs Engineering (Jacobs)
8. Ronald Shebik, Hussmann Corporation (Hussman)
9. Brian Moran, New England Convenience Store & Energy Marketers Association (NECSEMA)
10. Deb Pasternak, Massachusetts Sierra Club (Sierra Club)
11. Sanjeev Rastoji and Jessica Olson, Honeywell Fluorine Products (Honeywell)
12. Allen Karpman, Arkema Inc.; Lisa Massaro, DuPont Specialty Products USA, LLC; Ming Xie, Kingspan Insulation LLC; Peter M. Geosits, Koura Business Group (XPS Coalition)
13. Justin Koscher, Polyisocyanurate Insulation Manufacturers Association (PIMA)
14. Lisa Massaro, DuPont Specialty Products USA, LLC (DuPont)
15. Brian Yoder, GE Aviation Lynn Works (GE)
16. Robert A. Rio, Associated Industries of Massachusetts (AIM)
17. Ming Xie, Kingspan Insulation LLC (Kingspan)
18. Kevin Washington, Illinois Tools Works Inc. (ITW)
19. Paul S. Lewandowski, Owens Corning (OC)

20. Tim Kersey, SOPREMA
21. Charlie McCrudden, Daikin U.S. Corporation (Daikin)
22. Helen Walter-Terrinoni and Christopher Bresee, Air Conditioning, Heating, and Refrigeration Institute (AHRI)
23. Walter A. Reiter, III, EPS Industry Alliance (EPS-IA)
24. Charlie Souhrada, North American Association of Food Equipment Manufacturers (NAFEM)
25. Christina Theodoridi, Natural Resources Defense Council and Matt Rusteika, Acadia Center (NRDC/Acadia)

General Comments and Formatting

1. Comment: Many commenters support the proposed regulation to prohibit the use of high global warming potential (GWP) HFCs. They also support alignment with similar regulations in other states (California, Colorado, Connecticut, Delaware, Hawaii, New Jersey, New York, Pennsylvania, Rhode Island, Washington, Vermont, and Virginia) and the U.S. Climate Alliance model rule (on which many states based regulations). The regulation will provide regulatory certainty and a practical prohibition schedule, and help drive a transition to the low-GWP solutions and promote US leadership in innovation and manufacturing. Commenters appreciated MassDEP's outreach efforts well in advance of this proposed regulation. (Many commenters)

Response: MassDEP thanks commenters for their support of the proposed regulation.

2. Comment: Commenters noted their support of the definitions, sell through provision, and disclosure and recordkeeping requirements included in the proposed regulation aligning with the U.S. Climate Alliance model rule and similar actions in other states. (Many commenters)

Response: MassDEP based the proposed regulation on a model rule developed in coordination with other states pursuing similar prohibitions via the U.S. Climate Alliance. MassDEP continues to collaborate regularly with the U.S. Climate Alliance and other states to align regulatory requirements to the extent possible. The prohibitions in the proposed regulation are based on two rules from EPA's Significant New Alternatives Policy (SNAP) Program, SNAP Rules 20 and 21. Through the U.S. Climate Alliance, a group of states chose to implement SNAP Rules 20 and 21 after a series of court cases involving SNAP Rules 20 and 21 created regulatory uncertainty.¹ As of November 6, 2020, California, Colorado, Connecticut, Delaware, Hawaii, Maine, Maryland, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Washington already have in place or have committed to implement similar prohibitions.

3. Comment: Commenter noted that there are some minor inconsistencies in the use of spaces and hyphens in the refrigerant codes used in 310 CMR 7.76(6): Table 1 and it would be helpful to list all of the affected chemicals and blends. (Richmond)

¹ See the Background Document (or Technical Support Document, TSD) on Proposed Regulation 310 CMR 7.76: Prohibitions on Use of Certain Hydrofluorocarbons in Aerosol Propellants, Chillers, Foam, and Stationary Refrigeration End Uses at <https://www.mass.gov/doc/310-cmr-776-background-document/download>

Response: MassDEP used the exact names and formatting for all substances as EPA published in SNAP Rules 20 and 21. Including multiple lists of the affected chemicals in the regulation would be redundant and confusing, as prohibitions of each substance are limited to specific end uses. Therefore, MassDEP has not made any regulation changes in response to this comment.

4. Comment: The regulation is too ambitious. It will drive up the cost of refrigerants and force equipment to be replaced prematurely. (Jacobs)

Response: The regulation does not ban the refrigerants. The regulation bans the use and manufacture of new products that use the covered refrigerants in specific end uses after certain dates. The regulation allows the continued use of products that contain the covered refrigerants. Existing equipment using prohibited substances can continue to be used even after the date of prohibition in 310 CMR 7.76. The regulation also allows the sale of products with the covered refrigerants that are manufactured prior to dates set in the regulation. Given the structure of the regulation to prohibit only future uses and manufacturing of products containing the covered refrigerants, to allow covered refrigerants to continue to be used in currently installed products, and the ability of companies with inventories of products manufactured prior to the deadlines in the regulation to “sell them through” out of their inventories, MassDEP does not anticipate significant impacts to the cost or supply of refrigerants. In addition, the regulation is based on SNAP Rules 20 and 21, which were promulgated in 2015 and 2016, respectively, and is in line with similar commitments from 12 other states. MassDEP has been holding stakeholder meetings for some time to discuss the implementation of similar measures in the Commonwealth. Therefore, the industry has had sufficient prior notice of the likelihood of these rules being put into place.

Definitions

5. Comment: The definition for aerosol propellant in 310 CMR 7.76 should be made consistent with the definition for aerosol propellant in 310 CMR 7.25 *U Best Available Controls for Consumer and Commercial Products* to be consistent with other Massachusetts regulations as well as all volatile organic compound (VOC) regulations for consumer and commercial products across the U.S. (HCPA)

Response: The 310 CMR 7.76 definition for “aerosol propellant” aligns with the model rule developed with the U.S. Climate Alliance, regulations in other states implementing similar prohibitions. In addition, the term defined in 310 CMR 7.25 is “aerosol product,” which is a different concept than “aerosol propellant.” Since the definitions are for two different and distinct concepts and for two different and distinct regulations, MassDEP will not make the change in the definition of “aerosol propellant.”

6. Comment: The regulation should define polyurethane as “Polyurethane means a polymer formed principally by the reaction of an isocyanate and a polyol.” (ACC)

Response: MassDEP agrees and has added a definition for polyurethane.

7. Comment: The definition of “component” potentially conflicts with the definition of “component” in 310 CMR 7.00. MassDEP should update the definition of “component” in 310 CMR 7.76 to make clear that it only applies to 310 CMR 7.76. These definitions should be re-proposed under future rulemakings to allow for public comment on the definitions in new contexts. MassDEP should review all the definitions in 310 CMR 7.76 and only include those that are necessary. (NECSEMA)

Response: MassDEP considers all the definitions included in the regulation as necessary. The definitions section of the regulation already states that the definitions in 310 CMR 7.76 are only applicable to 310 CMR 7.76, and where a term is defined in both 310 CMR 7.00 and 310 CMR 7.76, only the definition in 310 CMR 7.76 is applicable for the purpose of 310 CMR 7.76. This avoids the conflict raised by the commenter. In addition, the definition of “component” in 310 CMR 7.00 specifically states that it is only applicable to 310 CMR 7.18(19), and, therefore, that definition does not apply to 310 CMR 7.76. Because these are two different and distinct defined terms and two different and distinct regulations, MassDEP is not going to remove the definition of “component” from 310 CMR 7.76.

8. Comment: The definition of “retrofit” differs from that of other U.S. Climate Alliance states pursuing similar prohibitions. Although the definition is comparable, it is inconsistent, which creates opportunity for confusion and misinterpretation. MassDEP should harmonize the definition of “retrofit” with other states. MassDEP has also included a generic definition of “chiller” that is not included in other states’ regulations. The addition of this definition of “chiller” is not needed for the regulation and could cause confusion. (Daikin)

Response: MassDEP agrees that consistency in definitions is important and has changed the definition of “retrofit” to align with other states and the definition used by EPA in Section 152 of Subpart F of 40 C.F.R. Part 82 and removed the unnecessary definition of “chiller.”

9. Comment: The definition of “stand-alone unit” includes the phrase “may be entirely brazed or welded” rather than “is entirely brazed or welded.” “Is entirely brazed or welded” is more consistent with EPA’s description of self-contained equipment, which says it must be fully assembled and factory sealed for all refrigerants. Use of language such as “may be” and “typically” in definitions of “stand-alone unit” could be interpreted to include some hybrid units in the self-contained equipment category for Massachusetts. This would make MassDEP’s regulation more stringent than any other state and SNAP Rules 20 and 21. (AHRI, Daikin, NAFEM)

Response: The use of “may be” versus “is” in the definition of “stand-alone unit” varies across jurisdictions pursuing similar prohibitions. Final rules in New York and Colorado use “may be” whereas California, Maryland, and Washington use “is.” MassDEP believes the definitions are equivalent in meaning but has adjusted the definition to use “is” to align with the majority of states pursuing similar actions and with industry feedback.

The term “typically” is intentionally used throughout the regulation, and across the jurisdictions pursuing these prohibitions, to provide illustrative examples rather than expanding or limiting the equipment that falls within a given definition.

10. Comment: Clarification is needed in the definition of “use” as to which end uses qualify to be excluded from the regulations because they are residential uses. The definition of “use” as it applies to 310 CMR 7.76(4)(b) should be amended to exclude continued use of non-retrofitted equipment acquired prior to the date of prohibition. (NRDC/Acadia, NECSEMA)

Response: Manufacturers, suppliers and other persons regulated by 310 CMR 7.76 remain responsible for providing compliant products and equipment, even if the intended use of those products and equipment is residential. The exemption for residential use is in 310 CMR 7.76(3) and covers use of products and equipment in all end uses. Residential use means “use by a private individual of a substance, or a product containing the substance, in or around a permanent or temporary household, including use in both single and multi-unit dwellings, during recreation, or for any personal use or enjoyment.” The definition of “use” does not need to include a specific exemption for continued use of existing equipment as this is clearly allowed under 310 CMR 7.76(4)(b).

Prohibition Language

11. Comment: 310 CMR 7.76(4)(a) could be read to exclude use of existing equipment after the date of prohibition whereas 310 CMR 7.76(4)(c) expressly allows for this use. MassDEP should update 310 CMR 7.76(4)(a) to include additional language stating “except as provided for in 4(c).” Further, MassDEP should update 310 CMR 7.76(4)(c) to include “leased,” “rented,” and “serviced” for consistency with the language used in 310 CMR 7.76(4)(a). The regulation should allow for servicing of existing equipment. (NAFEM)

Response: 310 CMR 7.76(4)(b) makes clear that existing products and equipment can continue to be used and does not need to be referenced directly in 310 CRM 7.76(4)(a). MassDEP has added the terms “leased” and “rented” to 310 CMR 7.76(4)(c) for consistency. The regulation does not apply to servicing of products or equipment. Consequently, inclusion of the term servicing in 310 CMR 7.76(4)(c) could generate confusion and has not been added.

Disclosure Statement

12. Comment: Many commenters asked that Massachusetts align labeling and disclosure requirements with other jurisdictions. (Many commenters)

Response: The proposed regulation is based on a model rule developed by the U.S. Climate Alliance and is in alignment with other states pursuing similar prohibitions. MassDEP has made the disclosure requirements as similar to other jurisdictions as possible. (See response to comment 2).

13. Comment: Commenters support the disclosure requirements for refrigeration products, which align with existing third-party labeling required by state building codes and safety standards. They suggest that the disclosure language either specifies or allows for additional flexibility by expressly including reference to on-unit labeling or symbols, the product’s owner’s manual, and online portals available to consumers. (ITW, AHRI, NAFEM)

Response: MassDEP considers the inclusion of specific reference to an owner’s manual, on-unit labeling or symbols, or online portals in the regulation unnecessary. As long as the disclosure is provided to the buyer and includes the required information, it would satisfy the disclosure requirement in 310 CMR 7.76(5).

14. Comment: The regulation should allow manufacturers to use existing labeling, such as UL labels, to meet the disclosure requirements for equipment that is not pre-charged with refrigerant. A patchwork of different disclosure requirements across states is burdensome to manufacturers. Any disclosure beyond existing labeling should include the option for internet disclosures and generic disclosure statements such as those in other states. (Daikin)

Response: The disclosure requirements in the regulation were developed in coordination with the U.S. Climate Alliance and are consistent with other jurisdictions pursuing similar prohibitions. The intent of 310 CMR 7.76(5)(a) for equipment that is not pre-charged with refrigerant is to ensure non-compliant refrigerants are not introduced to equipment after it has been sold; therefore, an internet disclosure is not sufficient.

15. Comment: The foam disclosure language in 310 CMR 7.76(5)(c) does not include the same reference to safety standards and building codes that is included for air conditioning and refrigeration equipment in 310 CMR 7.76(5)(b). (AHAM)

Response: MassDEP has added the 310 CMR 7.76(5)(b) reference to 310 CMR 7.76(5)(c) to provide consistency across end uses.

16. Comment: Aerosol products have labeling requirements under multiple federal agencies, such as the Consumer Protection Safety Commission (CPSC). The commenter supports the two compliance options provided in the proposed regulation, in particular the option to comply with the disclosure requirement through the Safety Data Sheet (SDS). However, the reference to the SDS should not be required on the label for compliance with the proposed regulation. The commenter also states that the regulation should align with labeling requirements from 310 CMR 7.25(12)(f)1.d.ii. and should not require manufacturers to submit an explanation for the YYDDD date code. If a manufacturer already submitted a date code explanation to MassDEP under VOC regulations, that manufacturer should not be required to re-submit the same information to MassDEP under the proposed regulation. MassDEP should also consider including a provision that manufacturers must submit a new date code explanation to MassDEP if the manufacturer changes its date code format. (HCPA)

Response: For aerosol products, availability of an SDS that includes the propellant used is sufficient to meet the requirement in 310 CMR 7.76(5)(d)1.b, and MassDEP has updated the regulation accordingly. For future date codes, manufacturers can submit a single date code explanation to MassDEP to satisfy the requirements of 310 CMR 7.25 and 310 CMR 7.76. Manufacturers that submitted date code explanations under 310 CMR 7.25 in the past will need to resubmit date code explanations to avoid confusion regarding which are relevant to 310 CMR 7.76. The requirement that “each” date code be explained already accomplishes the suggestion

that manufacturers must submit a new date code explanation to MassDEP if the manufacturer changes its date code format.

17. Comment: The disclosure requirements should not explicitly require “the date of manufacture” but instead should allow for alternative means of indicating the date of manufacture currently used by manufacturers, such as a date code or a serial number that includes the date. (NAFEM)

Response: MassDEP has amended the regulation to allow motor-bearing equipment and foams to use the same date code option already in the regulation for aerosols.

18. Comment: The language in 310 CMR 7.76(5) should be clarified to allow the required disclosure statement to be placed on the product or product packaging. On-product packaging labels have been recognized as acceptable by other jurisdictions and would alleviate the administrative burden on manufacturers and the small businesses that may be responsible for introducing foam products to the Massachusetts market. (PIMA)

Response: Disclosure can be made via on-product or on-packaging labels under the regulation as written. Including additional language specifying where and how manufacturers can meet the disclosure requirements would reduce the flexibility allowed under the regulation and bring Massachusetts out of line with jurisdictions pursuing similar prohibitions.

19. Comment: Polyisocyanurate laminated boardstock foam end use should not be required to meet the disclosure requirements in 310 CMR 7.76(5). The polyiso insulation industry does not use HFCs and there is no evidence that the industry plans to use high GWP HFCs in its manufacturing processes. The purpose and applicability sections make clear that the regulation is intended to regulate products that use or will use a prohibited substance. The statutory authority cited is Chapter 21N of the General Laws, which directs MassDEP to regulate emissions of GHGs. Setting regulatory requirements for parties that are not using HFCs and do not intend to do so in the future is beyond the scope of the authority granted under Chapter 21N. (PIMA)

Response: The disclosure requirements are consistent with those adopted in other states pursuing similar regulations. One intent of the disclosure requirements is to allow consumers and sellers to know whether products and equipment are compliant with 310 CMR 7.76. MassDEP has worked with other states pursuing similar prohibitions and the U.S. Climate Alliance to provide flexible disclosure requirements that are consistent across states to minimize the burden on regulated entities. MassDEP does not consider the disclosure requirements to be unduly burdensome to manufacturers, even those in industries that may have transitioned away from HFCs, and has modified the applicability section to avoid any confusion on this point. In addition to consumer awareness, the disclosure requirements are necessary for MassDEP to ensure industries that may have transitioned away from HFCs do not revert back to their use. MassDEP is promulgating this regulation not only under M.G.L. c. 21N, sections 1 and 2, but also under the agency’s broad authority to prevent and regulate air pollution in M.G.L. c. 111, sections 142A-E. The provisions within the regulation fall within the scope of MassDEP’s authority.

Prohibition Dates

20. Comment: MassDEP should maintain the prohibition dates from the proposed regulation to remain consistent with other jurisdictions and avoid the accumulation of additional HFCs in Massachusetts that will be leaked into the atmosphere for 15-20 years. (NRDC/Acadia, ITW)

Response: MassDEP appreciates the support of the prohibition dates as proposed.

21. Comment: MassDEP should reach out to downstream end users, particularly grocery store chains, who have been impacted by the COVID-19 pandemic, and who may find January 1, 2021 compliance deadlines difficult. Supermarket retailers may have already ordered equipment that uses a refrigerant that will be prohibited to be installed in 2021. End users need to be made aware of this regulation as soon as possible. California is allowing projects that get permits to install a system prior to the prohibition date for a given substance to install those systems after the prohibition deadline. (AHRI, Hussmann)

Response: The regulation allows for the continued sale of products and equipment that were manufactured prior to the relevant prohibition date. MassDEP conducted preliminary stakeholder outreach in 2019 with a variety of organizations including Associated Industries of Massachusetts, Massachusetts Food Association, New England Convenience Store and Energy Marketers Association, and Retailers Association of Massachusetts. The prohibition dates in the proposed regulation are consistent with those presented at public meetings held in November 2019 and those of other states. MassDEP has updated the regulation to incorporate the suggestion that the installation of new refrigeration equipment using prohibited substances after the date of prohibition is allowed if the relevant building permit was issued prior to the date of prohibition.

22. Comment: The COVID-19 pandemic has had far reaching economic impacts and disrupted supply chains. MassDEP should consider delaying the January 1, 2021 prohibition dates. The aggressive timeline will make it difficult for refrigerant manufacturers to identify suitable alternatives for existing appliance containing banned refrigerants. Although existing appliances will not need to be replaced, if these appliances leak and need repair, the prohibited refrigerant could be in short supply and a substitute may not have been identified. (AIM, NAFEM, NECSEMA)

Response: The regulation is based on SNAP Rules 20 and 21, which were promulgated by EPA in 2015 and 2016. Further, MassDEP undertook stakeholder outreach in 2019, and took other actions to ensure that stakeholders were notified of its intent to set January 1, 2021 compliance deadlines. The regulation does not prohibit the sale of refrigerants and should not affect the availability of refrigerants to service existing equipment in the short term. The regulation is also structured to minimize economic impacts (see responses to comment 4 above). MassDEP considers the January 1, 2021 appropriate and in line with other states.

23. Comment: Several commenters support the January 1, 2021 prohibition dates set out in 310 CMR 7.76 for all foam end uses as it establishes a uniform playing field for products in the building foam insulation sector. This sector includes products such as polyiso insulation, spray

polyurethane foam insulation, and expanded (EPS) and extruded (XPS) polystyrene insulation boardstock. Low GWP substitutes are commercially available for all products in the building foam insulation sector. MassDEP should not exempt certain substances or delay prohibition dates due to pressure from a subset of XPS industry groups. Canada has prohibited the manufacture or import of XPS made with HFC-134a after January 1, 2021 and similar prohibitions have been enacted in California, Colorado, New Jersey, New York, Vermont, and Washington. Maryland has finalized a rule prohibiting HFC-134a in XPS foam as of July 1, 2021. (PIMA, OC, EPS-IA, SOPREMA)

Response: MassDEP appreciates the support of the prohibition dates as proposed.

24. Comment: The prohibition date for extruded polystyrene (XPS) boardstock and billet, low pressure two component polyurethane spray foam, and high pressure two component polyurethane spray foam end uses should be delayed to January 1, 2022. The January 1, 2021 prohibition date does not provide sufficient time for the industry to transition. The use of blowing agents in XPS foam production is highly individualized and dependent on equipment and manufacturing conditions. Most of the HFC alternatives for these end uses, such as HFOs, are flammable, which will require major upgrades and associated testing, permitting, and approvals for existing facilities. There are currently three manufacturers making HFO chemical blowing agents. Facilities need 12-18 months to transition and these upgrades include third-party testing. The process of upgrading facilities and associated testing has been delayed due to COVID-19 travel bans, production delays, and closure of testing facilities. Without the delay of the prohibition end date, the availability of some foam products in Massachusetts will be severely restricted, resulting in higher prices for consumers and businesses. In addition, the absence of a federal program and a safe alternative blowing agent has forced companies to evaluate supply on a state-by-state basis once enforcement dates of their respective regulations are understood. There could be unintended consequences for the energy efficiency and thermal performance of buildings as XPS product offerings may not be available in Massachusetts. Further, the impacted end uses represented 0.0375% of Massachusetts GHG emissions in 2017. Such an extension has either been granted or is under consideration by multiple U.S. Climate Alliance states including Maryland, Vermont, and Maine. (XPS Coalition, Kingspan, DuPont)

Response: MassDEP appreciates the unprecedented difficulties the COVID-19 pandemic has created for industry. In recognition of the long timelines required by the XPS industry to update manufacturing processes, MassDEP has delayed the prohibition date for Polystyrene Extruded Boardstock and Billet (XPS) to July 1, 2021. This will allow the industry additional time to prepare for the prohibition and align Massachusetts' regulation with that of Maryland.

25. Comment: The regulation should reflect EPA's proposed SNAP Rule 23, which would approve three new types of blends for use in XPS boardstock and billet that are prohibited under 310 CMR 7.76. SNAP Rule 23 is expected to be finalized by the end of 2020. The SNAP Program was always intended to evolve over time. EPA is also evaluating new alternatives for the low-pressure polyurethane spray foams, although timing of a new rule for these products is unknown. The following language should be added to the regulation, consistent with California, Washington, and a number of other states: "If the United States environmental protection agency approves a previously prohibited hydrofluorocarbon blend with a global warming potential of

seven hundred fifty or less for foam blowing of polystyrene extruded boardstock and billet and rigid polyurethane low-pressure two-component spray foam pursuant to the significant new alternatives policy program under section 7671(k) of the federal clean air act (42 U.S.C. Sec. 7401 *et seq.*), the department must expeditiously propose a rule consistent with RCW 34.05.320 to conform to the requirements established under this section with that federal action.” (XPS Coalition, DuPont) MassDEP’s Background Document on Proposed Regulations 310 CMR 7.76 suggests that MassDEP will amend its regulation if EPA approves a substance that is prohibited under the proposed regulation, such as the proposed SNAP Rule 23, which would allow certain blends including HFC-134a for XPS end uses. There are viable HFC-134a alternatives available for XPS already and consequently market conditions do not warrant future amendments of the regulation to allow previously prohibited substances, even if EPA approves such substances. Such a change would favor one manufacturer’s products, without recognizing suitable alternative products that are available. (OC, EPS-IA)

Response: MassDEP addressed this issue in the October 2, 2020 Background Document, by stating, “MassDEP will propose amendments to align 310 CMR 7.76 with federal action if warranted....” Consequently, inclusion of new language in the regulation is unnecessary.

Exemptions

26. Comment: The clause “or electronics” has been left out of the exemption for the use of HFC-134a as an aerosol propellant. (HCPA)

Response: The exemptions for the use of HFC-134a as an aerosol propellant listed in 310 CMR 7.76(7): Table 1 match the exemptions as listed in Table 2 of SNAP Rule 20, and therefore MassDEP has not added “or electronics.”²

27. Comment: The exemption for the use of HFC-134a in aerospace applications should be expanded to add “sprays for aerospace manufacturing and rework operations” to the list of acceptable uses for HFC-134a. (GE)

Response: MassDEP has added the requested language to the list of acceptable uses for HFC-134a in 310 CMR 7.76(7), consistent with MassDEP’s similar March 2020 amendments to 310 CMR 7.18, which acknowledged the very exacting performance standards that aerospace products must meet to ensure airworthiness and safety.

28. Comment: Limitations on manufacturing and distribution within the state for products for sale and use outside of Massachusetts should be removed. An exemption process should be included, such as the one Colorado has included in its HFC prohibition for manufacturers and distributors warehousing and transporting HFC-containing products and equipment through the state. New York has removed language from their regulation to allow for this and Colorado has provided an alternative compliance path for manufacturers selling outside of that state. (AHRI, Daikin)

² <https://www.govinfo.gov/content/pkg/FR-2015-07-20/pdf/2015-17066.pdf>

Response: Manufacture of non-compliant products and equipment is intentionally prohibited under the regulation. For warehousing and distribution, an exemption process is unnecessary: as written, the regulation does not restrict the warehousing or transport of non-compliant products and equipment through the state for use or sale in another state.

29. Comment: The clause in 310 CMR 7.76(4)(b) stating that the regulation does not require anyone to cease use of existing products and equipment containing prohibited substances as of the date of prohibition, except in the case of retrofit, should be moved to the applicability section of the regulation, 310 CMR 7.76(3), or the exemption section, 310 CMR 7.76(7). (NECSEMA)

Response: The current placement is consistent with the U.S. Climate Alliance model rule and similar prohibitions in other states (see prior responses on consistency).

30. Comment: MassDEP should work with industry to close the exemptions for use of high GWP substances, such as HFC-134a (GWP 4,300) and HFC-227ea (GWP 3,220), and include all chillers used in industrial process refrigeration in the proposed regulation. MassDEP should consider including additional fluorinated gases, such as HFOs, to the prohibitions because of their GWPs and health and safety concerns. (Sierra Club)

Response: The exemptions and end uses subject to the regulation are based on SNAP Rules 20 and 21, and are consistent with the model regulation that MassDEP has been working on with other states and the U.S. Climate Alliance (see prior comments on consistency).

Recordkeeping

31. Comment: State-specific recordkeeping requirements are burdensome on manufacturers and do not account for the many different ways components of a full system may travel. Some states, such as Delaware, have agreed to remove recordkeeping from their regulation. Recordkeeping creates an administrative burden on manufacturers without a corresponding benefit. MassDEP should consider alternate enforcement methods, such as testing products for prohibited substances. (Hussmann, Daikin, PIMA)

Response: The recordkeeping requirements are intentionally flexible to allow manufacturers to comply in the manner that best suits their existing practices. Many of the jurisdictions pursuing similar prohibitions have maintained a recordkeeping requirement, including California, Colorado, Maryland, and New York.

32. Comment: One commenter was opposed to the inclusion of recordkeeping requirements for foam end uses and prefers the sole use of the proposed on-product disclosure as there is no ongoing maintenance of foams. California's approach to recordkeeping for foams should be used. The recordkeeping requirements for foams should be removed or, manufacturers that do not sell foams containing prohibited substances in Massachusetts should be exempted from the recordkeeping requirements. The following language was suggested: "As of the effective date of prohibition for each end-use listed in 310 CMR 7.76(6): Table 1, any person who manufactures any refrigeration, chillers, aerosol propellants, and foam product or equipment that contain or use a substance listed in 310 CMR 7.76(6), for sale or entry into commerce in Massachusetts must

maintain for five years, and make available upon request by the Department, records sufficient to demonstrate that the product or equipment does not contain any substances listed in 310 CMR 7.76(6): Table 1 as prohibited for that end-use or that the product is exempt in accordance with 310 CMR 7.76(7).” (ACC)

Response: MassDEP considers the wording of the proposed regulation sufficiently flexible to allow manufacturers to meet the recordkeeping requirements without undue burden. Manufacturers of products and equipment that do not use prohibited substances are only required to maintain records “sufficient to demonstrate that the product or equipment does not contain any substances listed in 310 CMR 7.76(6): Table 1 as prohibited for that end-use or that the product is exempt in accordance with 310 CMR 7.76(7).” California’s currently proposed regulation³ requires recordkeeping of specific information for certain foam end uses and exempts other foam end-uses. For manufacturers that supply both Massachusetts and California, the records maintained for California would also satisfy MassDEP. Whether an end use requires ongoing maintenance was not a relevant factor in determining entities that must keep records; the recordkeeping is only required by manufacturers, and not end users who carry out maintenance.

33. Comment: The timeframe for recordkeeping requirements for aerosol propellants should be reduced from five years to three years to be consistent with recordkeeping requirements in Massachusetts VOC regulation 310 CMR 7.25. (HCPA)

Response: Although 310 CMR 7.25 only requires records be maintained for three years, 310 CMR 7.18, which is MassDEP’s most recently updated regulation pertaining to VOCs, requires five years of recordkeeping. Consequently, MassDEP will maintain the five year recordkeeping requirement in 310 CMR 7.76.

Additional Regulations on HFCs

34. Comment: MassDEP should consider regulations that deal with end-of-life treatment of HFCs. HFCs are most likely to be released to the atmosphere from appliances at the end of their life or during retrofitting. Requirements to prevent the release of HFCs to the atmosphere at the end of life and during retrofitting should be included in this regulation or future regulations. MassDEP should also consider adding provisions to promote refrigerant reclamation. A future ban on refrigerants should exempt reclaimed refrigerants to avoid stranding existing equipment. MassDEP should exempt reclaimed refrigerants from any future sales bans and proactively promote refrigerant recovery, reclamation, and re-use. (SJP, AHRI, Daikin)

Response: The current regulation is based on SNAP Rules 20 and 21 and is consistent with similar actions taken in other states, so is not the appropriate regulation in which to include requirements related to handling of HFCs. Handling of refrigerants themselves is regulated at the federal level through EPA’s Refrigerant Management Program under Section 608 of the Clean Air Act. Through this program, intentional venting of refrigerants, including HFCs, is prohibited and technicians handling refrigerants must be certified by EPA. EPA’s Refrigerant Management Program sets maximum allowable leak rates and includes reporting and recordkeeping

³ https://ww3.arb.ca.gov/regact/2020/hfc2020/appa.pdf?_ga=2.111701444.110951101.1603715670-1678846484.1603284637

requirements for ozone depleting refrigerants in stationary refrigeration equipment with over 50 pounds of refrigerant. In 2016, EPA extended these requirements to HFCs; however, in 2018 EPA proposed a rule to rescind the 2016 requirements, finalizing that rule in February 2020.⁴

MassDEP has requirements for the disposal of large appliances (white goods) that include the removal and destruction or reclamation of the refrigerant by an EPA certified technician.⁵ See the response below regarding the potential for a Massachusetts specific refrigerant management program.

35. Comment: Technician training and servicing requirements, particularly for mildly flammable A2L refrigerants is important to ensure that installations, repairs, and maintenance result in optimal performance and minimal refrigerant loss. The industry intends to develop a standardized training program for technicians, contractors, wholesalers, and trainers. (Daikin)

Response: MassDEP commends the industry for working to develop training programs.

36. Comment: Some commenters supported the development of a state-level refrigerant management program (RMP) and suggest that MassDEP should develop a program mirroring California's RMP, established in 2009, or the federal refrigerant management requirements for HFCs from 2016, which have since been rolled back. The RMP should include routine leak inspections, mandatory leak repair for systems leaking above an established trigger rate, technician certification requirements, and specific service practices to minimize loss of refrigerant during disposal, recovery, and reclamation. Other commenters thought an RMP regulation would pose significant new operational and compliance burdens on impacted entities but, if proposed, it should be transparent and cost-equitable, provide certainty to equipment owners, and not require overly detailed reporting and recordkeeping requirements. (NRDC/Acadia, Sierra Club, NECSEMA)

Response: MassDEP based 310 CMR 7.76 on the U.S. Climate Alliance model rule and similar actions in other states (see prior comments on consistency). MassDEP is not including refrigerant management provisions in this regulation at this time. MassDEP appreciates the support and concerns for future actions to reduce GHG emissions from refrigerants in Massachusetts. The Massachusetts Executive Office of Energy and Environmental Affairs (EEA) is developing a Massachusetts decarbonation roadmap⁶ and the 2030 Clean Energy and Climate Plan to achieve net zero GHG emissions by 2050. MassDEP will continue to undertake stakeholder outreach for existing and future regulations as needed. Any future regulations will be developed in accordance with all relevant administrative procedures including those allowing for public participation.

37. Comment: The proposed regulation does not include prohibitions on the use of HFCs for air source heat pumps (ASHPs) and mini splits. As Massachusetts promotes the adoption of efficient electric heating and cooling equipment, ASHPs and mini splits using HFCs will become more prevalent. Although replacements for HFCs are not yet widely commercially available, the

⁴ <https://www.epa.gov/section608/revised-section-608-refrigerant-management-regulations>

⁵ <https://www.mass.gov/doc/white-goods-large-appliances-processing-guidelines/download>

⁶ <https://www.mass.gov/info-details/ma-decarbonization-roadmap>

proposed regulation could include language that supports phasing out HFCs in these end uses as substitutes become more readily available, or a new regulation to address these systems could be proposed. (SJP)

Response: SNAP Rules 20 and 21, on which the U.S. Climate Alliance model rule is based, did not include prohibitions for heat pumps and consequently none are included in the proposed regulation. As of October 26, 2020, EPA has not prohibited the use of HFCs in heat pumps. Through the SNAP Program, EPA both prohibits the use of substances for which there are suitable alternatives and approves new substances for use in specific end uses. EPA evaluates multiple factors when deciding to prohibit or approve a given substance, including safety, toxicity, and environmental impact. Prohibiting the use of HFCs in ASHPs and mini splits is not feasible until suitable alternatives are available and approved through the SNAP Program, which is beyond MassDEP's control. Massachusetts 2050 decarbonization roadmap currently under development will consider the role of heat pumps in various pathways to reach net zero emissions.

38. Comment: HFCs and other fluorinated refrigerants rely on similar chemical processes to those used to manufacture per- and polyfluoroalkyl substances (PFAS), several of which MassDEP recently regulated in drinking water. MassDEP must address these dangerous manufacturing processes and chemicals in a comprehensive manner. (Sierra Club)

Response: As the commenter notes, MassDEP is actively working to address concerns with PFAS, particularly in drinking water. Addressing PFAS and fluorinated chemical manufacturing more broadly is beyond the scope of the current regulation.

Codes and Standards

39. Comment: In order to meet Massachusetts' emissions reductions goals, safety standards and building codes in Massachusetts must allow the use of mildly flammable A2L refrigerants. MassDEP should work with state agencies and local authorities that approve and update building codes to facilitate the use of A2L refrigerants. Certain chillers designed to use high pressure R-410A-replacement refrigerants will not be able to meet the January 1, 2024 prohibition date unless EPA approves additional substitutes through the SNAP Program or if ASHRAE Standard 15 and UL60335-2-40 are adopted into local building codes. (Daikin, AHRI, NRDC/Acadia)

Response: MassDEP recognizes the importance of updating building codes to allow for A2L refrigerants. Nevertheless, adoption of building codes and safety standards in Massachusetts is outside of the purview of MassDEP. MassDEP will monitor the availability of alternative refrigerants for chillers as the January 1, 2024 deadline approaches.